ANNEX A.

EPIC DATABASE

“RADIATION EFFECTS ON TERRESTRIAL ANIMALS”

(RUSSIAN/FSU DATA)

RADIATION EFFECTS ON TERRESTRIAL ANIMALS (RUSSIAN/FSU DATA), CHRONIC and ACUTE EXPOSURES. Effect codes: NE-no effect; REPR-effect on reproduction; MT-effect on mortality; MB-effect on morbidity; CG -cytogenetic effect; ECOL - ecological effect; AD-adaptation to radiation; STIM-stimulation by radiation. (*) - preliminary dose estimates made by the authors of the database.

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T1	Mammal	*Apodemus sylvaticus* European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field (+vivarium) study of 1981	Sr-90	4.44E+07 (initial contamination); 2.5E+07 in 1981	about 3.7E+04 (bones, reconstruction)	5.7E-04 (bones, at the beginning of keepage in vivarium)	0.2	The shortening of lifetime. Mice males were caught in natural population and kept in vivarium. The lifetime in the control was 433±134 days (n=6) and in the group of contaminated animals 344±53 days (n=20), i.e. by 20.6 % shorter. The health of contaminated animals was much worse than in the control (strong infestation with mites, eye diseases, loss of hair, reduction of defensive and immune responses). The exposed animals were the 20th generation of mice in the contaminated area.	MT	Krapivko,1986; Ilyenko,Krapivko, 1989
T2	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field study of 1970-1976	Sr-90	4.44E+07 (initial contamination); (3.1-2.8)E+07 in 1970-1976		(1-2)E-03	0.5-0.8	Increase in number of viable embryos, decrease of embryonic losses. The average number of viable embryos per one female: contaminated population 6.1±0.1 (N=114) control 5.8±0.2. The total embryonic losses: 0.3 per one female in the contaminated population; control - 0.6, i.e. twice as much.	REPR	Ilyenko, Krapivko, Mazheikite, Smirnova, 1980; Ilyenko,Krapivko, 1989;
T3	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field study in 1962,1968-	Sr-90	4.44E+07 (initial contamination); (3.8-2.8)E+07 in 1962-1975		1.1E-02 in 1962; 1.4E-03 in 1976 (*)	4 per lifetime in 1962; 0.5 in 1976 (*)	Shortening of the reproduction period: in August there were 10.4 % of pregnant females in the control and 0.8 % in the contaminated area. Reproduction period in summer was shorter because of the earlier death of grown-up animals.	REPR	Ilyenko, Krapivko, Mazheikite, Smirnova, 1980; Ilyenko,Krapivko, 1989

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1976								
T4	Mammal	*Microtus agrestis* . Short-tailed vole	Territory, highly contaminated in 1957 (Kyshtym accident). Field study , summer period. Late 1960s.	Sr-90	(6.66-12.6)E+07 (initial contamination); (4.86-9.2)E+07 in late 1960s	1.E+06 (*)	1.5E-02 (*)	5 per lifetime (*)	Weakening of organism's resistance to parasites (blood parasites *Leucocytgrenarinae mieroti)*. Number of infected animals in contaminated area was more than six times greater (52.4 %, N=204) than in the control (8.1%, N=111). Concentration of parasites in blood of contaminated animals was order of magnitude higher (40-60 parasites per 100 leucocytes) than in control (1-8 parasites per 100 leucocytes).	MB	Ilyenko,1974; Ilyenko,Krapivko, 1989
T5	Mammal	Microtus agrestis. Short-tailed vole	Territory, highly contaminated in 1957 (Kyshtym accident). Field study. Late 1960s.	Sr-90	(6.66-12.6)E+07 (initial contamination); (4.86-9.2)E+07 in late 1960s	1.E+06 (*)	1.5E-02 (*)	5 per lifetime (*)	Increase in leucocyte numbers in the blood (5200±150 leucocytes per 1 mm^3 in the contaminated area (N=268); 6600±270 in infected voles(N=142)); control 4200±130 per 1 mm^3 of blood (N=227)	MB	Ilyenko, 1974;. Ilyenko, Krapivko,1989, p.113
T6	Mammal	*Microtus agrestis.* Short-tailed vole	Territory, highly contaminated in 1957 (Kyshtym accident). Field+experimental studies, early 1960s.	Sr-90	(6.66-12.6)x10^7	Up to 5E+07, usually 4E+06 (bones)	0.06, maximum up to 0.7	12-20 , maximum up to 150	Anomalous growth of upper teeth was observed in 16% of contaminated adult voles, which disturbed their normal feeding. Control – no voles with such abnormality.	MB	Ilyenko, 1967
T7	Mammal	Small mammals (wood mouse,	Territory, highly contaminated in 1957	Sr-90	(6.66-12.6)x10^7	Up to 5E+07, usually 4E+06	0.06, maximum up to 0.7	12-20 , maximum up to 150	No osteosarcomas were detected in small short-lived rodents in the contaminated area though the concentrations of ^{90}Sr in bones were	NE	Ilyenko, Krapivko,1989, p.114

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		northern red-baked mouse, shrew-mice	(Kyshtym accident). Field observations, 1960s			(bones)			high		
T8	Mammal	*Microtus agrestis* . Short-tailed vole	Territory, highly contaminated in 1957 (Kyshtym accident). Field studies, 1964-1965	Sr-90	(6.66-12.6)E+07 (initial contamination); (5.46-10.33)E+07 in 1965	4E+06	0.06	12	Decrease in size of individual feeding plots of voles in contaminated area by 3.8 % in males and 38.2 % in females. Adult male had a size of the feeding plot 828±52 m^2 (N=93), control 860±81 m^2 (N=50), P<0.001. Females had a size of the plot 473±15 m^2 (N=134), control 696±43 m^2 (N=41), P<0.001.	MB	Ilyenko, 1974; reviewed in Ilyenko, Krapivko,1989
T9	Mammal	*Clethrionomys rutilus* northern red-baked mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field +experimental studies of 1970-1972	Sr-90	(6.66-12.6)E+07 (initial contamination); (4.86-9.2)E+07 in 1970	data not reported	(1.5-3)E-02	11 (acute gamma exposure)	Increase of radioresistance to superletal acute dose of gamma-exposure (11 Gy). The average lifetime after radiation exposure in the group of mice from contaminated territory was 12.6±0.6 days (N=16) and in the control 5.1±0.8 days (N=15) at p<0.001 All control animals died within 12 days, whereas in the experiment mice died within 26 days.	MT	Ilyenko, Isaev, Ryabtsev,1974; reviewed in Ilyenko, Krapivko,1989
T10	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field +experimental study of 1978	Sr-90	(6.66-12.6)E+07 (initial contamination); (4-7.56)E+07 in 1978	data not reported	(1.4-2.6)E-02	8 (acute gamma exposure)	Increase of radioresistance to superletal acute dose of gamma-exposure (8 Gy; LD50/30=6.6±0.3 Gy for control animals). It was the 40th generation of mice living in radiation biogeocenosis. All control animals died within 14 days, whereas 3.4% of mice from contaminated ecosystem survived till the end of observation period (30th day after exposure), main part of animals died	AD, MT	Ilyenko,Krapivko,1980,1983; reviewed in Ilyenko, Krapivko,1989, p.154-155

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									within 16 days. The average lifetime after radiation exposure in the group of wood mice from contaminated ecosystem was 10.7±0.3 days (N=57) and in the control 8.7±0.3 days (N=31) at p<0.001		
T11	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field +experimental studies of 1983-1984	Sr-90	(3.4-6.3)x10^7	data not reported	(1-2.3)E-02 (*)	8 (acute gamma exposure)	Increased radioresistance was observed in the 1st,2nd,3rd generations of mice obtained from exposed parents (50th mice generation since the Kyshtym accident).The average lifetime after exposure was 11.6% longer (10.6±0.22 days) in experimental animals of the 2nd generation than in control (9.5±0.34 days), p<0.01. Hybrids from interbreeding of females of the first generation with control males turned out to be more resistant to acute exposure than the control by 28.1 % (p<0.001). The presence of survived specimens on exposure to 8 Gy was typical, whereas in the control it was a lethal dose.	AD, MT	Ilyenko,Krapivko,1983; reviewed in Ilyenko, Krapivko,1989, p.156-158
T12	Mammal	*Apodemus sylvaticus.* European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field +laboratory	Sr-90	4.44E+07 (Initial contamination), 2.5E+07 in 1981	(1.92±0.15)xE+05(bones)	2.9E-03 (*)	1 (*)	Hypooxygenia was observed as typical in the wood mice populations living for many generations in the contaminated area. The animals (N=20) consume less amounts of oxygen (O_2): (5.8±0.08) mL oxygen/(gramm of body x hour),	AD	Krapivko,1986; Ilyenko,Krapivko,1988; reviewed in Ilyenko, Krapivko, 1989, p.166

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			study of 1981						whereas in the control 6.3±0.06) mL /(gramm x hour),p<0.001. The higher is contamination of mice, the less is consumption of O_2.		
T13	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field+experimental study of 1981	Sr-90	4.44E+07 (Initial contamination), 2.5E+07 in 1981	(1.92±0.15)xE+05 (bones)	2.9E-03 (*)	1 (*)	Average rectal temperature of contaminated animals was reliably higher (36.8 ±0.1) C than that of control mice (36.1 ±0.14) C; p<0.001(N=20)	AD	Krapivko,1986; reviewed in Ilyenko, Krapivko, 1989, p.166
T14	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field+experimental study of 1981	Sr-90	4.44E+07 (Initial contamination), 2.5E+07 in 1981	(1.92±0.15)xE+05 (bones)	2.9E-03 (*)	1 (*)	Average breathing rate of contaminated animals was reliably higher (182.6 ±1.3) per minute than that of control mice (158 ±1.5) per minute; p<0.001(N=20); experiment was performed at a laboratory conditions (temperature 18-20 C)	AD	Krapivko,1986; reviewed in Ilyenko, Krapivko, 1989, p.166
T15	Mammal	*Clethrionomys glareolus* common red-baked vole	Territory, highly contaminated in 1986 (Chernobyl accident). Field+experimental study, May 1987	Cs-134,137		(263.8±19.3)xE+03 (muscles)			Hypooxygenia was observed in the populations of common red-baked mice in the area contaminated with $^{134,137}Cs$. The animals in the contaminated area consume less amounts of oxygen (O_2): (6.04±0.05) mL /(gramm body) per hour, whereas in control (6.36±0.04) mL /(gramm) per hour, p<0.001; measurements in a respiration chamber. In an altitude chamber, contaminated animals survived at lower atmospheric pressure (145.1±3.2) mm of mercury	AD	Ilyenko, Krapivko, 1988; reviewed in Ilyenko, Krapivko, 1989, p.166

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									column than control animals (168.1±2.5) mm, p<0.001		
T16-1	Mammal	*Microtus oeconomus P.* Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south from the ChNPP. Field study, 1986	Ce-144, Ru-106,Cs-134,137; Sr-90			(40-50)E-03 R/hour (in 1986)	1 Gy (external from gamma radiation by the autumn of 1986)	Abnormal state of liver. In 1986, only very few animals had normal state of liver. More than 80% of animals had liver of abnormal colour and semi-liquid consistence (signs of anormality in hemodynamics); about 10% of animals had "clay-like" liver (signs of fat degeneration); about 7% of mice had flabby and enlarged liver (violation in parenchima). Authors associated these effects with the presense of specific radionuclides accumulated in liver (Ce-144).	MB	Atlas, 1994
T16-2	Mammal	*Microtus oeconomus P.* Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south from the ChNPP. Field study, 1986	Ce-144, Ru-106,Cs-134,137; Sr-90			(40-50)E-03 R/hour (in 1986)	1 Gy (external from gamma radiation by the autumn of 1986)	Abnormal state of liver. Hystological analyses of liver samples revealed edemata, imflammation, necrosis, hemorrage of liver tissues; distrophic changes in hepatocytes. These were symptomes of acute radiation sickness of liver.	MB	Atlas, 1994
T16-3	Mammal	*Microtus oeconomus P.* Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south from the ChNPP. Field study, 1987	Ce-144, Ru-106,Cs-134,137; Sr-90			(4-5)E-03 R/hour (in 1987) (preliminary reconstruction)		Abnormal state of liver. In 1987, number of animals with pathological changes in liver decreased as compared with 1986, however, such pathology was rather typical in the exposed population. See also record T16-1, 16-2	MB	Atlas, 1994

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T16-4	Mammal	*Microtus oeconomus P*. Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south from the ChNPP. Field study, 1988-1989	Cs-137; Sr-90			(40-50)E-03 R/hour (in 1986)	1 Gy (external from gamma radiation by the autumn of 1986)	Since 1988, only few animals had abnormalities in liver. See also records 16-1, 16-2, T16-3	MB	Atlas, 1994
T17	Mammal	*Microtus oeconomus P*. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia, radium stationary site, 3 gectares)	Ra-226, Po-210,U, Th	1910 pCi/g soil ash (Ra);695 pCi/g (Po-210); 50 Bq/kg (U)	2.5xE-12 (g Ra/g live weight)	External 8000 microR/hr (300 mGy/y); internal 12-40 mGy/y; from Rn gas 350 mGy/day		Period of reproduction of voles reduces to 4 months (control - 6 months).Number of females involved in reproduction reduced by 2-5 times as compared with control.Number of embrios per pregnant female decreased by a factor 2 (6.3 in control,3.8 in the radium stationary site, N=2900).The population size was supported by migrations of animals from neighboring areas, disturbed by regular hay cuttings.The average number of migrants found in the radioactive sites was about 30%. After 1 month of living on contaminated site newcomers became as much contaminated as residental animals.	REPR	Maslov,Maslova, Verhovskaya, 1967; Maslova, Verhovskaya,1976
T18	Mammal	Microtus oeconomus P. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia, uranium-	Ra-226, Po-210,U-238,Th-232	up to 70000 Bq/kg (Ra-226);2570 0 Bq/kg	1.5E-12 (g Ra/g live weight); 2.3E-08 (g U/g weight)	External 4000 microR/hr ; internal 40 mGy/y; from Rn		Young mice had considerably lower weight of liver in % to body weight (N>1000). Differences with control were about 2 times for mice of 1 month old. The effect became statistically insignificant for mice	MB	Maslov,Maslova, Verhovskaya, 1967; Maslova, Verhovskaya,1976; Maslova,1980;

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			radium stationary site, 12 gectares)		(Po-210); 140 Bq/kg (U-238); 40 Bq/kg (Th-232)		gas 350 mGy/day		over 1 year old. Hystological analysis revealed numerous abnormalities in liver structure of adult mice - spots of necrosis, gemorragia, leycemic infiltrations. Synthesis of albumins by liver was lower than in control ($p<0.01$)		
T19	Mammal	Microtus oeconomus P. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia, uranium-radium stationary site, 12 gectares)	Ra-226, Po-210,U-238,Th-232	up to 70000 Bq/kg (Ra-226);25700 Bq/kg (Po-210); 140 Bq/kg (U-238); 40 Bq/kg (Th-232)	1.5E-12 (g Ra/g live weight); 2.3x10(-8) (g U/g weight)	External 4000 microR/hr ; internal 40 mGy/y; from Rn gas 350 mGy/day		Abnormalities in the blood of mice: leucocytes decreased by 48-52%; eritrocytes decreased by 20-22%; hemoglobin - by 15-17%. (N>1000, results were statistically reliable). Changes in blood composition of 3-5% of mice were large enough to be considered as signs of radiation sickness.	MB	Materii, Maslova,1977
T20	Mammal	*Microtus oeconomus P*. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia, radium stationary site, 3 gectares)	Ra-226, Po-210,U-238,Th-232	1910 pCi/g soil ash (Ra);695 pCi/g (Po-210); 50 Bq/kg (U)	2.5x10(-12) (g Ra/g live weight)	External 8000 microR/hr (300 mGy/y); internal 12-40 mGy/y; from Rn gas 350 mGy/day		The sexual maturity of young males of voles was considerably inhibited up to 9 months of age. In radium site 50% of males reached maturity at age 1 month, and 100 % at age over 9 months (N=540). In control about 50% of males reached maturity at age of 1 month, and 100% at age over 3 months. (Lifespan of voles is 1-1.5 years).Lower gonad weight and numerous degenerative transformations in gonads were observed.	REPR	Maslov,Maslova, Verhovskaya, 1967; Verhovskaya, Maslov,Maslova, 1965
T21	Mammal	*Microtus oeconomus P*. Tundra vole	Local area with high natural radioactivity (Komi AR of	Ra-226, Po-210,U-238,Th-	1910 pCi/g soil ash (Ra);695	2.5x10(-12) (g Ra/g live weight)	External 8000 microR/hr (300		High level (100%) of vole infestation with ectoparasites in radium site (N=3590). Control: 42% of infested animals (N=2135).	MB	Maslov,Maslova, Verhovskaya, 1967;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Russia, radium stationary site, 3 hectares)	232	pCi/g (Po-210); 50 Bq/kg (U)		mGy/y); internal 12-40 mGy/y; from Rn gas 350 mGy/day				
T22	Mammal	*Microtus oeconomus P*. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia, radium stationary site, 3 hectares)	Ra-226, Po-210,U-238,Th-232	1910 pCi/g soil ash (Ra);695 pCi/g (Po-210); 50 Bq/kg (U)	2.5x10(-12) (g Ra/g live weight)	External 8000 microR/hr (300 mGy/y); internal 12-40 mGy/y; from Rn gas 350 mGy/day		Increased persentage of low-fatness voles in population (61% of "thin" animals in radium site(N=3590) as compared with 21% in control area (N=2135).	MB	Maslov,Maslova, Verhovskaya, 1967;
T23	Mammal	*Microtus agrestis* . Short-tailed vole	Territory, highly contaminated in 1957 (Kyshtym accident). Field study in a fenced plot. Early 1960s.	Sr-90	(6.66-12.6)E+07 (initial contamination); (5.3-10)E+07 in early 1960s	4E+06	0.06	12-20	Life shortening. In the population of exposed animals survived the winter period (in April) the age structure was the following:, 98% young voles born in late summer of previous year, and only 2% older voles (born in early or mid summer). Control: 50% of young and 50% of older voles.	MT	Ilyenko, 1971
T24	Mammal	*Microtus agrestis* . Short-tailed vole	Territory, highly contaminated in 1957 (Kyshtym accident). Field study in a henced plot.	Sr-90	(6.66-12.6)E+07 (initial contamination); (5.3-10)E+07 in early	4E+06	0.06	12-20	Life shortening. Total death of exposed animals during the cold period of the year was 60.9% of population number in late summer of previous year. Control: 17.6%	MT	Ilyenko, 1971

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Early 1960s.		1960s						
T25	Mammal	*Clethrionomys rutilus* northern red-baked mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field study in a henced plot. Early 1960s.	Sr-90	(6.66-12.6)E+07 (initial contamination); (5.3-10)E+07 in early 1960s	1.8E+06	0.028	10	Life shortening. Total death of exposed animals during the cold period of the year was 72.9% of population number in late summer of previous year. Control: 70.2%.	MT	Ilyenko, 1971
T26	Mammal	*Clethrionomys rutilus* northern red-baked mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field studies. Early 1960s.	Sr-90	(4.44-12.6)E+07 (initial contamination); (3.6-10)E+07 in early 1960s	(3.7-33)E+06 (bones)	0.06-0.5	12-100	Average number of embryos in exposed females was smaller than that in control: 5.63±0.5 (N=16) and 7.85±0.3 (N=14) respectively.	REPR	Ilyenko, 1971
T27	Mammal	*Clethrionomys rutilus* northern red-baked mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field studies. Early 1960s.	Sr-90	(4.44-12.6)E+07 (initial contamination); (3.6-10)E+07 in early 1960s	(3.7-33)E+05 (bones)	0.006-0.05	1.2-10	Average number of embryos in exposed females was slightly smaller than that in control: 7.04±0.3 (N=24) and 7.85±0.3 (N=14) respectively.	REPR	Ilyenko, 1971
T28	Mammal	*Clethrionomys rutilus* northern red-baked mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field studies. Early	Sr-90	(3.7-12.6)E+07 (initial contamination); (2.9-10)E+07	(3.7-33)E+04 (bones)	0.0006-0.005	0.1-1	Average number of embrio in exposed females did not differ statistically from that in control: 7.24±0.4 (N=11) and 7.85±0.3 (N=14) respectively.	REPR	Ilyenko, 1971

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1960s.		in early 1960s						
T29	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field s5tudy, 1990s	Sr-90	(6.66-12.6)E+07 (initial contamination); 3.1E+07 in late 1990s	data not reported	1.1E-02	4.3	50-60% of mice had disturbances in blood composition with the signs of leucopenia, anemia and inversion in lymphocyte/neutrophile proportion. Blood composition (in % of control) was the following:erythrocytes 60±5; hemoglobin 96±8; trombocytes 127±20; leucocytes 46±7 neutrophiles 295±60; lymphocytes 37±4.	MB	Spirin, Tarasov, Shein, 1996
T30	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Study of 1990s	Sr-90	(6.66-12.6)E+07 (initial contamination); 3.1E+07 in late 1990s	data not reported	1.1E-02	4.3	Shortening of the reproduction period: in July-August there were 5-10 % of pregnant females in the control and only 0.8-1 % in the contaminated area. Reproduction period in summer was shorter because of the earlier death of grown-up animals.	REPR	Spirin, Tarasov, Shein, 1996
T31	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field study, 1990s	Sr-90	(6.66-12.6)E+07 (initial contamination); 3.1E+07 in late 1990s	data not reported	1.1E-02	4.3	Numbers of progeny per one female did not differ from the control. Percentage of preimplantation deaths of embryos was lower in exposed females than that in control (3.1% and 7.8% respectively).	REPR	Spirin, Tarasov, Shein, 1996
T32	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Field study,1990s	Sr-90	(6.66-12.6)E+07 (initial contamination); 3.1E+07 in late	data not reported	1.1E-02	4.3	Life shortening: in autumn percentage of older animals in population was 5-10% lower than that in control.	MT	Spirin, Tarasov, Shein, 1996

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
					1990s						
T33	Mammal	Laboratory rat Vistar	Laboratory experiment, chronic ingestion of radionuclide during lifetime	Sr-90		data not reported	>0.1	~55	Life shortening: at dose rates from accumumulated Sr-90 higher than 0.1 Gy/day the lifetime of rats was statistically shorter than that in control.	MT	Korytny, Shvedov, Pryakhin, 1996
T34	Mammal	Laboratory rat Vistar	Laboratory experiment, external gamma-exposure during lifetime	External gamma-exposure			>0.03	~16	Life shortening: at dose rates of external gamma-exposure higher than 0.03 Gy/day the lifetime of rats was statistically shorter than that in control.	MT	Korytny, Shvedov, Pryakhin, 1996
T35	Mammal	Laboratory rat Vistar	Laboratory experiment, chronic ingestion of radionuclide during lifetime	Sr-90			>0.01	>3.5	Osteosarcoma induction. The minimum dose rates from Sr-90 at which sarcoma was detected were about 0.01 Gy/d, and the dose absorbed per lifetime of such animals averaged 3.5 Gy. Osteosarcoma was found in 0.5-0.8% of animals (N=500).	MB	Korytny, Shvedov, Pryakhin, 1996; also Moskalev,1991
T36	Mammal	Laboratory rat Vistar	Laboratory experiment, chronic ingestion of radionuclide during lifetime	Sr-90			0.1-0.2		Life shortening was caused mainly by radiation-nonspecific diceases.	MT	Korytny, Shvedov, Pryakhin, 1996; also Moskalev,1991
T37	Mammal	Laboratory rat Vistar	Laboratory experiment, chronic ingestion of radionuclide during lifetime	Sr-90			0.2-0.25	90-112	Maximum frequency of induction of leucoses. Life shortening by 100 days (normal lifespan about 550 days).	MT	Korytny, Shvedov, Pryakhin, 1996; also Moskalev,1991
T38	Mammal	Laboratory rat Vistar	Laboratory experiment,	Sr-90			0.7-1	245-350	Maximum frequency of induction of osteosarcoma. Life shortening by	MT	Korytny, Shvedov, Pryakhin, 1996;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			chronic ingestion of radionuclide during lifetime						200 days (normal lifespan about 550 days).		also Moskalev,1991
T39-1	Mammal	*Microtus oeconomus P.* Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south from the ChNPP. Field studies, 1986-1989	Ce-144, Ru-106,Cs-134,137; Sr-90			(40-50)E-03 R/hour (in 1986)	1 Gy (external from gamma radiation by the autumn of 1986)	Violations in red blood of voles. Specific changes in red blood were found which were characteristic for acute radiation dicease (abnormalities in erythrocytes, decrease in haemoglobin concentration, appearance of basophilic erythroblastes even in the state of mitosis, reticulocytosis. Only few animals had normal cell composition of red blood. Observations were carried out during 1986-1989.	MB	Atlas, 1994
T39-2	Mammal	*Microtus oeconomus P.* Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south from the ChNPP. Field studies, 1986	Ce-144, Ru-106,Cs-134,137; Sr-90			(40-50)E-03 R/hour (in 1986)	1 Gy (external from gamma radiation by the autumn of 1986)	Violations in white blood (hemolymph) of voles. In 1986 (5-6 months after the accident), concentrations of leucocytes in exposed voles were increase by 2-3 times when compared with the control. Exposed animals had 16.1E+03 (young) and 12.8E+03 leucocytes per cubic mm of blood whereas the control voles 5.8E+03 and 6.6E+03 respectively.	MB	Atlas, 1994
T39-3	Mammal	*Microtus oeconomus P.* Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south	Ce-144, Ru-106,Cs-134,137; Sr-90					Violations in white blood (hemolymph) of voles. In 1987, concentrations of leucocytes in exposed voles were still higher than whose in the control. Exposed animals had (9.8-9.9)E+03, whereas the control voles had only (5.8-	MB	Atlas, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			from the ChNPP. Field studies, 1987						6.6)E+03 leucocytes per cubic mm of blood . See also record 39-2.		
T39-4	Mammal	*Microtus oeconomus P*. Tundra vole	Territory, highly contaminated in 1986 (Chernobyl accident), 4-5 km to the south from the ChNPP. Field studies, 1988-1989	Ce-144, Ru-106,Cs-134,137 ; Sr-90					Violations in white blood (hemolymph) of voles. In 1988-1989, concentrations of leucocytes in exposed voles were lower than whose in the control. Exposed animals had (3.8-4.6)E+03, whereas the control voles had (5.8-6.6)E+03 leucocytes per cubic mm of blood . See also record T39-2, T39-3 .	MB	Atlas, 1994
T40	Amphibia	Rana arvalis. Brown frog	Territory highly contaminated in 1986 (Chernobyl accident), 3 km to the south from Chernobyl NPP (Kopachi, place Izumrudnoye). Field study, 1987-1989	Cs-134,137 ; Ce-144; Zr-95; Nb-95	Total beta activity of soil 1,1E+05 Bq/kg; 8,8E+04 (Cs-137, Bq/kg); 2,6E+04 (Cs-134, Bq/kg);2,1E+05 (Ce-144);1,3E+04 (Zr-95); 2,1E+04 (Nb-95).		Data on the contamination required		In 1987, over 33 % of the laid frog eggs in contaminated population remained non-impregnated or partially impregnated. In 1988, the portion of non-impregnated frog eggs was 27 %; in 1989 - 3 % and stabilized at this level.Control: 0.01 % of non-impregnated laying of frog eggs.	REPR	Cherdantsev et al., 1993
T41	Bird	Coturnix coturnix. Quail	Experiment. Acute exposure of bird's eggs 2 hours before	External gamma-exposur				0,03	Weak exposure produced a stimutating effect on the development of bird's embryos and post-embrional development of baby	STIM	Akilov, Ishankulov, 1989

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			placing into incubator	e					birds. Earlier development of erythrocytes, better parameters of red blood, no changes in white blood. No negative changes were found.		
T42-1	Bird	Anas platyrhynchos. Mallard	Area contaminated as a result of the Chernobyl accident. Field + experimental study of metabolism of baby birds (N=75).	Cs-137; Sr-90	External exposure (50-150)E-06 R/hour	Contamination of eggs Cs-137 (30-50 Bq/kg), Sr-90 in shells (116 Bq/kg)			Increase in basal metabolism (BM) and respiratory coefficient (RC) was found in 1-day old baby birds of mallard: exposed birds BM=3,86(+-) 1,4 kJ/(gramm day) (normal BM=0,564); RC=0,86(+-)0,17 (normal 0,69).	MB	Mikityuk, Ermakov (1990)
T42-2	Bird	Anas platyrhynchos. Mallard	Area contaminated as a result of the Chernobyl accident. Field + experimental study of metabolism of baby birds (N=75).	Cs-137; Sr-90	External exposure (50-150)E-06 R/hour	Contamination of eggs Cs-137 (30-50 Bq/kg), Sr-90 in shells (116 Bq/kg); contamination of baby bird's food - 1-5 kBq/kg			Increase in basal metabolism (BM) was found in 15-day old baby birds of mallard: exposed birds BM=1,3± 0,5 kJ/(gramm day) (normal BM=0,4). Respiratory coefficients did not differ from the control.	MB	Mikityuk, Ermakov (1990)
T43	Bird	Sturnus vulgaris. Starling	Area contaminated as a result of the Kyshtym accident. Field study of baby	Sr-90	(6.66-12.6)E+07 (initial contamination); (5.3-	(7,4-18,5)E+05 (bones)			Weight of baby birds of starling was lower by 16-17% than that in the control.Amount of food in stomach was lower by 10% than that in the control.	MB	Ilyenko, 1971; reviewed in Ryabtsev, 1980; Ryabtsev, Lebedeva,1999

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			birds (5-15 day old).		10)E+07 in early 1960s						
T44	Bird	Parus major. Great tit	Area contaminated as a result of the Chernobyl accident. Field studies of bird's eggs (1989, 1992). Site "Izumrudnoje", 3 km to the south-east from the Chernobyl NPP.	Cs-137, Sr-90	3,33E+06 (Cs-137)	(64,9(+-) 8,7)E+03 (Sr-90, shell of eggs); up to 3,4E+03 Bq/kg ? (Cs-137) (0.2-9.4)E+03 (Sr-90) in adult birds			Increasing variability in size and shape of eggs laid by great tit within contaminated area. The variation coefficients of egg lenth, diameter and shape index were 5,08, 2,12, 4,29% respectively (control 2,15, 2,04, 2,88% respectively). Some tendency to decrease of egg size.	REPR	Lebedeva et al., 1996; reviewed in Ryabtsev, Lebedeva,1999
T45	Bird	Muscicapa hypoceuca.Pied flycatcher	Area contaminated as a result of the Kyshtym accident in 1957. Local area near lake Berdenish. Field study of reproduction of flycatchers in man-made nests (30 nests). Study of 1992	Sr-90	5,55E+07	Eggs about 1E+06 Bq/kg (Sr-90), body 84E+03 Bq/kg (Sr-90), 1.7E+03 (Cs-137)	1,44E-04 (external beta within the nests)		Reproduction of flycatcher birds in the contaminated area (in man-made nests) was unsuccessful. Only one baby bird was developed among 6 nests, at the age of 11-12 days the baby-bird lost much of feather and died. In the same nest two embryos died within eggs. Other nests were deserted by flycatchers either at the stage of nest construction, or stage of laying eggs. In the control the reproduction success was 91.7%.	REPR	Lebedeva, 1994; reviewed in Ryabtsev, Lebedeva,1999
T46	Bird	Different species of local birds	Area contaminated as a result of	Cs-137					Infestation of birds with ectoparasites was higher within contaminated area. Number of different parasitic species	MB	Yefremova et al., 1989;reviewed in Ryabtsev,

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			the Chernobyl accident (Belarus) . Field study of infestation of birds with parasites.Bragin and Khoiniki districts						found on birds was higher than that in the control. For example: concentration of gamasid mites living in nests of birds was sevweral times higher (abundancy index 547) than that in the control or known from previous surveys (abundanct index 100-250). Authors explained the situation by effect of radiation as well as high number of birds concentrated in abandoned area.		Lebedeva,1999
T47-1	Reptilia	Lacerta vivipara. Viviparous lizard	Area contaminated as a result of the Kyshtym accident. Field studies of 1992-1995.(N=130, reproduction studies N=43)	Sr-90	3,7E+07 up to 18,5E+07	About 3,5E+04 (bones)			From 43 specimens one was hermaphrodite, others had no morphological abnormalities in gonads. Sterile specimens were not found. Fattering of gonads was not found.	REPR	Semenov, et al.,1999; Ivanova, Semenov, 1993;Martyshov et al., 1999 (contamination data)
T47-2	Reptilia	Lacerta vivipara. Viviparous lizard	Area contaminated as a result of the Kyshtym accident. Field studies of 1992-1995.(N=130, reproduction studies N=43)	Sr-90	3,7E+07 up to 18,5E+07	About 3,5E+04 (bones)			From 42 embryos analysed at later stage of development (just before birth) 12 embryos had evident morphological abnormalities (26,6%). Duplications of head, tail, legs, extra fingers, abnormal neck curvatures. Maximal known level of duplications in non-exposed viviparous lizards is 2,1%.	REPR	Semenov, et al.,1999; Ivanova, Semenov, 1993;Martyshov et al., 1999 (contamination data)
T48	Mammal	Clethrionomys glareolus common red-baked vole	Area contaminated as a result of the Chernobyl	Cs-137, Sr-90	External gamma exposure (40-80)E-	Cs-137 (350-1220 Bq/kg ww); Sr-			Infestation of voles with helminths was higher within contaminated area. Index of extensivity of infestation was 88-96% (normal levels are	MB	Pelgunov, Larchenko, 1999

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			accident (Bryansk region,Zlynka district, Russia) . Field study of infestation of voles with parasites. Summer of 1992 (N=187)		06 R/hour; beta exposure on soil level up to 30 particles/(minute cm2)	90 (150-290 Bq/kg)			known to be 60-77%). Among helminths the Nematoda group was the most abundant (85-86% of infestations, normal level is 35-57%)		
T49	Mammal	Clethrionomys glareolus common red-baked vole	Area contaminated as a result of the Chernobyl accident (Bryansk region,Zlynka district, Russia) . Field study of infestation of voles with parasites. Summer of 1992 (N=187)	Cs-137, Sr-90	External gamma exposure (200-320)E-06 R/hour; beta exposure on soil level up to 60 particles/(minute cm2)	Cs-137 (3500-4200 Bq/kg ww); Sr-90 (360-660 Bq/kg)			Infestation of voles with helminths was high within contaminated area. Index of extensivity of infestation was 93-94% (normal levels are known to be 60-77%). Among helminths the Nematoda group was the most abundant (79-83% of infestations, normal level is 35-57%).One vole had up to 1002 Nematoda parasites in a body. Number of infestations with Cestoda was higher at more contaminated site.	MB	Pelgunov, Larchenko, 1999
T50	Insects	Flies, different local species	Area contaminated as a result of the Kyshtym accident. Field studies of 1992-1993 (summer periods). Sites	Sr-90					Decrease in species diversity of flies within contaminated area. From 31 typical species 29 were found in the control and only 9 species in each of contaminated sites. Absent were fly species, which normally are developed in ooze and near-water vegetation	MT, ECOL	Krivosheina, 1999

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Metlino and Lezhnevka								
T51	Mammal	Northern reindeer	Novaya Zemlya archipelago. Field study of 1992-1994. Analysis of mandibles (N=107)		Nuclear tests in the period 1955-1990 on N.Zemlya			Up to 8,7 Gy for animals born before 1990; 0,6 Gy for ones born in later period	In whole, condition of the reindeer population in N.Zemlya was found to be better than could be expected from doses of exposure. However, some effects can be linked with radiation. 1)Though the majority of reindeer died in winter, almost a half of 1-3 year old ones died in summer-autumn, which is non-typical. 2) The proportion of reindeer lagged in development toward the 1st winter was larger than in the control (Taimyr reindeers). 3) Molars wore more rapidly than in the control (Sr accumulation?).	MB	Klevezal, Sokolov, 1999; also Klevezal et al., 1997 (doses)
T52	Amphibia	Rana arvalis. Brown frog	Area contaminated as a result of the Chernobyl accident (Gomel region (Khoiniki district), Mogilev region, Belarus) . Field+laboratory cytogenetic studies, 1990s	Cs-139, Sr-90	1100-2300 kBq/m2 (Cs-137), 78-284 kBq/m2 (Sr-90) in Gomel region; 177 kBq/m2 (Cs-137) Mogilev region	Up to 2500 Bq/kg Sr-90 in bones			Increased level of aberrant bone morrow cells: increase of Sr-90 concentration in bones from 500 to 2500 Bq/kg lead to 2-time increase in aberrations (from 1.1 to 2.6%)	CG	Voitovich, Afonin, 2002
T53	Mammal	Clethrionomys glareolus common red-baked vole	Area contaminated as a result of the Chernobyl	Cs-139, Sr-90	1100-2300 kBq/m2 (Cs-137),	(6-9)E+03 Bq/kg Cs-137,about 500 Bq/kg	From 1E-06 up to 1E-03 Gy/d		Increased level of aberrant bone morrow cells: increase of absorbed dosse rate in bone from 1E-06 to 1E-03 Gy/d caused about 3-time	CG	Voitovich, Afonin, 2002

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			accident (Gomel region (Khoiniki district), Mogilev region, Belarus) . Field+laboratory cytogenetic studies, 1990s		78-284 kBq/m2 (Sr-90) in Gomel region; 177 kBq/m2 (Cs-137) Mogilev region	Sr-90 in 1990-1992 Gomel region			increase in aberrations (from 1.3 to 4.4%). Linear regression was obtained between the dose rate and aberrations.		
T54	Mammal	Small rrodents	Area contaminated as a result of the Chernobyl accident (30-km zone), Yanov (Red Forest). Field studies of late 1980s.	Cs-139, Sr-90, pu-239 and oher nuclides					Within the zone of extremely high contamination (Red Forest) the infestation of mice with helminths was lower than in 30-km zone. The biodiversity of helminths was very low (1 species of Nematoda instead of 10-12 species in the control, Cestodes disappeared totally)	MB	Sonin, Pelgunov, Larchenko, 1990
T55	Mammal	*Microtus oeconomus P*. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia,Ukhta region; radium stationary sites, 1 and 12 gectares; uranium-radium stationary site, 3 gectare)	Ra-226, Po-210,U-238,Th-232				External 3-30 mGy/y; internal 12-40 mGy/y; from Rn gas 13 mGy/year	Negative changes in blood of young voles (1 month old). Main characteristics of blood were worse than in control: hemoglobin(gramm %) 13.6±0.6; erythrocytes (per mm3) (7.3±0.3)E+06; leucocytes (per mm3) (4±0.5)E+03. Control numbers: 16.3±0.2; (9.2±0.3)E+06; (7.6±0.2)E+03 respectively. Differences were statistically reliable (N=5000, P<0.001)	MB	Materij, Maslova, 1977; Materij, 1979; Maslova, Maslov, 1990; Kichigin, 2001 (description of sites)
T56	Mammal	Microtus oeconomus	Local area with high natural	Ra-226, Po-				External 3-30	Negative changes in blood of adult voles (3 months old), signs of	MB	Maslova, Materij, 1974; Materij,

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		P. Tundra vole	radioactivity (Komi AR of Russia, Ukhta region; uranium-radium stationary site, 3 gectares)	210,U-238,Th-232				mGy/y; internal 12-40 mGy/y; from Rn gas 13 mGy/year	chronic radiation disease. Main characteristics of blood became near normal, however the leuco-formulae was all wrong: young leucocytes were 150-190% of the control, large forms of lymphocytes were 200% of the control, number of neutrophiles exceeded the number of lymphocytes (in the control inverse proportion), reticulocytosis (up to 85-95%). Differences were statistically reliable (N=5000, P<0.001).		1979; Materij, Maslova, 1983; Maslova, Maslov, 1990; Kichigin, 2001 (description of sites)
T57	Mammal	*Microtus oeconomus P*. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia,Ukhta region; radium stationary sites, 1 and 12 gectares)	Ra-226, Po-210,U-238,Th-232				External 3-30 mGy/y; internal 12-40 mGy/y; from Rn gas 13 mGy/year	Abnormalities in erythrocytes in the blood of voles from radium sites: micronuclei in erythrocytes were found in 2-9% of animals (N=5000); percentage of abnormal erythrocytes in blood of these animals was 0.2-0.4% (results statistically reliable). Micronuclei in erythrocytes were not found in the control voles. Presence of micronuclei is indicator of somatic mutation.	CG	Materij, Maslova, 1978; see also Kichigin, 2001 (area description)
T58	Mammal	Microtus oeconomus P. Tundra vole	Local area with high natural radioactivity (Komi AR of Russia, Ukhta region; uranium-radium stationary site, 3 gectares)	Ra-226, Po-210,U-238,Th-232				External 3-30 mGy/y; internal 12-40 mGy/y; from Rn gas 13 mGy/year	Abnormalities in lymphocytes in the blood of voles from uranium-radium sites: micronuclei in lymphocytes were found in 22-82.6% of animals in different years (N total =5000); percentages of abnormal lymphocytes in white blood of these animals were 21-40% (results statistically reliable). Presence of micronuclei is indicator of somatic mutation.Micronuclei in lymphocytes were not found in the control voles.	CG	Materij, Maslova, 1978see also Kichigin, 2001 (area description)

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T59-1	Mammal	Lutra lutra. Otter	Local area with high natural radioactivity (Komi AR of Russia, rivers within the thorium area, northern taiga). Ecological and radioecological studies of 1950s.	Th, Ra, U, Rn	riverside soil: Th (10E-03 gramm/gramm d.w.); Ra (4E-12 g/g); U (3E-06 g/g); river water: Rn (1E-08g/L); Ra (8E-12 g/L); U (1E-08 g/L); Th (1.5E-07 g/L)	Ra: 90E-14 g/g w.w. (bones); (20-30)E-14 g/g (liver, kidney). U: 2E-07 g/g (kidney); 2E-08 g/g (bones). Th: 2E-06 g/g (bones, kidney), 1E-06 (muscles,liver)		External gamma radiation from soil up to 1000 microR/h	Weight of adult otters permanently lived within area of high thorium concentrations was somewhat lower (7.4 ± 0.6 kg, N=4) than that in the control (8.3 ± 0.8 kg, N=3) , summer period	MB	Maslov, Maslova, 1972
T59-2	Mammal	Lutra lutra. Otter	Local area with high natural radioactivity (Komi AR of Russia, rivers within the thorium area, northern taiga). Ecological and radioecological studies of 1950s.	Th, Ra, U, Rn	riverside soil: Th (10E-03 gramm/gramm d.w.); Ra (4E-12 g/g); U (3E-06 g/g); river water: Rn (1E-08g/L); Ra (8E-12 g/L); U	Ra: 90E-14 g/g w.w. (bones); (20-30)E-14 g/g (liver, kidney). U: 2E-07 g/g (kidney); 2E-08 g/g (bones). Th: 2E-06 g/g		External gamma radiation from soil up to 1000 microR/h	Exposed otters had less numbers and shorter periods of swimmings in the river per day comparing with control animals. The total time spent in water per day was shorter than that in control (exposed otters spent in water 4.9± 0.3 hours per day (N=4); control 5.5 ± 0.17 hours /day (N=3)).	MB	Maslov, Maslova, 1972

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
					(1E-08 g/L); Th (1.5E-07 g/L)	(bones, kidney), 1E-06 (muscles,liver)					
T59-3	Mammal	*Lutra lutra.* Otter	Local area with high natural radioactivity (Komi AR of Russia, rivers within the thorium area, northern taiga). Ecological and radioecological studies of 1950s.	Th, Ra, U, Rn	riverside soil: Th (10E-03 gramm/gramm d.w.); Ra (4E-12 g/g); U (3E-06 g/g); river water: Rn (1E-08g/L); Ra (8E-12 g/L); U (1E-08 g/L); Th (1.5E-07 g/L)	Ra: 90E-14 g/g w.w. (bones); (20-30)E-14 g/g (liver, kidney). U: 2E-07 g/g (kidney); 2E-08 g/g (bones). Th: 2E-06 g/g (bones, kidney), 1E-06 (muscles,liver)		External gamma radiation from soil up to 1000 microR/h	Measurements of hair density at different parts of otter's body did not revealed significant differences with the control in hair density on the back and sides of animals. However, for one male otter from 4 animals lived within radioactive local area, the density of hair on belly was about 2 times lower than that in the control. Microscopic study of skin and hair cover revealed undevelopment or athrophy of some hair follicules in belly side of animal. Decrease of hair density could lead to a worse thermoregulation of animals, which resulted in shorter periods of swimming/hunting and decrease in weight of animals.	MB	Maslov, Maslova, 1972
T59-4	Mammal	*Lutra lutra.* Otter	Local area with high natural radioactivity (Komi AR of Russia, rivers within the thorium area, northern taiga). Ecological and radioecological	Th, Ra, U, Rn	riverside soil: Th (10E-03 gramm/gramm d.w.); Ra (4E-12 g/g); U (3E-06 g/g); river	Ra: 90E-14 g/g w.w. (bones); (20-30)E-14 g/g (liver, kidney). U: 2E-07 g/g		External gamma radiation from soil up to 1000 microR/h	The density of otter population in thorium area was about 33% lower than that in the control (in thorium area there was 0.31 otter animals per 1 km of river; in the control 0.21 otters per 1 km of river. Actually, permanent inhabitances of 21 otters were identified along 67 km of river in the control; 27 inhabitances of otters were identified along 127 km	MT, ECOL	Maslov, Maslova, 1972

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			studies of 1950s.		water: Rn (1E-08g/L); Ra (8E-12 g/L); U (1E-08 g/L); Th (1.5E-07 g/L)	(kidney); 2E-08 g/g (bones). Th: 2E-06 g/g (bones, kidney), 1E-06 (muscles,liver)			of river in thorium area).		
T60-1	Bird	Grouse birds (big): *Tetrao urogallis* (great grouse), *Lyrurus tetrix* (black grouse)	Local area with high natural radioactivity (Komi AR of Russia, thorium area, northern taiga). Ecological and radioecological studies of 1950-1963. Total number of grouse birds analysed: N=840 (control), N=340 in radioactive area	Th, Ra, U, Rn		U: 80E-09 g/g w.w. (bones); 120E-09 (internal organs); (12-15)E-09 (muscles). Ra: (520-590)E-14 g/g (bones); 300E-14 (internal organs);(35-40)E-14 muscles. Th: (80-120)E-08 g/g (bones); (120-150)E-08 g/g		External gamma radiation from soil up to 1000 microR/h	Within radioactive area the average weights of big grouse birds (wood and black grouses) were somewhat lower than those in control. Average weights of wood grouses from irradiated population (N=21): male 3.5 kg, female 1.7 kg (control 4.3 and 2 kg respectively, N=186). Average weights of black grouses from irradiated population (N=11): male 1.1 kg, female 0.9 kg (control 1.4 and 1.05 kg respectively, N=45).	MB	Maslov, 1972

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
						(internal organs); (200-250)E-08 g/g (muscles).					
T60-2	Bird	Grouse birds (big): *Tetrao urogallis* (great grouse), *Lyrurus tetrix* (black grouse)	Local area with high natural radioactivity (Komi AR of Russia, thorium area, northern taiga). Ecological and radioecological studies of 1950-1963.Total number of grouse birds analysed: N=840 (control), N=340 in radioactive area	Th, Ra, U, Rn		U: 80E-09 g/g w.w. (bones); 120E-09 (internal organs); (12-15)E-09 (muscles). Ra: (520-590)E-14 g/g (bones); 300E-14 (internal organs);(35-40)E-14 muscles. Th: (80-120)E-08 g/g (bones); (120-150)E-08 g/g (internal organs); (200-250)E-08		External gamma radiation from soil up to 1000 microR/h	Within radioactive area the infestations of big grouse birds (wood and black grouses) with parasites of feather and gastroenterstine were higher than those in control. Exposed birds: 10-15% free from feather parasites, 30% free from endoparasites (Nematoda), in control 30-50% and 60-70% respectively. Heavily infestated with feather parasites were 35-50% of exposed birds (control 8-9%). Heavily infestated with endoparasites (Nematoda) were 25-30% of exposed birds (control 2-7%).	MB	Maslov, 1972

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
						g/g (muscles).					
T60-3	Bird	Grouse birds (big): *Tetrao urogallis* (great grouse), *Lyrurus tetrix* (black grouse)	Local area with high natural radioactivity (Komi AR of Russia, thorium area, northern taiga). Ecological and radioecological studies of 1950-1963. Total number of grouse birds analysed: N=840 (control), N=340 in radioactive area	Th, Ra, U, Rn		U: 80E-09 g/g w.w. (bones); 120E-09 (internal organs); (12-15)E-09 (muscles). Ra: (520-590)E-14 g/g (bones); 300E-14 (internal organs);(35-40)E-14 muscles. Th: (80-120)E-08 g/g (bones); (120-150)E-08 g/g (internal organs); (200-250)E-08 g/g (muscles).		External gamma radiation from soil up to 1000 microR/h	The populations of big grouse birds within the thorium area were smaller than those in the control. In thorium area the numbers of great grouses per 1km2 were 13-25% lower, and black grouse 14-35% lower than those in the control	MT, ECOL	Maslov, 1972
T61-1	Bird	Grouse birds (smaller):	Local area with high natural	Th, Ra, U, Rn		U: (10-40)E-09		External gamma	No effect on weight of birds: in the thorium area weight of smaller	NE	Maslov, 1972

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Tetrastes bonasia (hazel grouse), *Lagopus lagopus* (white grouse)	radioactivity (Komi AR of Russia, thorium area, northern taiga). Ecological and radioecological studies of 1950-1963. Total number of grouse birds analysed: N=840 (control), N=340 in radioactive area			g/g w.w. (bones); (40-95)E-09 (internal organs); 10E-09 (muscles). Ra: (100-300)E-14 g/g (bones); (90-200)E-14 (internal organs);(10-20)E-14 muscles. Th: (25-50)E-08 g/g (bones); (20-40)E-08 g/g (internal organs); (35-50)E-08 g/g (muscles).		radiation from soil up to 1000 microR/h	grouse birds did not differ from the control		
T61-2	Bird	Grouse birds (smaller): *Tetrastes bonasia* (hazel grouse),	Local area with high natural radioactivity (Komi AR of Russia, thorium area,	Th, Ra, U, Rn		U: (10-40)E-09 g/g w.w. (bones); (40-95)E-09		External gamma radiation from soil up to 1000	Within radioactive area the infestations of smaller grouse birds (hazel and white grouses) with parasites of feather and gastroenterstine were slightly higher than those in control. Exposed birds:	MB	Maslov, 1972

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Lagopus lagopus (white grouse)	northern taiga). Ecological and radioecological studies of 1950-1963. Total number of grouse birds analysed: N=840 (control), N=340 in radioactive area			(internal organs); 10E-09 (muscles). Ra: (100-300)E-14 g/g (bones); (90-200)E-14 (internal organs);(10-20)E-14 muscles. Th: (25-50)E-08 g/g (bones); (20-40)E-08 g/g (internal organs); (35-50)E-08 g/g (muscles).		microR/h	40% free from feather parasites, 40-60% free from endoparasites (Nematoda), in control 50% and 80-84% respectively. Heavily infestated with feather parasites were 20% of exposed birds (control 8-11%). Heavily infestated with endoparasites (Nematoda) were 10-20% of exposed birds (control 4-8%).		
T61-3	Bird	Grouse bird (smaller): *Lagopus lagopus* (white grouse)	Local area with high natural radioactivity (Komi AR of Russia, thorium area, northern taiga). Ecological and radioecological studies of	Th, Ra, U, Rn		U: 10E-09 g/g w.w. (bones); 40E-09 (internal organs); 9E-09 (muscles). Ra: 105E-14 g/g		External gamma radiation from soil up to 1000 microR/h	No effect on population of birds: in the thorium area the numbers of white grouse birds per 1 km2 did not differ from the control.	NE	Maslov, 1972

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1950-1963. Total number of grouse birds analysed: N=840 (control), N=340 in radioactive area			(bones); 90E-14 (internal organs);10 E-14 muscles. Th: 25E-08 g/g (bones); 20E-08 g/g (internal organs); 35E-08 g/g (muscles).					
T61-4	Bird	Grouse bird (smaller): *Tetrastes bonasia* (hazel grouse)	Local area with high natural radioactivity (Komi AR of Russia, thorium area, northern taiga). Ecological and radioecological studies of 1950-1963. Total number of grouse birds analysed: N=840 (control), N=340 in radioactive area	Th, Ra, U, Rn		U: 40E-09 g/g w.w. (bones); 95E-09 (internal organs); 10E-09 (muscles). Ra: 300E-14 g/g (bones); 200E-14 (internal organs);20 E-14 muscles. Th: 50E-08 g/g (bones);		External gamma radiation from soil up to 1000 microR/h	The population density of hazel grouse birds within the thorium area were slightly smaller than those in the control. In thorium area the numbers of hazel grouses per 1km2 were 12-14% lower than those in the control	MB	

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
						40E-08 g/g (internal organs); 50E-08 g/g (muscles).					
T62-1	Amphibia	Rana arvalis. Brown frog	Territory, highly contaminated in 1957 (Kyshtym accident). Area near the lake Berdenish. Field+experimental study of 1993	Sr-90	5,55E+07	About 150E+03 Bq/kg d.w. (Sr-90 adult frogs)			Sizes of frog's eggs were statistically smaller than those in the control. Total volume of eggs laid by a female was 89.5+6.7 ml (N=19) in contaminated area (the control: 187+15 ml). However, total number of eggs laid per one female did not differ from the control (896+42.7 and 916.7+70.4 respectively).	REPR	Piastolova et al.,1996
T62-2	Amphibia	Rana arvalis. Brown frog	Territory, highly contaminated in 1957 (Kyshtym accident). Area near the lake Berdenish. Field+experimental study of 1993	Sr-90	5,55E+07	About 150E+03 Bq/kg d.w.(Sr-90, adult frogs)			Mortality of frog's embryos within eggs was several times higher than that in the control. Normally, 400-800 forelarvae is developed from eggs laid by one female frog (reproduction success 45-90%). In the contaminated area forelarvae were developed from only 10% of eggs. About 90% of embrios died within eggs.	REPR	Piastolova et al.,1996
T62-3	Amphibia	*Rana arvalis*. Brown frog	Territory, highly contaminated in 1957 (Kyshtym accident). Area	Sr-90	5,55E+07	About 150E+03 Bq/kg d.w.(Sr-90, adult frogs)			Young frogs in the contaminated area were developed more rapidly than compared with the control. Young frogs born in spring 1993, at the end of July 1993 had average weight 531.2±27.5 mg, body length	REPR, ECOL	Piastolova et al.,1996

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			near the lake Berdenish. Field+experimental study of 1993						17.9±0.3 mm;the control: 306.6±5.6 mg and 14.5±0.1 mm respectively. In contrast, adult frogs in the contaminated area were somewhat smaller than frogs in the control.		
T62-3	Amphibia	*Rana arvalis*. Brown frog	Territory, highly contaminated in 1957 (Kyshtym accident). Area near the lake Berdenish. Field+experimental study of 1993	Sr-90	5,55E+07	About 150E+03 Bq/kg d.w.(Sr-90, adult frogs)			Among young frogs 16.7% had various morphological abnormalities (N=60), in the control there was only 1.8% of frogs with morphological abnormalities (N=54).	REPR, MB	Piastolova et al.,1996
T63	Mammal	*Apodemus sylvaticus*. European wood mouse	Territory, highly contaminated in 1957 (Kyshtym accident). Studies of 1990s.	Sr-90		(3,7-370)E+03 (Sr-90 in bones)			Mice, containing higher concentrations of Sr-90 in body, became victims of predatory birds more frequently than less contaminated animals. About 80% of mice eaten by predatory bird (Buteo buteo) had about 3,5E+04 Bq/kg of Sr-90 in bones, thereas from mice caught by mechanical cathers in the same area 60% had about 3,7E+03 Bq/kg and only 20% 3,7E+04 Bq/kg (d.w.) Sr-90 in bones.	MT	Unpublished data by I.Ryabtsev and T.Volkova, described in Lebedeva et al., 1996
T64-1	Mammal	Laboratory white rats	Laboratory experiments with baby rats born from exposed parents. Effects of parent's	Sr-90		Single administration of Sr-90 to adult rats 10-12 days before		10 Gy to parent rat, 0.26-0.27 Gy to baby	Some delay in the development of local skin reflexes in baby rats (on tickling by a hairline). General skin response on tickling was replaced by a local skin response on 20th day or later in experimental baby rats (the control : 7-14 days of life of baby	MB	Nazarov, Levchenko, 1963

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			exposure on nerve system of baby rats (N=100).			coupling, 0.4E-6 Ci/kg. Baby rats were born 30-40 days after Sr-90 intake by parents.		rats by 1st month of life.	rats). In case of little irritation (single tickling), general skin reflexes (washing, scratching, shaking off) were replaced by local skin reflex: in the control on 12-24 days of life, in baby rats from exposed parents, generalized reflexes were observed up to 30-35 days. Effect indicates a delay in development of inhinition centers in brain.		
T64-2	Mammal	Laboratory white rats	Laboratory experiments with rats which were born from exposed parents. Effects of parent's exposure on nerve system of progeny, first brood after exposure (N=8, total number of baby rats =100).	Sr-90		Single administration of Sr-90 to adult rats 10-12 days before coupling, 0.4E-6 Ci/kg. Baby rats were born 30-40 days after Sr-90 intake by parents.		10 Gy to parent rat, 0.26-0.27 Gy to baby rats by 1st month of life.	Non-stability of conditioned reflexes in rats from exposed parents, difficulties in restoration of reflexes. Progeny from exposed rats were more nervous than animals in control. Rats were trained to develop conditioned reflexes on different stimulators (ring, light, buzzer). Numbers of repetitions required for development of conditioned reflexes did not differ, and in some cases were less than in the control. Reflex on ring: 15.8±3.2 repetitions required for experimental rats (control 21.8±2.3); reflex on light: 22.1±3.3 repetitions required (control 20.4±1.1); differentiation of sounds: 12.3±3.2 repetitions (control 9.5±2.0). However, the reflexes were not stable, fading of reflexes occured more easily (8.3±1.3 unconfirmations of stimulus, control 11.6±1.3), and restoration of reflexes took longer time (2-3 days) than in control (1 day).	MB	Nazarov, Levchenko, 1963

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T64-3	Mammal	Laboratory white rats	Laboratory experiments with rats which were born from exposed parents. Effects of parent's exposure on nerve system of progeny, 3rd brood after exposure (N=10, total number of baby rats=70).	Sr-90		Single administration of Sr-90 to adult rats 10-12 days before coupling, 0.4E-6 Ci/kg.Considered were baby rats from 3rd brood born about 6-7 months after Sr-90 intake by parents.		30 Gy to parent rat, 0.018 Gy to baby rats by 1st month of life.	Some delay in the development of local skin reflexes in baby rats (on tickling by a hairline). General skin response on tickling was replaced by a local skin response on 28th day or later in experimental baby rats (the control : 7-14 days of life of baby rats). In case of little irritation (single tickling), general skin reflexes (washing, scratching, shaking off) were replaced by local skin reflex: in the control on 12-25 days of life, in baby rats from exposed parents, generalized reflexes instead of local ones were observed up to 30-35 days. Effect indicates a delay in development of inhinition centers in brain.	MB	Nazarov, Levchenko, 1963
T64-4	Mammal	Laboratory white rats	Laboratory experiments with rats which were born from exposed parents. Effects of parent's exposure on nerve system of progeny, 3rd brood after exposure (N=10, total number of baby rats=70).	Sr-90		Single administration of Sr-90 to adult rats 10-12 days before coupling, 0.4E-6 Ci/kg.Considered were baby rats from 3rd brood born about		30 Gy to parent rat, 0.018 Gy to baby rats by 1st month of life.	Non-stability of conditioned reflexes in rats from exposed parents, difficulties in restoration of reflexes, exhaustion of nervic system. Rats were trained to develop conditioned reflexes on positive stimulators (ring, light, buzzer). Development of conditioned reflexes in experimental rats took statistically longer time and required more repetitions comparing with the the control. Reflex on ring: 40.3 +2.8 repetitions required for experimental rats (the control 21.8+2.3); reflex on light: 33.1+3.7 repetitions required (the control	MB	Nazarov, Levchenko, 1963

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
						6-7 months after Sr-90 intake by parents.			20.4+1.1); differentiation of sounds: 19.6+1.6 repetitions (the control 9.5+2.0). Reflexes were not stable, often deleted, fading of reflexes occured more easily. Restoration of faded reflexes took longer time (4 days and 9+1.1 repetitions; the control: 1 day and 3.7+0.7 repetitions), about 40% of experimental rats were totally unable to restore the faded reflexes.		
T64-5	Mammal	Laboratory white rats	Laboratory experiments with rats which were born from exposed parents. Effects of parent's exposure on nerve system of progeny, 3rd brood after exposure (N=10, total number of baby rats=70).	Sr-90		Single administration of Sr-90 to adult rats 10-12 days before coupling, 0.4E-6 Ci/kg.Considered were baby rats from 3rd brood born about 6-7 months after Sr-90 intake by parents.		30 Gy to parent rat, 0.018 Gy to baby rats by 1st month of life.	Non-stability of conditioned reflexes in rats from exposed parents, difficulties in restoration of reflexes, exhaustion of nervic system. Injection of coffein (20 mg/kg) : 80% of experimental animals lost the conditioned reflexes for 2-3 days (no effect on reflexes in control rats). Injection of bromide (100 mg/kg): stupor in 20% of experimental rats, and 60% of rats demonstrated deletions of reflexes, or wrong reactions on stimulators (control rats - no effect on reflexes).	MB	Nazarov, Levchenko, 1963
T65	Mammal	Laboratory dogs	Laboratory experiments with dogs which were	Mixture of fission product		Single administration of mixture of		? Gy to parent dogs, 1E-04	Condition of health: dogs looked healthy, blood-normal, slow healing of wounds. All experimental dogs were characterized by a weak type of	MB	Nazarov, Levchenko, 1963

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			born from exposed parents. Effects of parent's exposure on nerve system of progeny, 1st bood after exposure (N=5, age of experimental dogs 1.5 years).	s, aged for 1 year.		fission products to parent dogs 1-1.5 years before pregnancy, 1E-6 Ci/kg.Experiments were performed with dogs born from exposed parents.		Gy to baby dogs by 9st month of life.	nervic system: high sensitivity to drugs, very cowardly in behaviour, reflexes non-stable, often deleted for several days. Encephalographic study: non-stability of bioelectric activity, normal oscillations (4-16 herts) were often replaced by highly-synchronized oscillations of higher frequency (18-20 or 20-22 herts). Moderate theurapeutic doses of coffein or bromide caused serious decreases in conditioned reflexes. Experimental dogs had big difficulties in detail differentiation of stimulators (e.g. buzzer of 400 and 500 herts), this task caused nervic frustration. In case of changes of two stimulators to opposite signs (e.g. a buzzer from positive stimulator turned to negative), 80% of dogs were anable to develop reflexes to the changed signes of stimulators. The peculiarities in nervic system were not compensated with the age of animals.		
T66	Mammal	Laboratory dogs	Laboratory experiments with dogs which were born from exposed parents. Effects of parent's exposure on nerve system	Sr-90		Chronic administration of Sr-90 with food to parent dogs (females) during 17-28 months		0.9-2.3 Gy to bones of parent dogs (one dog 6 Gy).	At age 1.5years dogs born from exposed females looked healthy, were well-fed. Condition of nervic system: dogs were cowardly, petulant and non-social in behaviour, extraordinary nervic with intensive vegetative reactions, processes of nervic irritation predominated over inhibition. Conditioned reflexes were developed and fixed easier than in	MB	Nazarov, Levchenko, 1963

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			of progeny, 1st bood after exposure (N=5, age of experimental dogs 1.5 years).			up to baby birth, (0.02-0.2)E-6 Ci/(kg day). Experiments were performed with dogs born from exposed parents.			the control. Using of morerate reflex stimulator (e.g. buzzer) caused usually extraordinary intensive vegetative reactions: pulse rate increased up to 120 per minute, breathing rate increased up to the frequency of sound. i.e up to 240-300 breaths per minute (control breathing rate 20-30 per minute). Such reactions accompanied the reflexes even long time after training. The peculiarities in nervic system were not compensated with the age of animals.		
T67	Mammal	Laboratory white mice	Laboratory experiments: incidence of dominant lethal mutations were analysed after a single administration of tritium-oxide to mice males (N=500 males, females for couplings 2500).	H-3 (THO)		Single injection of THO, dosages from 1.85 to 13.3 MBq/gr to males. Exposed males were coupled each week with 2-4 females. Females were killed 17-18 days after couplings,		estimated doses to male gonads were from 0.5 to 3.4 Gy.	Increased pre- and post implantation death of embryos in females coupled with exposed males. The yields of embryonal deaths increased with increasing dose of tritium oxide. Maximum levels of induced post-implantation deaths were 8±1.7% at dose 0.53Gy of tritium oxide to 54.9±7.2% at dose 3.4 Gy. Dominant lethal mutations (DLM) were considered as the main cause of embryonal deaths. The RBE of tritium oxide was estimated by comparison of effects with those caused by external gamma-exposure from Cs-137. Estimated RBE of tritium oxide was 2.2 at dose 0.5 Gy, and 1.6 at dose 2 Gy. Linear extrapolation to low doses gives the RBE value =2.6.	CG, REPR	Balonov & Kudritskaja., 1984; Balonov et al., 1984,1987

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
						numbers of live and dead embryos were counted.					
T68-1	Mammal	Laboratory white mice	Laboratory experiments: incidence of frequency of dominant lethal mutations in spermatogenic cells were analysed after a single administration of tritium-labelled glucose to mice males (N=20 males) .	H-3 (glucose)		Single injection of tritium-labelled glucose (D-glucose-6(3H)), 3.3MBq/gr to males.		Dose to male gonads were estimated as 0.95+0.06 Gy.	Increased post implantation death of embryos in females, which were coupled with exposed males. The highest yields of post-implantational embryonal deaths (15.6 - 19.1%) occured from couplings 10-37 days after radionuclide injections to males (control 8.3±1.4%). Dominant lethal mutations (DLM) were considered as the main cause of embryonal deaths.	CG, REPR	Balonov et al., 1992
T68-2	Mammal	Laboratory white mice	Laboratory experiments: incidence of frequency of reciprocal translocations in stem spermatogonia were analysed after a single administration of tritium-labelled	H-3 (glucose)		Single injection of tritium-labelled glucose (D-glucose-6(3H)), 3.3MBq/gr to males.		Dose to male gonads were estimated as 0.95+0.06 Gy.	Increased frequency of reciprocal translocations in stem spermatogonia of exposed mice males up to 0.46% (0.46±0.16%) at administration of 3.3 MBq/g of tritium-labelled glucose.	CG	Balonov et al., 1984, 1987

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			glucose to mice males (N=20 males) .								
T68-3	Mammal	Laboratory white mice	Laboratory experiments: incidence of frequency of reciprocal translocations in stem spermatogonia were analysed after a single administration of tritium-labelled glucose to mice males (N=20 males) .	H-3 (glucose)		Single injection of tritium-labelled glucose (D-glucose-6(3H)), 3.3MBq/gr to males.		Dose to male gonads were estimated as 0.95+0.06 Gy.	The loss of testis mass to 54% of the control was observed 30 days after radionuclide administration (3.3 MBq/gr D-glucose-6(3H), dose 0.95 Gy). The same effect was produced by tritium oxide of the same dose.	REPR	Balonov et al., 1984
T69-1	Mammal	Laboratory white mice	Laboratory experiments: incidence of dominant lethal mutations were analysed after a single administration of tritium-labelled thymidine to mice males (N=155 males, females for matings - about 400).	H-3 (thymidine)		Single injection of H3-thymidin, 0.56E+06 Bq/gr to males.Exposed males were coupled each week with 2-3 females. Females were		Dose to male gonads were estimated as 0.38 Gy over 50 days.	Increased pre- and post implantation death of embryos in females coupled with exposed males. The highest yield of embryonal deaths was from couplings occurred 35-40 days after H3-thymidine injections to males (from radionuclide labelled sperm): pre-implantation deaths up to 51±7.1% (control 19.4±5.2%); post-implantational deaths 61.3±11.9% (control 8.5±1.5%). Dominant lethal mutations (DLM) were considered as the main cause of embryonal deaths. Further increase in dosage of radionuclide administration did not caused increase in mutations, but	CG, REPR	Balonov et al., 1992

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
						killed 17-18 days after mating, numbers of live and dead embryos were counted.			increased deaths of germ cells with sterility of males.		
T69-2	Mammal	Laboratory white mice	Laboratory experiments: incidence of reciprocal translocations in spermatogonia were analysed after a single administration of tritium-labelled thymidine to mice males .	H-3 (thymidine)		Single injection of H3-thymidine, dosages 0.037; 0.11;0.37; 1.1MBq/gr to males (N=9-13 at each dosage, control N=60).		Dose to male gonads were estimated as 0.38 Gy over 50 days.	Increased frequency of reciprocal translocations in spermatogonia of exposed mice males up to 0.5% (0.56±0.2%, control 0.025±0.014%) at administration of 0.37 MBq/g of H3-thymidine. Further increase in dosage of radionuclide administration did not caused increase in mutations, but increase deaths of cells in spermatogonia.	CG	Balonov et al., 1992
T69-3	Mammal	Laboratory white mice	Laboratory experiments: incidence of dominant lethal mutations and reciprocal translocations were analysed after a single administration of tritium-	H-3 (thymidine)		Single injection of H3-thymidine, dosages 0.037; 0.11;0.37; 1.1MBq/gr to males.		Administration of 37 kBq/g of H3-thymidine leaded to integral dose to	From the analysis of frequences of dominant lethal mutations and reciprocal translocations, intraperitoneal single injection of 37kBq/g of H3-labelled thymidine to mice male (dose to gonads 0.025 Gy) was equivalent to gamma-irradiation of whole body at 0.2-0.4 Gy.	CG	Balonov et al., 1992

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			labelled thymidine to mice males (N=155 males, females for couplings about 400).					gonads of about 0.025 Gy			
T70-1	Amphibia	Rana temporaria. Grass frog	Area contaminated as a result of the Chernobyl accident (Belarus, Mogilev region) . Field studies of frogs, 1986-1998.Cherikov city	Cs-137, Sr-90, Pu-239. In 1986, several short-lived radionuclides from the Chernobyl plume.		Cs-137 (1989-1996): from 1469 decreased to 934 Bq/kg; Sr-90 (1989-1993): from 129 decreased to 25 Bq/kg; Pu-239:6.7 Bq/kg d.w.In 1986, 2,5 months after the Chernobyl accident the levels of external gamma radiation were 150-200 micro			In 1988-1991, bone tumors were found in 5 frogs from frog's population near the city Cherikov. Total number of frogs analysed in 1986-1998 was about 300. Before 1988, and since 1991, bone tumors were not observed in frog's population. In 1986, the chromosome abberation frequency in bone marrow cells in frogs from the Cherikov population was the highest in Belarus. Contamination of the area and the radionuclide activity in frogs was not high; the author's explanation was that the effect represented the ultimate consequences of initial short-term impact from the Chernobyl accident.	MB	Voitovich, 2002

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
						R/h.					
T70-2	Amphibia	Rana temporaria. Grass frog	Area contaminated as a result of the Chernobyl accident (Belarus, Mogilev region) . Field studies of frogs, 1986-1998.Cherikov city	Cs-137, Sr-90, Pu-239. In 1986, several short-lived radionuclides from the Chernobyl plume.	Cs-137: 177.6E+03 Bq/m2; Sr-90: 3.7E+03 Bq/m2	Cs-137 (1989-1996): from 1469 decreased to 934 Bq/kg; Sr-90 (1989-1993): from 129 decreased to 25 Bq/kg; Pu-239:6.7 Bq/kg d.w.In 1986, 2,5 months after the Chernobyl accident the levels of external gamma radiation were 150-200 micro R/h.	In 1989: from Sr-90 to bones 1E-05 Sv/d; internal from other radiobuclides 3.8E-05 Sv/d; external 1E-05 Sv/d		In 1986, the chromosome abberation frequency in bone marrow cells in frogs from the Cherikov population was the highest in Belarus (3.28±0.44%). In 1987-1990, the frequency was rather stable (2.3-2.6%), since 1991 the number of chromosome abberations gradually decreased to 0.79±0.28% (1996). Control: 0.49±0.13%	CG	Eliseeva et al., 1994; Voitovich, 2002
T71-1	Mammal	Apodemus agrarisPallas Striped Field mouse Mus	Chernobyl zone, 2 km to the west of NPP; Field study in	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	9,0E-02 (external gamma-exposure in august	110 (external gamma-exposur	The number of animals was lower by a factor of 10 in comparison with the control plot.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		musculus Linnaeus House mouse	October 1986	Ru-106 Ce-144 and others			1986) 4,3 (external beta-exposure in august 1986)	e; april-october 1986) 10 (internal exposure; april-october 1986)			
T71-2	Mammal	Apodemus agrarisPallas Striped Field mouse Mus musculus Linnaeus House mouse	Chernobyl zone, 2 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	9,0E-02 (external gamma-exposure in august 1986) 4,3 (external beta-exposure in august 1986)	110 (external gamma-exposure; April-October 1986) 10 (internal exposure; april-october 1986)	The number of species of mice was 2 times as low as the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T71-3	Mammal	*Apodemus agraris Pallas*. Striped Field mouse	Chernobyl zone, 2 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	9,0E-02 (external gamma-exposure in August 1986) 4,3 (external beta-exposure in august 1986)	110 (external gamma-exposure; April-October 1986) 10 (internal exposure; april-	The number of animals was lower by a factor of 25 in comparison with the control plot.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								october 1986)			
T71-4	Mammal	*Mus musculus Linnaeus* . House mouse	Chernobyl zone, 2 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	9,0E-02 (external gamma-exposure in August 1986) 4,3 (external beta-exposure in august 1986)	110 (external gamma-exposure; april-october 1986) 10 (internal exposure; april-october 1986)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T71-5	Mammal	Mice-type small rodents	Chernobyl zone, 2 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	9,0E-02 (external gamma-exposure in august 1986) 4,3 (external beta-exposure in august 1986)	110 (external gamma-exposure; april-october 1986) 10 (internal exposure; april-october 1986)	No difference in the ratio males/ females in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997 Sokolov, 1994
T72-1	Mammal	Mice-type small rodents	Chernobyl zone, 2 km to the west of NPP; Field study in May	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in may	20 (external gamma-exposur	The number of animals was 2 times higher in comparison with the control. The number of animals was 6 times higher in comparison with population number in October 1986.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997 Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1987	Ru-106 Ce-144 and others			1987)	e; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)	The biodiversity (number of species of mice) was 2 times higher in comparison with October 1986.		
T72-2	Mammal	Apodemus agrarisPallas Striped Field mouse	Chernobyl zone, 2 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in may 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)	No difference in the number of animals in comparison with the control. The number of animals was 4 times higher in comparison with population in October 1986.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997
T72-3	Mammal	*Apodemus agraris Pallas*. Striped Field	Chernobyl zone, 2 km to the west of NPP; Field	Cs-134 Cs-137 Sr-89 Sr-90	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure	20 (external gamma-	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		mouse	study in May 1987	Zr-95 Ru-106 Ce-144 and others			in may 1987)	exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)			Sokolov, 1994
T72-4	Mammal	*Mus musculus Linnaeus* . House mouse	Chernobyl zone, 2 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in may 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)	The number of animals was 8 times higher in comparison with the control. The number of animals was 4 times higher in comparison with population in October 1986.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997
T72-5	Mammal	*Mus musculus Linnaeus.*	Chernobyl zone, 2 km to the west of	Cs-134 Cs-137 Sr-89	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-	20 (external	Ratio males/ females was 1,7.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		House mouse	NPP; Field study in May 1987	Sr-90 Zr-95 Ru-106 Ce-144 and others			exposure in may 1987)	gamma-exposure); 4 (internal); august 1986-may 1987)			Kudyasheva,1997
T72-6	Mammal	*Microtus oeconomus Pallas.* Root vole	Chernobyl zone, 2 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in may 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)	The number of animals was lower by a factor of 8 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T72-7	Mammal	*Microtus arvalis Pallas.* Common vole	Chernobyl zone, 2 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in may 1987)	20 (external gamma-exposure; august 1986-	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others				may 1987) 4 (internal exposure; august 1986-may 1987)			
T72-8	Mammal	Mice-type small rodents	Chernobyl zone, 2 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in may 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T73-1	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	8,0E-03 (external gamma-exposure in august 1986) 0,5	11 (external gamma-exposure; april-october	The number of animals was lower by a factor of 2,2 in comparison with the control plot.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				and others			(external beta-exposure in august 1986)	1986) 0,15 (internal exposure; april-october 1986)			
T73-2	Mammal	*Apodemus agraris Pallas.* Striped Field mouse	Chernobyl zone, 4-5 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	8,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october 1986)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T73-3	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 4-5 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	8,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october 1986)	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T73-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 4-5 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	8,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october 1986)	The number of animals was lower by a factor of 6 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T73-5	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 4-5 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	8,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october 1986)	The number of animals was lower by a factor of 14 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T73-6	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	8,0E-03 (external gamma-exposure in august 1986) 0,5	11 (external gamma-exposure; april-october	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				and others			(external beta-exposure in august 1986)	1986) 0,15 (internal exposure; april-october 1986)			
T74-1	Mammal	Apodemus agraris Pallas Striped Field mouse Mus musculus Linnaeus House mouse Microtus arvalis Pallas Common vole	Chernobyl zone, 4-5 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T74-2	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 4-5 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,8 (external gamma-exposure; august 1986-may 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								0,1 (internal exposure; august 1986-may 1987)			
T74-3	Mammal	*Mus musculus Linnaeus.* House mouse	Chernobyl zone, 4-5 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	The number of animals was 4 times higher in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T74-4	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 4-5 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,8 (external gamma-exposure; august 1986-may	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1987) 0,1 (internal exposure; august 1986-may 1987)			
T74-5	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	The changes in mice species diversity was observed. Change of dominating species occured. The number of striped field mouse became 8 times lower in comparison with October 1986. The number of house mouse became 4 times higher in comparison with October 1986. Common redbaked vole disappeared in May 1987.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T75-1	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the west of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,9 (external gamma-exposure; august 1986-	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others				june 1987) 0,11 (internal exposure; august 1986-june 1987)			
T75-2	Mammal	*Apodemus agraris Pallas.* Striped Field mouse	Chernobyl zone, 4-5 km to the west of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,9 (external gamma-exposure; august 1986-june 1987) 0,11 (internal exposure; august 1986-june 1987)	The number of animals was 3 times higher in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T75-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 4-5 km to the west of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,9 (external gamma-exposure; august	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				and others				1986-june 1987) 0,11 (internal exposure; august 1986-june 1987)			
T75-4	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 4-5 km to the west of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in may 1987)	1,9 (external gamma-exposure; august 1986-june 1987) 0,11 (internal exposure; august 1986-june 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T76-1	Mammal	Mice-type small rodents	Chernobyl zone, 7 km to the north-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	9,0E-03 (external gamma-exposure in august 1986)	11 (external gamma-exposure; april-	The number of animals was lower by a factor of 6 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				Ce-144 and others			0,5 (external beta-exposure in august 1986)	october 1986) 0,15 (internal exposure; april-october 1986)			
T76-2	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 7 km to the north-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	9,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october 1986)	The number of animals was lower by a factor of 5 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997
T76-3	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 7 km to the north-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	9,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october	Ratio males/ females was 2,1.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1986)			
T76-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 7 km to the north-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	9,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october 1986)	The number of animals was lower by a factor of 17 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T76-5	Mammal	Mice-type small rodents	Chernobyl zone, 7 km to the north-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	9,0E-03 (external gamma-exposure in august 1986) 0,5 (external beta-exposure in august 1986)	11 (external gamma-exposure; april-october 1986) 0,15 (internal exposure; april-october 1986)	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T77-1	Mammal	Mice-type small rodents	Chernobyl zone, 7 km to the north-west of NPP; Field study in April 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in april 1987)	1,7 (external gamma-exposure;	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				Ce-144 and others				august 1986-april 1987) 0,1 (internal exposure; august 1986-april 1987)			
T77-2	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 7 km to the north-west of NPP; Field study in April 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in april 1987)	1,7 (external gamma-exposure; august 1986-april 1987) 0,1 (internal exposure; august 1986-april 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T77-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 7 km to the north-west of NPP; Field study in April	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in april	1,7 (external gamma-exposur	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994; 77

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1987	Ru-106 Ce-144 and others			1987)	e; august 1986-april 1987) 0,1 (internal exposure; august 1986-april 1987)			
T77-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 7 km to the north-west of NPP; Field study in April 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure in april 1987)	1,7 (external gamma-exposure; august 1986-april 1987) 0,1 (internal exposure; august 1986-april 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,199777
T77-5	Mammal	Mice-type small rodents	Chernobyl zone, 7 km to the north-west of NPP; Field	Cs-134 Cs-137 Sr-89 Sr-90	3,0E+05 (Bq/kg) for Cs-137	4,0E+04 (Bq/kg) for Cs-137	3,4E-3 (external gamma-exposure	1,7 (external gamma-	Ratio of the number of males to females was 1,9	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			study in April 1987	Zr-95 Ru-106 Ce-144 and others			in april 1987)	exposure; august 1986-april 1987) 0,1 (internal exposure; august 1986-april 1987)			Sokolov, 1994; 77
T78-1	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the south of NPP; Field study in September 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in september 1986)	1,1 (external gamma-exposure; april-september 1986)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994; 78
T78-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in September 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in september 1986)	1,1 (external gamma-exposure; april-september 1986)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994; 78
T78-3	Mammal	Apodemus agraris Pallas Striped Field	Chernobyl zone, 4-5 km to the south of	Cs-134 Cs-137 Sr-89	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-	1,1 (external	The number of animals was lower by a factor of 24 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		mouse	NPP; Field study in September 1986	Sr-90 Zr-95 Ru-106 Ce-144 and others			exposure in september 1986)	gamma-exposure; april-september 1986)			Kudyasheva,1997; Sokolov, 1994; 78
T78-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 4-5 km to the south of NPP; Field study in September 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in september 1986)	1,1 (external gamma-exposure; april-september 1986)	The number of animals was lower by a factor of 2,6 in comparison with the control.	MT	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994; 78
T78-5	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the south of NPP; Field study in September 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in september 1986)	1,1 (external gamma-exposure; april-september 1986)	Ratio males/females was 1,7.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T79-1	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the south of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,27 (external gamma-exposure; august 1986-may 1987) 0,03	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								(internal exposure; august 1986-may 1987)			
T79-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,27 (external gamma-exposure; august 1986-may 1987) 0,03 (internal exposure; august 1986-may 1987)	The number of animals was 2,6 times higher in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997
T79-3	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 4-5 km to the south of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,27 (external gamma-exposure; august 1986-may 1987)	The number of animals was 1,8 times higher in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								0,03 (internal exposure; august 1986-may 1987)			
T79-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 4-5 km to the south of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,27 (external gamma-exposure; august 1986-may 1987) 0,03 (internal exposure; august 1986-may 1987)	The number of animals was 1,5 times lower in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T79-5	Mammal	Mice-type small rodents	Chernobyl zone, 4-5 km to the south of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,27 (external gamma-exposure; august 1986-may	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1987) 0,03 (internal exposure; august 1986-may 1987)			
T80-1	Mammal	Microtus oeconomus Pallas Root vole Mus musculus Linnaeus House mouse	Chernobyl zone, 4-5 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,3 (external gamma-exposure; august 1986-may 1987) 0,03 (internal exposure; august 1986-June 1987)	The number of animals was 2,3 times higher in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T80-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,3 (external gamma-exposure; august 1986-	The number of animals was 5 times higher in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others				may 1987) 0,03 (internal exposure; august 1986-June 1987)			
T80-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 4-5 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,3 (external gamma-exposure; august 1986-may 1987) 0,03 (internal exposure; august 1986-June 1987)	The number of animals was 3 times higher in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T80-4	Mammal	Microtus oeconomus Pallas Root vole Mus musculus Linnaeus	Chernobyl zone, 4-5 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,3 (external gamma-exposure; august	The number of species of mice was 2 times lower in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		House mouse		and others				1986-may 1987) 0,03 (internal exposure; august 1986-June 1987)			
T80-5	Mammal	Microtus oeconomus Pallas Root vole Mus musculus Linnaeus House mouse	Chernobyl zone, 4-5 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,3 (external gamma-exposure; august 1986-may 1987) 0,03 (internal exposure; august 1986-June 1987)	No difference in the ratio of the number of males to females of animals in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T81-1	Mammal	Apodemus agraris Pallas Striped Field mouse Mus musculus	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	4,8E-05 (external gamma-exposure in august 1986)	0,06 (external gamma-exposure; april-	No difference in the number of animals in comparison with non-contaminated area.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Linnaeus House mouse Clethrionomus glareolus Schreber Common redbaked vole	October 1986	Ce-144 and others			0,0004 (external beta-exposure in august 1986)	october 1986) 0,006 (internal exposure; april-october 1986)			
T81-1	Mammal	Apodemus agraris Pallas Striped Field mouse Mus musculus Linnaeus House mouse Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	4,8E-05 (external gamma-exposure in august 1986) 0,0004 (external beta-exposure in august 1986)	0,06 (external gamma-exposure; april-october 1986) 0,006 (internal exposure; april-october 1986)	No difference in the number of animals in comparison with non-contaminated area.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994 1
T81-2	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	4,8E-05 (external gamma-exposure in august 1986) 0,0004 (external beta-exposure in august 1986)	0,06 (external gamma-exposure; april-october 1986) 0,006 (internal exposure; april-october	No difference in the number of animals in comparison with non-contaminated area.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994 1

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1986)			
T81-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	4,8E-05 (external gamma-exposure in august 1986) 0,0004 (external beta-exposure in august 1986)	0,06 (external gamma-exposure; april-october 1986) 0,006 (internal exposure; april-october 1986)	No difference in the number of animals in comparison with non-contaminated area.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994; 81
T81-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	4,8E-05 (external gamma-exposure in august 1986) 0,0004 (external beta-exposure in august 1986)	0,06 (external gamma-exposure; april-october 1986) 0,006 (internal exposure; april-october 1986)	No difference in the number of animals in comparison with non-contaminated area.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T81-5	Mammal	Mice-type small rodents	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	4,8E-05 (external gamma-exposure in august 1986)	0,06 (external gamma-exposure; april-	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			October 1986	Ce-144 and others			0,0004 (external beta-exposure in august 1986)	october 1986) 0,006 (internal exposure; april-october 1986)			
T82-1	Mammal	Mice-type small rodents	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-may 1987) 0,008 (internal exposure; august 1986-may 1987)	The number of animals was lower by a factor of 15 in comparison with October 1986 (and lower by a a factor of 3 in comparison with the control).	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T82-2	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-may	The number of animals was lower by a factor of 2,6 in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1987) 0,008 (internal exposure; august 1986-may 1987)			
T82-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-may 1987) 0,008 (internal exposure; august 1986-may 1987)	The number of animals was lower by a factor of 4 in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T82-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-	The number of animals was lower by a factor of 4,7 in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others				may 1987) 0,008 (internal exposure; august 1986-may 1987)			
T82-5	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-may 1987) 0,008 (internal exposure; august 1986-may 1987)	The number of animals was lower by a factor of 5,3 in comparison with the control.	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T82-6	Mammal	Mice-type small rodents	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				and others				1986-may 1987) 0,008 (internal exposure; august 1986-may 1987)			
T83-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	1,4E-05 (external gamma-exposure in September 1986)	0,02 (external gamma-exposure; april-september 1986) 0,0036 (internal exposure; april-october 1986)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T83-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	1,4E-05 (external gamma-exposure in September 1986)	0,02 (external gamma-exposure; april-september 1986) 0,0036 (internal	No difference in the ratio of the number of males to females of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								exposure; april-october 1986)			
T84-1	Mammal	Mice-type small rodents	Chernobyl zone, 20 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,0033 (external gamma-exposure; august 1986-june 1987) 0,0066 (internal exposure; august 1986-june 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T84-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,0033 (external gamma-exposure; august 1986-june 1987) 0,0066 (internal exposur	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								e; august 1986-june 1987)			
T84-3	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 20 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,0033 (external gamma-exposure; august 1986-june 1987) 0,0066 (internal exposure; august 1986-june 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T84-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 20 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,0033 (external gamma-exposure; august 1986-june 1987) 0,0066 (internal	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								exposure; august 1986-june 1987)			
T84-5	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 20 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,0033 (external gamma-exposure; august 1986-june 1987) 0,0066 (internal exposure; august 1986-june 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T84-6	Mammal	Microtus oeconomus Pallas Root vole Apodemus agraris Pallas Striped Field mouse Mus musculus Linnaeus	Chernobyl zone, 20 km to the south of NPP; Field study in June 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,0033 (external gamma-exposure; august 1986-june 1987) 0,0066	Ratio males/females was 0,55.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		House mouse Microtus arvalis Pallas Common vole						(internal exposure; august 1986-june 1987)			
T85-1	Mammal	Mice-type small rodents	Chernobyl zone, 25-28 km to the south-east of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	4,7E+03 (Bq/kg) for Cs-137	6,5E+02 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,003 (external gamma-exposure; august 1986-may 1987) 0,0018 (internal exposure; august 1986-may 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T85-2	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 25-28 km to the south-east of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	4,7E+03 (Bq/kg) for Cs-137	6,5E+02 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,003 (external gamma-exposure; august 1986-may 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								0,0018 (internal exposure; august 1986-may 1987)			
T85-3	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 25-28 km to the south-east of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	4,7E+03 (Bq/kg) for Cs-137	6,5E+02 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,003 (external gamma-exposure; august 1986-may 1987) 0,0018 (internal exposure; august 1986-may 1987)	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T85-4	Mammal	Apodemus flavicollis Melchior Yellow-necked field mouse	Chernobyl zone, 25-28 km to the south-east of NPP; Field study in May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	4,7E+03 (Bq/kg) for Cs-137	6,5E+02 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,003 (external gamma-exposure; august 1986-may	No difference in the number of animals in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1987) 0,0018 (internal exposure; august 1986-may 1987)			
T86-1	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in April-May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	Reproduction stated with 2 weeks later and occured less actively in comparison with the control plots.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T86-2	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in April-May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-	Reproduction stated with 2 weeks later and occured less actively in comparison with the control plots.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others				may 1987) 0,03-4 (internal exposure; august 1986-may 1987)			
T86-3	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in April-May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	Reproduction started earlier and occured more actively in comparison with the control plots.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T86-4	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in April-May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august	Reproduction started earlier and occured more actively in comparison with the control plots.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				and others				1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)			
T86-5	Mammal	Microtus oeconomus Pallas Root vole Microtus arvalis Pallas Common vole Clethrionomus glareolus Schreber Common redbaked vole Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in April-May 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	Increase of regulator processes within populations. Increase in the number of Root vole (Microtus oeconomus Pallas) and Common vole (Microtus arvalis Pallas), decrease in the number of Common redbaked vole (Clethrionomus glareolus Schreber) and Striped Field mouse (Apodemus agraris Pallas) in spring 1987 in comparison with autumn 1986	ECOL	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T87-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in	1-110 (external gamma-exposure; april-	The potential prolificacy (the number of yellow bodies within ovary) was 6,3 (5,6-7) (N=7) in highly contaminated area, and 5,3 (4,8-5,8) (N=3) in the control plots. No statistical discrepancy in potential	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				Ce-144 and others			September 1986)	october 1986)	prolificacy in comparison with the control.		
T87-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The potential prolificacy (the number of yellow bodies within ovary) was 7,3 (6,8-7,8) (N=18) in highly contaminated area, and 5,7 (5,3-6,1) (N=7) in the control plots. Increase of potential prolificacy on 28 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T87-3	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure;	The potential prolificacy (the number of yellow bodies within ovary) was 6,7 (6,2-7,2) (N=19) in highly contaminated area, and 6,3 (6,0-6,6) (N=12) in the control plots. No statistical discrepancy in potential prolificacy in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								august 1986-may 1987)			
T87-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The potential prolificacy (the number of yellow bodies within ovary) was 7,5 (5,9-9,1) (N=4) in highly contaminated area, and 5,3 (4,9-5,7) (N=3) in the control plots. Increase of potential prolificacy on 42 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T87-5	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The potential prolificacy (the number of yellow bodies within ovary) was 8,8 (8,0-9,6) (N=4) in highly contaminated area, and 6,8 (6,3-7,3) (N=4) in the control plots. Increase of potential prolificacy on 29 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T87-6	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposur	The potential prolificacy (the number of yellow bodies within ovary) was 5,3 (5,0-5,6) (N=3) in highly contaminated area, and 5,4 (5,0-5,8) (N=6) in the control plots. No statistical discrepancy in potential prolificacy in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								e; august 1986-may 1987)			
T87-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The potential prolificacy (the number of yellow bodies within ovary) was 8,8 (8,2-9,4) (N=4) in highly contaminated area, and 8,0 (7,4-8,6) (N=4) in the control plots. No statistical discrepancy in potential prolificacy in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T87-8	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2 km to the west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in May 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal	The potential prolificacy (the number of yellow bodies within ovary) was 5,7 (5,4-6,0) (N=3) in highly contaminated area, and 6,3 (6,0-6,6) (N=12) in the control plots. No statistical discrepancy in potential prolificacy in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								exposure; august 1986-may 1987)			
T87-8	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 4-5 km to the west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+03 (Bq/kg) for Cs-137	3,4E-03 (external gamma-exposure in May 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	The potential prolificacy (the number of yellow bodies within ovary) was 5,8 (5,1-6,5) (N=10) in highly contaminated area, and 6,3 (6,0-6,6) (N=12) in the control plots. No statistical discrepancy in potential prolificacy in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T87-9	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 7 km to the north-west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+03 (Bq/kg) for Cs-137	3,4E-03 (external gamma-exposure in May 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1	The potential prolificacy (the number of yellow bodies within ovary) was 8,8 (8,3-9,3) (N=4) in highly contaminated area, and 6,3 (6,0-6,6) (N=12) in the control plots. Increase of potential prolificacy on 40 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								(internal exposure; august 1986-may 1987)			
T87-10	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-may 1987) 0,008 (internal exposure; august 1986-may 1987)	The potential prolificacy (the number of yellow bodies within ovary) was 6,4 (5,9-6,9) (N=7) in contaminated area, and 6,2 (N=5) in the control plots. No statistical discrepancy in potential prolificacy in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T88-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 16,1% (10,3-21,9 %) (N=7) in highly contaminated area, and 0 % (N=3) in the control plots. Increase of the loss before implantation on 16 % in	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									comparison with the control.		
T88-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 6,3 % (4,1-8,5 %) (N=13) in highly contaminated area, and 4,4 % (0,4-8,4 %) (N=7) in the control plots. No statistical discrepancy in the loss before implantation in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T88-3	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 8,2 % (6,3-10,1 %) (N=15) in highly contaminated area, and 6,2 % (3,0-9,4 %) (N=9) in the control plots. No statistical discrepancy in the loss before implantation in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								may 1987)			
T88-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 9,0 % (0-18 %) (N=4) in highly contaminated area, and 5,7 % (0-11,4 %) (N=3) in the control plots. No statistical discrepancy in the loss before implantation in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T88-5	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 13,5 % (11,1-15,9 %) (N=4) in highly contaminated area, and 3,1 % (0-6,2 %) (N=3) in the control plots. Increase of the loss before implantation by a factor of 4,4 in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T88-6	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 5,5 % (0-11 %) (N=3) in highly contaminated area, and 8,3 % (0-16,6 %) (N=4) in the control plots. No statistical	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1987) 0,03-4 (internal exposure; august 1986-may 1987)	discrepancy in the loss before implantation in comparison with the control.		
T88-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 13,0 % (8,5-17,5 %) (N=4) in highly contaminated area, and 5,0 % (0-10,0 %) (N=4) in the control plots. No statistical discrepancy in the loss before implantation in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T88-8	Mammal	Mice-type small rodents	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 13 % (8-18 %) (N=21) in highly contaminated area, and 2,9 % (0,4-5,4 %) (N=10) in the	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others					control plots. Increase of the loss before implantation by a factor of 4,5 in comparison with the control.		
T88-9	Mammal	Mice-type small rodents	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 8,5 % (6,7-10,3 %) (N=35) in highly contaminated area, and 6,9 % (4,3-9,5 %) (N=24) in the control plots. No statistical discrepancy in the loss before implantation in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T88-10	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2 km to the west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in May 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal exposure;	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 6,9 % (3,5-10,3 %) (N=10) in highly contaminated area, and 6,2 % (3-9,4 %) (N=9) in the control plots. No statistical discrepancy in the loss before implantation in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								august 1986-may 1987)			
T88-11	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 7 km to the north-west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+03 (Bq/kg) for Cs-137	3,4E-03 (external gamma-exposure in May 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 14,2% (9,7-18,7 %) (N=4) in highly contaminated area, and 6,2 % (3-9,4 %) (N=9) in the control plots. Increase of the loss before implantation on 16 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T88-12	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-may 1987) 0,008 (internal exposur	The loss before implantation (the ratio of difference between the number of yellow bodies in ovaries of female and the number of embryos within uterus to sum of yellow bodies in both ovaries) was 6,3 % (2,1-10,5 %) (N=7) in contaminated area, and 5,9 % (N=2) in the control plots. No statistical discrepancy in the loss before implantation in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								e; august 1986-may 1987)			
T89-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The resorption of embryos (loss after implantation) was 18,0 % (7,6-28,4 %) (N=7) in highly contaminated area, and 5,7 % (0-11,4 %) (N=3) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The resorption of embryos (loss after implantation) was 2,8 % (1,0-4,6 %) (N=12) in highly contaminated area, and 4,0 % (0-8 %) (N=7) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-3	Mammal	Microtus arvalis Pallas Common	Chernobyl zone, 2-7 km to the west and	Cs-134 Cs-137 Sr-89	9,0E+04-1,0E+07 (Bq/kg)	1,2E+04-1,4E+06 (Bq/kg)	4,8E-04 - 3,4E-02 (external	0,3-20 (external	The resorption of embryos (loss after implantation) was 18,3 % (13,1-23,5 %) (N=15) in highly contaminated	REPR	Taskaev,1988; Kozubov,Taskaev, 1990;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		vole	south of NPP; Field study in spring 1987	Sr-90 Zr-95 Ru-106 Ce-144 and others	for Cs-137	for Cs-137	gamma-exposure in May 1987)	gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	area, and 7,2 % (1,7-12,7 %) (N=8) in the control plots. Increase of the resorption of embryos by a factor of 2,5 in comparison with the control.		Kudyasheva,1997; Sokolov, 1994
T89-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The resorption of embryos (loss after implantation) was 27,8 % (6-49,6 %) (N=4) in highly contaminated area, and 0 % (N=3) in the control plots. Increase of the resorption of embryos on 27,8 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-5	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The resorption of embryos (loss after implantation) was 15,5 % (0-31 %) (N=4) in highly contaminated area, and 3,1 % (0-6,2 %) (N=4) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-6	Mammal	Apodemus agraris Pallas	Chernobyl zone, 2-7 km	Cs-134 Cs-137	9,0E+04-1,0E+07	1,2E+04-1,4E+06	4,8E-04 - 3,4E-02	0,3-20 (externa	The resorption of embryos (loss after implantation) was 20 % (4-36 %)	REPR	Taskaev,1988; Kozubov,Taskaev,

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Striped Field mouse	to the west and south of NPP; Field study in spring 1987	Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	(Bq/kg) for Cs-137	(Bq/kg) for Cs-137	(external gamma-exposure in May 1987)	l gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	(N=3) in highly contaminated area, and 0 % (N=4) in the control plots. Increase of the resorption of embryos on 20 % in comparison with the control.		1990; Kudyasheva,1997; Sokolov, 1994
T89-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The resorption of embryos (loss after implantation) was 11 % (0-22 %) (N=4) in highly contaminated area, and 12,5 % (0-25 %) (N=4) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-	Mammal	Mice-type	Chernobyl	Cs-134	9,0E+04-	1,2E+04-	0,001-	1-110	The resorption of embryos (loss after	REPR	Taskaev,1988;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
8		small rodents	zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	0,08 (external gamma-exposure in September 1986)	(external gamma-exposure; april-october 1986)	implantation) was 18 % (15-21 %) (N=21) in highly contaminated area, and 3 % (1,6-4,4 %) (N=10) in the control plots. Increase of the resorption of embryos by a factor of 6 in comparison with the control.		Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-9	Mammal	Mice-type small rodents	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The resorption of embryos (loss after implantation) was 12 % (9-15 %) (N=34) in highly contaminated area, and 6 % (2,6-9,4 %) (N=23) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-10	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2 km to the west th of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	0,08 (external gamma-exposure in September 1986)	110 (external gamma-exposure; april-october 1986)	The resorption of embryos (loss after implantation) was 22,5 % (14,4-30,6 %) in highly contaminated area, and 5,7 % (0-11,4 %) in the control plots. Increase of the resorption of embryos by a factor of 4 in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T89-11	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	0,001 (external gamma-exposure in September 1986)	1,1 (external gamma-exposure; april-october 1986)	The resorption of embryos (loss after implantation) was 2,8 % (1-4,6 %) in contaminated area, and 5,7 % (0-11,4 %) (N=3) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-12	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2 km to the west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in May 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)	The resorption of embryos (loss after implantation) was 21,7 % (10,5-32,9 %) (N=10) in highly contaminated area, and 7,2 % (1,7-12,7 %) (N=8) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-13	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 4-5 km to the west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and	3,0E+05 (Bq/kg) for Cs-137	4,0E+03 (Bq/kg) for Cs-137	3,4E-03 (external gamma-exposure in May 1987)	1,8 (external gamma-exposure; august 1986-	The resorption of embryos (loss after implantation) was 17,5 % (7,4-27,6 %) (N=3) in highly contaminated area, and 7,2 % (1,7-12,7 %) (N=8) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others				may 1987) 0,1 (internal exposure; august 1986-may 1987)			
T89-14	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 7 km to the north-west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+03 (Bq/kg) for Cs-137	3,4E-03 (external gamma-exposure in May 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	The resorption of embryos (loss after implantation) was 11,3 % (6,9-15,7 %) (N=4) in highly contaminated area, and 7,2 % (1,7-12,7 %) (N=8) in the control plots. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T89-15	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august	The resorption of embryos (loss after implantation) was 6,3 % (2,1-10,5 %) (N=7) in contaminated area. No statistical discrepancy in the resorption of embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				and others				1986l-may 1987) 0,008 (internal exposure; august 1986-may 1987)			
T90-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The number of living embryos (in percents from potetially possible amount) was 66 % (53-79 %) (N=7) in highly contaminated area, and 94 % (88-100 %) (N=3) in the control plots. Decrease of the number of living embryos by a factor of 1,4 in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T90-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august	The number of living embryos (in percents from potetially possible amount) was 91 % (89-93 %) (N=12) in highly contaminated area, and 92 % (84-100 %) (N=7) in the control plots. No statistical discrepancy in the number of living embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1986-may 1987)			
T90-3	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The number of living embryos (in percents from potetially possible amount) was 74 % (68-80 %) (N=16) in highly contaminated area, and 86 % (80-92 %) (N=9) in the control plots. No statistical discrepancy in the number of living embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T90-4	Mammal	Clethrionomus glareolus Schreber Common redbaked vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The number of living embryos (in percents from potetially possible amount) was 63 % (41-85 %) (N=4) in highly contaminated area, and 94 % (88-100 %) (N=4) in the control plots. Decrease of the number of living embryos by a factor of 1,5 in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T90-5	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure	1-110 (external gamma-exposur	The number of living embryos (in percents from potetially possible amount) was 71 % (61-81 %) (N=4) in highly contaminated area, and 94 % (88-100 %) (N=4) in the control	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			autumn 1986	Ru-106 Ce-144 and others			in September 1986)	e; april-october 1986)	plots. Decrease of the number of living embryos by a factor of 1,3 in comparison with the control.		
T90-6	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The number of living embryos (in percents from potetially possible amount) was 74 % (59-89 %) (N=3) in highly contaminated area, and 92 % (84-100 %) (N=4) in the control plots. No statistical discrepancy in the number of living embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T90-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposur	The number of living embryos (in percents from potetially possible amount) was 62 % (56-68 %) (N=4) in highly contaminated area, and 83 % (66-100 %) (N=4) in the control plots. No statistical discrepancy in the number of living embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								e; august 1986-may 1987)			
T90-8	Mammal	Mice-type small rodents	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	0,001-0,08 (external gamma-exposure in September 1986)	1-110 (external gamma-exposure; april-october 1986)	The number of living embryos (in percents from potetially possible amount) was 67 % (64-70 %) (N=21) in highly contaminated area, and 94 % (90-98 %) (N=11) in the control plots. Decrease of the number of living embryos by a factor of 1,4 in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T90-9	Mammal	Mice-type small rodents	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The number of living embryos (in percents from potetially possible amount) was 78 % (75-81 %) (N=35) in highly contaminated area, and 88 % (86-90 %) (N=24) in the control plots. Decrease of the number of living embryos by a factor of 1,13 in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T90-10	Mammal	Microtus arvalis Pallas Common	Chernobyl zone, 2 km to the west of	Cs-134 Cs-137 Sr-89	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-	20 (external	The number of living embryos (in percents from potetially possible amount) was 71,2 % (62,6-79,8 %)	REPR	Taskaev,1988; Kozubov,Taskaev, 1990;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		vole	NPP; Field study in spring 1987	Sr-90 Zr-95 Ru-106 Ce-144 and others			exposure in May 1987)	gamma-exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987)	(N=10) in highly contaminated area, and 86 % (80-92 %) (N=9) in the control plots. Decrease of the number of living embryos by a factor of 1,2 in comparison with the control.		Kudyasheva,1997; Sokolov, 1994
T90-11	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 4-5 km to the west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	3,0E+05 (Bq/kg) for Cs-137	4,0E+03 (Bq/kg) for Cs-137	3,4E-03 (external gamma-exposure in May 1987)	1,8 (external gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	The number of living embryos (in percents from potetially possible amount) was 83,4 % (75,9-90,9 %) (N=3) in highly contaminated area, and 86 % (80-92 %) (N=9) in the control plots. No statistical discrepancy in the number of living embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T90-12	Mammal	Microtus arvalis Pallas	Chernobyl zone, 7 km to	Cs-134 Cs-137	3,0E+05 (Bq/kg)	4,0E+03 (Bq/kg)	3,4E-03 (external	1,8 (externa	The number of living embryos (in percents from potetially possible	NE	Taskaev,1988; Kozubov,Taskaev,

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Common vole	the north-west of NPP; Field study in spring 1987	Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	for Cs-137	for Cs-137	gamma-exposure in May 1987)	l gamma-exposure; august 1986-may 1987) 0,1 (internal exposure; august 1986-may 1987)	amount) was 75,1 % (61,5-88,7 %) (N=4) in highly contaminated area, and 86 % (80-92 %) (N=9) in the control plots. No statistical discrepancy in the number of living embryos in comparison with the control.		1990; Kudyasheva,1997; Sokolov, 1994
T90-13	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 20-22 km to the south-west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	2,5E+04 (Bq/kg) for Cs-137	3,5E+03 (Bq/kg) for Cs-137	1,6E-05 (external gamma-exposure in May 1987)	0,012 (external gamma-exposure; august 1986l-may 1987) 0,008 (internal exposure; august 1986-may 1987)	The number of living embryos (in percents from potetially possible amount) was 87,5 % (79,7-95,5 %) (N=7) in contaminated area, and 81 % (N=2) in the control plots. No statistical discrepancy in the number of living embryos in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T91-	Mammal	Microtus	Chernobyl	Cs-134	9,0E+04-	1,2E+04-	4,8E-04 -	0,3-20	The number of mouse-cubs (the	REPR	Taskaev,1988;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
1		oeconomus Pallas Root vole	zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in May 1987)	(external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	amount of placenta spots per female) was 8,8 (8,1-9,5) (N=19) in highly contaminated area, and 6,4 (5,7-7,1) (N=7) in the control plots. Increase of the number of mouse-cubs (per female) on 38 % in comparison with the control.		Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T91-2	Mammal	Microtus arvalis Pallas Common vole	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The number of mouse-cubs (the amount of placenta spots per female) was 4,0 (3,3-4,7) (N=3) in highly contaminated area, and 7,6 (6,3-8,9) (N=5) in the control plots. Decrease of the number of mouse-cubs (per female) on 47 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T91-3	Mammal	Apodemus agraris Pallas Striped Field mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may 1987)	The number of mouse-cubs (the amount of placenta spots per female) was 4,0 (3,3-4,7) (N=3) in highly contaminated area, and 7,6 (6,3-8,9) (N=5) in the control plots. Decrease of the number of mouse-cubs (per female) on 47 % in comparison with the control.	REPR	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994
T91-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, 2-7 km to the west and south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	9,0E+04-1,0E+07 (Bq/kg) for Cs-137	1,2E+04-1,4E+06 (Bq/kg) for Cs-137	4,8E-04 - 3,4E-02 (external gamma-exposure in May 1987)	0,3-20 (external gamma-exposure; august 1986-may 1987) 0,03-4 (internal exposure; august 1986-may	The number of mouse-cubs (the amount of placenta spots per female) was 6,0 (4,8-7,2) (N=4) in highly contaminated area, and 8,5 (7-10) (N=4) in the control plots. No statistical discrepancy in the number of mouse-cubs (per female) in comparison with the control.	NE	Taskaev,1988; Kozubov,Taskaev, 1990; Kudyasheva,1997; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								1987)			
T92-1	Mammal	Sciurus vulgaris Linnaeus Red squirrel	Chernobyl 30-km zone; Field study in 1986	I-131, Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			0,007 (0,003-0,012) (external gamma-exposure, 10 May 1986)	4 (1,5-6,0)	No pathological changes in liver, kidney, lungs, and spleen.	NE	Suvorova, 1993; Ilyin, 2001
T92-2	Mammal	Sciurus vulgaris Linnaeus Red squirrel	Chernobyl 30-km zone; Field study in 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			0,007 (0,002-0,012) (external gamma-exposure, 10 May 1986)	3,5 (1,0-6,0)	No pathological changes in liver, kidney, lungs, and spleen.	NE	Suvorova, 1993; Ilyin, 2001
T93	Mammal	Myocastor coypus Molina Coypu	Chernobyl 30-km zone; Field study in 1986	I-131, Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			0,007 (0,003-0,012) (external gamma-exposure, 10 May 1986)	4 (1,5-6,0)	No pathological changes in liver, kidney, lungs, and spleen.	NE	Suvorova, 1993; Ilyin, 2001
T94	Mammal	Suidae Gray Pig	Chernobyl 5-km zone; Field study in 1986	I-131, Cs-134 Cs-137 Sr-89 Sr-90			0,007 (0,006-0,008) (external gamma-	3,5 (3,0-4,0)	Pathological changes in liver, kidney, lungs, and spleen (N=5).	MB	Suvorova, 1993; Ilyin, 2001

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				Zr-95 Ru-106 Ce-144 and others			exposure, 10 May 1986)				
T95-1	Mammal	Canis Linnaeus Dog	Chernobyl 5-km zone; Field study in 1986	I-131, Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			0,01 (0,006-0,015) (external gamma-exposure, 10 May 1986)	13 (1,5-25)	Pathological changes in liver, kidney, lungs, and spleen (N=11).	MB	Suvorova, 1993; Ilyin, 2001
T95-2	Mammal	Canis Linnaeus Dog	Chernobyl 5-km zone; Field study in 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			0,01 (0,006-0,015) (external gamma-exposure, 10 May 1986)	8,5 (5-12)	Pathological changes in liver, kidney, lungs, and spleen (N=2).	MB	Suvorova, 1993; Ilyin, 2001
T96-1	Birds	14 species	Chernobyl 30-km zone; Field study in 1986	I-131, Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			0,007 (0,003-0,012) (external gamma-exposure, 10 May 1986)	4 (1,5-6,0)	No pathological changes in liver, kidney, lungs, and spleen (N=50).	NE	Suvorova, 1993; Ilyin, 2001
T96-	Birds	Corvus	Chernobyl 30-	Cs-134			0,01	4 (2-6)	No pathological changes in liver,	NE	Suvorova, 1993;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
2		frugilegus L. Rook Laniidae family Shrikes Motacilla genus Wagtails Fringilla coelebs L. Chaffinch Oriolus oriolus L. Golden oriole	km zone; Field study in 1987	Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			(0,006-0,015) (external gamma-exposure, 10 May 1986)		kidney, lungs, and spleen (N=14).		Ilyin, 2001
T96-3	Birds	Anser anser L. Goose Anas boschas L. Duck Ardea cinerea L. Heron Columbiformes order Dove Corvus corone L. Carrione crow	Chernobyl 5-km zone; Field study in 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,01 (0,006-0,015) (external gamma-exposure, 10 May 1986)	4 (2-6)	Pathological changes in liver. No pathological changes in kidney, lungs, and spleen (N=27).	MB	Suvorova, 1993; Ilyin, 2001
T97-1	Mammal	Cow	Chernobyl 30-km zone; study in 1986	I-131, and others	Data not reported	Data not reported	No data	270-280 on thyroid gland	Decrease of thyroxine (T4) to 20 (12-25) nmole/l, on 70 % in comparison with the norm. Decrease of yield of milk to 1,5 l/day.	MB	Ilyazov, 1993; Ilyin, 2001
T97-2	Mammal	Cow	Chernobyl 30-km zone;	I-131, and	Data not reported	Data not reported	No data	180-200 on	Decrease of thyroxine (T4) to 35 (21-48) nmole/l, on 54 % in comparison	MB	Ilyazov, 1993; Ilyin, 2001

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			study in 1986	others				thyroid gland	with the norm. Decrease of yield of milk to 3,3 l/day.		
T97-3	Mammal	Cow	Chernobyl 30-km zone; study in 1986	I-131, and others	Data not reported	Data not reported	No data	20-30 on thyroid gland	No changes in the content of the thyroxine (T4) in comparison with the norm. The yield of milk was 8 l/day.	NE	Ilyazov, 1993; Ilyin, 2001
T98	Amphibia	Rana arvalis. Brown frog	Chernobyl 30-km zone; Field studies in 1987-1989	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	No data	No data	The chromosome aberration frequency of cells was higher than the control by 4-7 times in 1987, by 2-5 times in 1988 and by 2-3 times in 1989.	CG	Krysanov, 1990; Kryshev, 1992
T99	Insects	Aphidae Aphids	Chernobyl 5-km zone; Field studies in 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	No data	50-200	Only two species of aphids were found on birch trees which usually contain 12-14 species. In the investigated zone, such common species as Aphis pomi, A. craccivora, A. sambuci, Myrus ceraci and others were absent or very rare. The colonies of Metopeurum fuscoviridie were inhibited and individuls were of reduced size.	ECOL	Sokolov, 1994; Kryshev, 1992
T100	Insects	*Leptinotarsa decemlineata*. Colorado beetle. *Chrysomela vigintipunctata* Leaf beetle	Chernobyl 30-km zone; Field studies in 1986-1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	No data	No data	Increase of the level of fluctuating asymmetry of morphological structures have been established in comparison with the control.	MB	Sokolov, 1994; Kryshev, 1992
T101	Insects	Odonata order Dragonflies	Chernobyl 30-km zone; Field studies	Cs-134 Cs-137 Sr-89	Data not reported	Data not reported	No data	No data	Increase of the level of asymmetry of wing venation of dragonflies in comparison with the control.	MB	Sokolov, 1994; Kryshev, 1992

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			in 1986-1987	Sr-90 Zr-95 Ru-106 Ce-144 and others							
T102	Insects	Tettigonidae family Bush crickets Acrididae family Grass-hoppers	Chernobyl 30-km zone; Field studies in 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	No data	No data	In the fields, the abundance of bush crickets (Tettigonidae)and grass-hoppers (Acrididae) has increased signficantly which is indicative of processes of floristic succession from agrocenosis to meadow.	ECOL	Sokolov, 1994; Kryshev, 1992
T103-1	Mammal	Sus scrofa scrofa L. Wild boar Canis vulpes L. Common fox Canis lupus L. Wolf Castor fiber L. European beaver	Chernobyl 30-km zone; Field studies in 1986-1988	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others		Data not reported	No data	No data	Increase of the number of wild boars by a factor of 8; increase of the number of fox, wolf and other species of hunting animals in 1988 in comparison with the period before Chernobyl accident. The evacuation of the population from the 30 km radius zone eliminated the anxiety factor affecting the number and spatial distribution of wildlife across the zone. Moreover, discontinuation of land use, unharvested crops of 1986 and evacuation of domestic livestock improved feeding for herbivorous mammals. These were no indications of suppressing effect of ionizing radiation on populations for the large part of wild animals.	ECOL	Sokolov, 1994; Kryshev, 1992
T103-2	Birds	Ciconia ciconia L.	Chernobyl 30-km zone;	Cs-134 Cs-137	Data not reported	Data not reported	No data	No data	The evacuation of the population from the 30 km zone eliminated the	ECOL	Sokolov, 1990; Kryshev, 1992

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		White stork	Field studies in 1986-1988	Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others					anxiety factor, which previously affected the number and spatial distribution of wildlife across the zone. Storks returned for nesting to the abandoned settlements and stork colonies were formed in some places.		
T104-1	Birds	Pica pica L. Magpie Corvus corone L. Crow	Territory highly contaminated in 1957 (Kyshtym accident); Studies in the spring of 1958	Sr-90, Zr-95, Nb-95, Ru-106, Cs-137, Ce-144	3,7-37 MBq/m2 for Sr-90	Data not reported	0,03-1 in autumn 1957	3-100	Decrease of the number of wintering birds by a factor of 10 in the spring of 1958 in comparison with the period before Kyshtym accident.	MT	Kryshev, 1997; Ilyin, 2001
T104-2	Birds	Pica pica L. Magpie Corvus corone L. Crow	Territory highly contaminated in 1957 (Kyshtym accident); Studies in the 1959-1960	Sr-90	3,7-37 MBq/m2 for Sr-90	Data not reported	No data	1-10 per year (bone)	No change in the number of wintering birds in comparison with the period before Kyshtym accident.	NE	Kryshev, 1997; Ilyin, 2001 4
T105-1	Mammal	Alces alces L. European elk Capreolus pygargus Pall. Roe deer	Territory highly contaminated in 1957 (Kyshtym accident); Studies in 1957-1958	Sr-90, Zr-95, Nb-95, Ru-106, Cs-137, Ce-144	3,7-37 MBq/m2 for Sr-90	Data not reported	0,1-1 in autumn 1957	10-30 (intestines)	Decrease of the number of even-toed ungulates in the 1957-1958 in comparison with the period before Kyshtym accident.	MT	Kryshev, 1997; Ilyin, 2001
T105-2	Mammal	Alces alces L. European elk	Territory highly contaminated in 1957	Sr-90	3,7-37 MBq/m2 for Sr-90	Data not reported	No data	0,1-1,1 per year (bone)	The number of elks was 0,4 (0,2-0,57) per 1 km2. Increase of the number of elks by a factor of 3 in 1977 in comparison with 1970.	ECOL	Sokolov, 1993; Kryshev, 1997; Ilyin, 2001

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			(Kyshtym accident); Studies in 1970-1977								
T105-3	Mammal	Capreolus pygargus Pall. Roe deer	Territory highly contaminated in 1957 (Kyshtym accident); Studies in 1970-1977	Sr-90	3,7-37 MBq/m2 for Sr-90	Data not reported	No data	0,1-1,1 per year (bone)	Decrease in the number of roe deers by a factor of 5. The number of roe deers was 3,0 per 1 km2 in 1970, and 0,6 per 1 km2 in 1977. The following ecological factors are responsible for this phenomena: obliteration of contaminated area by forest, increase of the number of wolfs and elks.	ECOL	Sokolov, 1993; Kryshev, 1997; Ilyin, 2001
T106-1	Mammal	Cow	Territory highly contaminated in 1957 (Kyshtym accident); Studies in October 1957	Sr-90, Zr-95, Nb-95, Ru-106, Cs-137, Ce-144	30 MBq/m2 for Sr-90	3,7E+05 (bone), 2,0E+05 (intestines) for mixture of radionuclides	0,35 (external gamma-exposure on 9-12 days after accident)	3 (external gamma-exposure for 12 days after accident); 14-23 (large intestine)	Within 9-12 days after the accident the animals began to die off. The death was accompanied by the symptomus of acute radiation sickness, such as increased bleeding of mucous membranes, leukopenia, etc.	MT	Burnazyan,1990; Kryshev, 1997
T106-2	Mammal	Cow	Territory highly contaminated in 1957 (Kyshtym accident); Studies in October 1957	Sr-90, Zr-95, Nb-95, Ru-106, Cs-137, Ce-144	25 MBq/m2 for Sr-90	Data not reported	0,15 (external gamma-exposure on 9-12 days after accident)	1,4 (external gamma-exposure for 12 days after	Acute radiation sickness, death of cows on 9-12 days after accident.	MT	Burnazyan,1990; Kryshev, 1997

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								accident); 4-6 (large intestine)			
T106-3	Mammal	Cow	Territory highly contaminated in 1957 (Kyshtym accident); Studies in October 1957	Sr-90, Zr-95, Nb-95, Ru-106, Cs-137, Ce-144	4,5 MBq/m2 for Sr-90	1,2E+04 (bone) for mixture of radionuclides	0,02 (external gamma-exposure on 9-12 days after accident)	0,13 (external gamma-exposure for 12 days after accident); 1-2 (large intestine)	No death of cows was observed during 6 months. Temporary changes occured in the blood-producing system of animals. Upon leaving the contminated area, the animals regained their normal vital activity.	MB	Burnazyan,1990; Kryshev, 1997
T107-1	Mammal	Sheep	Territory highly contaminated in 1957 (Kyshtym accident); Studies in October 1957	Sr-90, Zr-95, Nb-95, Ru-106, Cs-137, Ce-144	30 MBq/m2 for Sr-90	1,9E+05 (bone), 1,8E+05 (intestines), 4,6E+07 (hair) for mixture of radionuclides	0,35 (external gamma-exposure on 9-12 days after accident)	3 (external gamma-exposure for 12 days after accident); 30-54 (large intestine)	Acute radiation sickness, death of sheeps on 9-12 days after accident.	MT	Burnazyan,1990; Kryshev, 1997
T107-2	Mammal	Sheep	Territory highly contaminated	Sr-90, Zr-95, Nb-95,	25 MBq/m2 for Sr-90	Data not reported	0,15 (external gamma-	1,4 (external	Acute radiation sickness, death of sheeps on 9-12 days after accident.	MT	Burnazyan,1990; Kryshev, 1997

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			in 1957 (Kyshtym accident); Studies in October 1957	Ru-106, Cs-137, Ce-144			exposure on 9-12 days after accident)	gamma-exposure for 12 days after accident); 8-15 (large intestine)			
T107-3	Mammal	Sheep	Territory highly contaminated in 1957 (Kyshtym accident); Studies in October 1957	Sr-90, Zr-95, Nb-95, Ru-106, Cs-137, Ce-144	4,5 MBq/m2 for Sr-90	7,4E+04 (bone), 1,9E+04 (intestines), 2,1E+06 (hair) for mixture of radionuclides	0,02 (external gamma-exposure on 9-12 days after accident)	0,13 (external gamma-exposure for 12 days after accident); 2-4 (large intestine)	No death of cows was observed during 6 months. Temporary changes occured in the blood-producing system of animals. Upon leaving the contminated area, the animals regained their normal vital activity.	MB	Burnazyan,1990; Kryshev, 1997
T108-1	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 3 km from NPP (Kopachi); studies in August 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,019 (external gamma-exposure)	0,5 (external gamma-exposure)	Increase of the recessive sex-linked lethal mutations (RSLM) to 0,64 % (0,32-0,96 %) (N=629) in comparison with the control (0 %, N=800).	CG	Myasnyankina,1991; Sokolov, 1994
T108-2	Insects	Drosophila melanogaster	Chernobyl zone, 14 km	Cs-134 Cs-137	Data not reported	Data not reported	0,0014 (external	0,035 (externa	Increase of the recessive sex-linked lethal mutations (RSLM) on 0,36 %	CG	Myasnyankina,1991; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Meigen Vinegar fly	from NPP (Chernobyl); studies in August 1986	Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			gamma-exposure)	l gamma-exposure)	(0,18-0,54 %) (N=1100) in comparison with the control (0 %, N=800).		
T108-3	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 100 km from NPP (Teterev); studies in August 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,000048 (external gamma-exposure)	0,0012 (external gamma-exposure)	Increase of the recessive sex-linked lethal mutations (RSLM) to 0,27 % (0,11-0,43 %) (N=1108) in comparison with the control (0 %, N=800).	CG	Myasnyankina,1991; Sokolov, 1994
T108-4	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 14 km from NPP (Chernobyl); studies in October 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0022 (external gamma-exposure)	0,055 (external gamma-exposure)	Increase of the recessive sex-linked lethal mutations (RSLM) to 0,53 % (0,40-0,66%) (N=2241) in comparison with the control (0 %, N=800).	CG	Myasnyankina,1991; Sokolov, 1994
T108-5	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 14 km from NPP (Chernobyl); studies in November 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0022 (external gamma-exposure)	0,055 (external gamma-exposure)	Increase of the recessive sex-linked lethal mutations (RSLM) to 0,36 % (0,26-0,46%) (N=3285) in comparison with the control (0 %, N=800).	CG	Myasnyankina,1991; Sokolov, 1994
T108	Insects	Drosophila	Chernobyl	Cs-134	Data not	Data not	0,058	1,5	Increase of the recessive sex-linked	CG	Myasnyankina,199

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
-6		melanogaster Meigen Vinegar fly	zone, 2 km from NPP (Red forest); studies in July 1987	Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	reported	reported	(external gamma-exposure)	(external gamma-exposure)	lethal mutations (RSLM) to 1,1% (0,67-1,53 %) (N=579) in comparison with the control (0,18 % (0,08-0,28%), N=1627).		1; Sokolov, 1994
T108-7	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 2 km from NPP (Red forest); studies in July 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,038 (external gamma-exposure)	0,9 (external gamma-exposure)	No statistical discrepancy for level of the recessive sex-linked lethal mutations (RSLM) in 0,43% (0,27-0,59 %) (N=1630) in comparison with the control (0,18 % (0,08-0,28%), N=1627).	NE	Myasnyankina,1991; Sokolov, 1994
T108-8	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 2 km from NPP (Red forest); studies in July 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,003 (external gamma-exposure)	0,075 (external gamma-exposure)	No statistical discrepancy for level of the recessive sex-linked lethal mutations (RSLM) in 0,33% (0,1-0,56 %) (N=606) in comparison with the control (0,18 % (0,08-0,28%), N=1627).	NE	Myasnyankina,1991; Sokolov, 1994
T108-9	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 2 km from NPP (Yanov); studies in September 1988	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,022 (external gamma-exposure)	0,5 (external gamma-exposure)	No statistical discrepancy for level of the recessive sex-linked lethal mutations (RSLM) in 0,08% (0-0,16 %) (N=1212) in comparison with the control (0 %, N=1017).	NE	Myasnyankina,1991; Sokolov, 1994
T108-10	Insects	Drosophila melanogaster	Chernobyl zone, 14 km	Cs-134 Cs-137	Data not reported	Data not reported	0,000048 (external	0,0012 (externa	No statistical discrepancy for level of the recessive sex-linked lethal	NE	Myasnyankina,1991; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Meigen Vinegar fly	from NPP (Chernobyl); studies in September 1988	Sr-90 Ru-106 Ce-144 and others			gamma-exposure)	l gamma-exposure)	mutations (RSLM) in 0,08% (0-0,16 %) (N=1212) in comparison with the control (0 %, N=1017).		
T108-11	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 14 km from NPP (Chernobyl); studies in June 1989	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,000048 (external gamma-exposure)	0,0012 (external gamma-exposure)	No statistical discrepancy for level of the recessive sex-linked lethal mutations (RSLM) in 0,19% (0,1-0,28 %) (N=2147) in comparison with the control (0,12 % (0,11-0,13%), N=825).	NE	Myasnyankina,1991; Sokolov, 1994
T108-12	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 14 km from NPP (Chernobyl); studies in September 1989	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,000036 (external gamma-exposure)	0,0009 (external gamma-exposure)	No statistical discrepancy for level of the recessive sex-linked lethal mutations (RSLM) in 0,19% (0,1-0,28 %) (N=2147) in comparison with the control (0,12 % (0,11-0,13%), N=825).	NE	Myasnyankina,1991; Sokolov, 1994
T108-13	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 15 km from NPP (Lubyanka); studies in September 1989	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,000012 (external gamma-exposure)	0,0003 (external gamma-exposure)	The level of the recessive sex-linked lethal mutations (RSLM) was 0% (N=1404).	NE	Myasnyankina,1991; Sokolov, 1994
T108-14	Insects	Drosophila melanogaster Meigen Vinegar fly	Laboratory study, with the control for Moscow region, 1955-1956	External gamma-exposure	External gamma-exposure	External gamma-exposure	No data	0,2 (external gamma-exposure)	Increase of level of the recessive sex-linked lethal mutations (RSLM) in comparison with the control (0,2 % (0,05-0,35%).	CG	Glembotskii,1962; Myasnyankina,1991
T109-1	Insects	Drosophila melanogaster Meigen	Chernobyl zone, 3 km from NPP	Cs-134 Cs-137 Sr-89	Data not reported	Data not reported	0,019 (external gamma-	0,5 (external	Increase the dominant lethal mutations (DLM) in natural populations of Drosophila to 14,7 %	CG	Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Vinegar fly	(Kopachi); studies in July 1986	Sr-90 Zr-95 Ru-106 Ce-144 and others			exposure)	gamma-exposure)	(14,3-15,1%) in comparison with the control, 4,3 % (4,2-4,4%).		
T109-2	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 14 km from NPP (Chernobyl); studies in July 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0014 (external gamma-exposure)	0,035 (external gamma-exposure)	Increase of the dominant lethal mutations (DLM) in natural populations of Drosophila to 9,3 % (9,0-9,6%) in comparison with the control, 4,3 % (4,2-4,4%).	CG	Sokolov, 1994
T109-3	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 100 km from NPP; studies in July 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,000048 (external gamma-exposure)	0,0012 (external gamma-exposure)	Increase of level of the dominant lethal mutations (DL) in natural populations of Drosophila to 9,3 % (9,0-9,6%) in comparison with the control, 4,3 % (4,2-4,4%).	CG	Sokolov, 1994
T109-4	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 2 km from NPP (Red forest); studies in summer 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,048 (external gamma-exposure)	1,2 (external gamma-exposure)	No statistical discrepancy for level of the dominant lethal mutations (DL) for males in natural populations of Drosophila in 7,4 % (6,1-8,8%) (N=179) in comparison with the control, 5,0 % (3,7-6,2%) (N=282).	NE	Zaynullin,1988
T109-5	Insects	Drosophila melanogaster	Chernobyl zone, 2 km	Cs-134 Cs-137	Data not reported	Data not reported	0,036 (external	0,9 (externa	No statistical difference in the dominant lethal mutations (DLM) for	NE	Zaynullin,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Meigen Vinegar fly	from NPP (Red forest); studies in summer 1987	Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			gamma-exposure)	l gamma-exposure)	males in natural populations of Drosophila in 5,2 % (3,9-6,5%) (N=288) in comparison with the control, 5,0 % (3,7-6,2%) (N=282).		
T109-6	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 2 km from NPP (Red forest); studies in summer 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,024 (external gamma-exposure)	0,6 (external gamma-exposure)	No statistical discrepancy in the level of the dominant lethal mutations (DLM) for males in natural populations of Drosophila in 4,9 % (3,7-6,1%) (N=306) in comparison with the control, 5,0 % (3,7-6,2%) (N=282).	NE	Zaynullin,1988
T109-7	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 2 km from NPP (Red forest); studies in summer 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0096 (external gamma-exposure)	0,2 (external gamma-exposure)	No statistical discrepancy for level of the dominant lethal mutations (DLM) for males in natural populations of Drosophila in 6,4 % (4,8-7,9%) (N=251) in comparison with the control, 5,0 % (3,7-6,2%) (N=282).	NE	Zaynullin,1988
T109-8	Insects	Drosophila melanogaster Meigen Vinegar fly	Chernobyl zone, 2 km from NPP (Red forest); studies in summer 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0024-0,0036 (external gamma-exposure)	0,06-0,09 (external gamma-exposure)	No statistical discrepancy for level of the dominant lethal mutations (DLM) for males in natural populations of Drosophila in 5,0 % (3,4-6,7%) (N=179) in comparison with the control, 5,0 % (3,7-6,2%) (N=282).	NE	Zaynullin,1988
T109	Insects	Drosophila	Chernobyl	Cs-134	Data not	Data not	0,0024-	0,06-0,3	No statistical discrepancy for level of	NE	Zaynullin,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
-9		melanogaster Meigen Vinegar fly	zone, 14 km from NPP (Chernobyl); studies in summer 1987	Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	reported	reported	0,012 (external gamma-exposure)	(external gamma-exposure)	the dominant lethal mutations (DLM) for males in natural populations of Drosophila in 5,7 % (4,6-6,9%) (N=419) in comparison with the control, 5,0 % (3,7-6,2%) (N=282).		
T110-1	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,009 (0,008-0,01) (external gamma-exposure) 0,05-0,1 (external beta-exposure	11 (external gamma-exposure)	Increase of the frequency of abnormal sperm heads to 2,6% (2,2-3,0%) (N=8400) in comparison with the control, 1,77 % (1,73-1,81%) (N=1400).	CG	Zaynullin,1988; Shevchenko,1991; Sokolov, 1994
T110-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0003 (0,0002-0,0004) (external gamma-exposure) 0,0015-0,003 (external beta-exposure	0,4 (external gamma-exposure)	Increase of the frequency of abnormal sperm heads to 3,9% (3,3-4,5%) (N=6800) in comparison with the control, 1,77 % (1,73-1,81%) (N=1400).	CG	Zaynullin,1988; Shevchenko,1991; Sokolov, 1994
T110-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	Data not reported	Data not reported	0,000014 (0,0002-0,0004) (external gamma-exposure)	0,02 (external gamma-exposure)	No statistical discrepancy for the frequency of abnormal sperm heads in 2,0% (1,4-2,6%) (N=3300) in comparison with the control, 1,77 % (1,73-1,81%) (N=1400).	CG	Zaynullin,1988; Shevchenko,1991; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				Ce-144 and others			0,00007-0,00014 (external beta-exposure				
T110-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,034 (0,03-0,04) (external gamma-exposure)	20 (external gamma-exposure)	Increase of the frequency of abnormal sperm heads to 5,2% (4,2-6,2%) (N=1500) in comparison with the control, 2,6 % (1,7-3,5%) (N=3900). Time of analysis after catch of mice from contaminated area: 1-3 weeks.	CG	Shevchenko,1991; Sokolov, 1994
T110-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,034 (0,03-0,04) (external gamma-exposure)	20 (external gamma-exposure)	No statistical discrepancy for the frequency of abnormal sperm heads in 2,9% (2,4-3,4%) (N=5450) in comparison with the control, 2,6 % (1,7-3,5 %) (N=3900).	NE	Shevchenko,1991; Sokolov, 1994
T110-6	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0034 (0,003-0,004) (external gamma-exposure)	1,8 (external gamma-exposure)	No statistical discrepancy for the frequency of abnormal sperm heads in 3,5% (2,6-4,4%) (N=2100) in comparison with the control, 2,6 % (1,7-3,5 %) (N=3900).	NE	Shevchenko,1991; Sokolov, 1994
T110-7	Mammal	Mus musculus Linnaeus	Chernobyl zone, Field studies in	Cs-134 Cs-137 Sr-89	Data not reported	Data not reported	0,0034 (0,003-0,004)	1,8 (external	No statistical discrepancy for the frequency of abnormal sperm heads in 4,9% (2,7-7,1%) (N=1500) in	NE	Shevchenko,1991; Sokolov, 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		House mouse	spring 1987	Sr-90 Zr-95 Ru-106 Ce-144 and others			(external gamma-exposure)	gamma-exposure)	comparison with the control, 2,6 % (1,7-3,5 %) (N=3900).		
T110-8	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,00014 (0,0001-0,0002) (external gamma-exposure)	0,08 (external gamma-exposure)	No statistical discrepancy for the frequency of abnormal sperm heads in 1,8% (1,3-2,3%) (N=1800) in comparison with the control, 2,6 % (1,7-3,5 %) (N=3900).	NE	Shevchenko,1991; Sokolov, 1994
T111-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,001-0,08 (external gamma-exposure)	1-100 (external gamma-exposure)	Increase of the frequency of abnormal sperm heads to 6,2% (5,8-6,6%) (N=1400) in comparison with the control, 2,5 % (1,9-3,1%) (N=1600).	CG	Zaynullin,1988; Taskaev, 1988
T111-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0005-0,03 (external gamma-exposure)	0,3-20 (external gamma-exposure)	Decrease in the frequency of abnormal sperm heads to 2,55 % (2,4-2,7%) (N=4554) in comparison with autumn 1986 (6,2%). No statistical discrepancy for the frequency of abnormal sperm heads in spring 1987 in comparison with the control (2,5%, autumn 1986).	NE	Zaynullin,1988; Taskaev, 1988
T112	Mammal	Apodemus agraris Pallas	Chernobyl zone, Field	Cs-134 Cs-137	Data not reported	Data not reported	0,001-0,08	1-100 (externa	Increase of the frequency of abnormal sperm heads to 3,89%	CG	Zaynullin,1988; Taskaev, 1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Striped Field mouse	studies in autumn 1986	Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			(external gamma-exposure)	l gamma-exposure)	(3,74-4,04%) (N=1277) in comparison with the control, 2,26 % (1,5-3,0%) (N=800).		
T113-1	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,009 (0,008-0,01) (external gamma-exposure) 0,05-0,1 (external beta-exposure	11 (external gamma-exposure)	No statistical discrepancy for level of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (before implantation) was 15,5 % (14,3-16,7%) (N=927) in contaminated area, and 15,2% (14,3-16,1%) (N=1473) in the control. The embryonic mortality (after implantation) was 4,7 % (3,2-6,2%) in contaminated area, and 3,6% (3,0-4,2%) in the control.	NE	Shevchenko,1991; Sokolov, 1994
T113-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0003 (0,0002-0,0004) (external gamma-exposure) 0,0015-0,003 (external beta-exposure	0,4 (external gamma-exposure)	No impact on the level of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice). The embryonic mortality (before implantation) was 11,4 % (10,6-12,2%) (N=1734) in contaminated area, and 15,2% (14,3-16,1%) (N=1473) in the control. The embryonic mortality (after implantation) was 4,0 % (3,5-4,5%) in contaminated area, and 3,6% (3,0-4,2%) in the control.	NE	Shevchenko,1991; Sokolov, 1994
T113-3	Mammal	Mus musculus Linnaeus	Chernobyl zone, Field studies in	Cs-134 Cs-137 Sr-89	Data not reported	Data not reported	0,034 (0,03-0,04)	20 (external	Increase of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		House mouse	spring 1987	Sr-90 Zr-95 Ru-106 Ce-144 and others			(external gamma-exposure)	gamma-exposure)	comparison with the control. The embryonic mortality (after implantation) was 11,5 % (8,0-15,0%) (N=87) in contaminated area, and 1,8% (0,5-3,1%) (N=113) in the control. Mating of mice occured in the first weeks after catch.		
T113-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,034 (0,03-0,04) (external gamma-exposure)	20 (external gamma-exposure)	No statistical discrepancy for level of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 3,7 % (2,7-4,7%) (N=400) in contaminated area, and 1,8% (0,5-3,1%) (N=113) in the control. Mating of mice occured in the late periods after catch.	NE	Shevchenko,1991
T113-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0034 (0,003-0,004) (external gamma-exposure)	1,8 (external gamma-exposure)	Increase of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 4,4 % (3,2-5,6%) (N=275) in contaminated area, and 1,8% (0,5-3,1%) (N=113) in the control.	CG	Shevchenko,1991
T113-6	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,00014 (0,0001-0,0002) (external gamma-exposure)	0,08 (external gamma-exposure)	No statistical discrepancy for level of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 5,0 % (2,8-7,2%) (N=252) in contaminated area, and 1,8% (0,5-3,1%) (N=113) in the control.	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T114-1	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,009 (0,008-0,01) (external gamma-exposure) 0,05-0,1 (external beta-exposure	11 (external gamma-exposure)	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,5 (0,4-0,6) per 100 cells (N=3302) in contaminated area, and 0,2 (0,1-0,3) per 100 cells (N=667) in the control.	CG	Shevchenko,1991; Sokolov, 1994
T114-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0003 (0,0002-0,0004) (external gamma-exposure) 0,0015-0,003 (external beta-exposure	0,4 (external gamma-exposure)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,3 (0,2-0,4) per 100 cells (N=2068) in contaminated area, and 0,2 (0,1-0,3) per 100 cells (N=667) in the control.	NE	Shevchenko,1991; Sokolov, 1994
T114-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,034 (0,03-0,04) (external gamma-exposure)	20 (external gamma-exposure)	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 1,4 (1,2-1,6) per 100 cells (N=2138) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control.	CG	Shevchenko,1991
T114-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95	Data not reported	Data not reported	0,0034 (0,003-0,004) (external gamma-	1,8 (external gamma-exposur	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,4 (0,2-0,6) per	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				Ru-106 Ce-144 and others			exposure)	e)	100 cells (N=1386) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control.		
T114-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,00014 (0,0001-0,0002) (external gamma-exposure)	0,08 (external gamma-exposure)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,2 (0,1-0,3) per 100 cells (N=1077) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control.	NE	Shevchenko,1991
T115	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,034 (0,03-0,04) (external gamma-exposure)	20 (external gamma-exposure)	2 from 30 males were irreversibly sterile. The others males were temporarily sterile.	CG	Shevchenko,1991
T116-1	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to gonads)	Increase of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 5,3 % (4,5-6,1%) (N=796) in the contaminated area, and 3,4% (2,6-4,2%) (N=468) in the control. Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in the contaminated area during 25 days. Males were	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									interbreeded with females of laboratory mice after completion of expostion. Time of analysis after completion of exposure of mice in contaminated area: 5-7 weeks.		
T116-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987;exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the level of dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 2,8 % (2,1-3,5%) (N=564) in contaminated area, and 3,4% (2,6-4,2%) (N=468) in the control. Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in the contaminated area during 25 days. Males were interbreeded with females of laboratory mice after completion of exposure. Time of analysis after completion of exposure of mice in contaminated area: 1 week.	NE	Shevchenko,1991
T116-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	Increase of the level of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (before implantation) was 42,8 % (40,7-44,9%) (N=574) in contaminated area, and 14,6% (13-16,2%) (N=488) in the control. The embryonic mortality (after implantation) was 27,5 % (25-30%) in contaminated area, and 3,4% (2,6-4,2%) in the	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									control. Time of analysis after completion of exposition of mice in contaminated area: 1-2 weeks.		
T116-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the level of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 3,7 % (2,7-4,7%) (N=356) in contaminated area, and 3,4% (2,6-4,2%) (N=414) in the control. Time of analysis after completion of exposition of mice in contaminated area: 5-7 weeks.	NE	Shevchenko,1991
T116-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988;exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	Increase of the level of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (before implantation) was 32,7 % (31,1-34,3%) (N=880) in contaminated area, and 14,6% (13-16,2%) (N=488) in the control. The embryonic mortality (after implantation) was 18,9 % (17,3-20,5%) in contaminated area, and 3,4% (2,6-4,2%) in the control. Time of analysis after completion of exposition of mice in contaminated area: 1-2 weeks.	CG	Shevchenko,1991
T116-6	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988;expositio	Cs-134 Cs-137 Sr-90 Ru-106	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-	No statistical discrepancy for the level of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			n of laboratory mice	Ce-144 and others				exposure to gonads)	with the control. The embryonic mortality (after implantation) was 3,7 % (2,7-4,7%) (N=356) in contaminated area, and 3,4% (2,6-4,2%) (N=414) in the control. Time of analysis after completion of expostion of mice in contaminated area: 5-7 weeks.		
T116-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,85 (gamma-and beta-exposure to gonads)	No impact on the level of of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (before implantation) was 10,9 % (8,7-13,1%) (N=211) in contaminated area, and 10,4% (8,2-12,6%) (N=183) in the control.The embryonic mortality (after implantation) was 2,9 % (1,7-4,1%) in contaminated area, and 6,0% (4,1-7,9%) in the control. Females of laboratory mice were exhibited in contaminated area during 22 days. Females were interbreeded with males of laboratory mice after completion of expostion.Time of analysis after completion of expostion of mice in contaminated area: 10 weeks.	NE	Shevchenko,1991
T117-1	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988;exposition of laboratory mice in stage	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,9 (gamma-and beta-exposure to	No impact on the level of of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 4,3 % (2,9-5,7%)	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			of embryogeny	others				gonads)	(N=185) in contaminated area, and 7,5% (6,2-8,8%) (N=468) in the control. Males of laboratory mice (in stage of embryogeny) were exhibited in contaminated area during 22 days. The exposed mice were interbreeded with intact animals in 2,5 months after birth.		
T117-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,7 (gamma-and beta-exposure to gonads)	No impact on the level of of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 3,0 % (2,4-3,6%) (N=941) in contaminated area, and 7,5% (6,2-8,8%) (N=468) in the control. Males of laboratory mice (in stage of embryogeny) were exhibited in contaminated area during 20 days. The exposed mice were interbreeded with intact animals in 2,5 months after birth.	NE	Shevchenko,1991
T117-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,0-1,2 (gamma-and beta-exposure to gonads)	No impact on the level of of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 3,9 % (2,9-4,9%) (N=406) in contaminated area, and 7,5% (6,2-8,8%) (N=468) in the control. Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area during 12-14 days. The exposed mice were interbreeded with intact animals	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									in 2,5 months after birth.		
T117-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988;exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	0,8 (gamma-and beta-exposure to gonads)	No impact on the level of of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 6,9 % (5,6-8,2%) (N=405) in contaminated area, and 7,5% (6,2-8,8%) (N=468) in the control. Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area during 9-10 days. The exposed mice were interbreeded with intact animals in 2,5 months after birth.	NE	Shevchenko,1991
T117-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988;exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	0,4 (gamma-and beta-exposure to gonads)	No impact on the level of of the dominant lethal mutations (DL) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 4,8 % (3,2-6,4%) (N=186) in contaminated area, and 7,5% (6,2-8,8%) (N=468) in the control. Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area during 5 days. The exposed mice were interbreeded with intact animals in 2,5 months after birth.	NE	Shevchenko,1991
T117-6	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988;exposition of laboratory mice in stage	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,7-1,9 (gamma-and beta-exposure to	No impact on the level of of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 6,0 % (4,7-7,3%)	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			of embryogeny	others				gonads)	(N=353) in contaminated area, and 6,6% (4,7-8,5%) (N=157) in the control. Females of laboratory mice (in stage of embryogeny) were exhibited in contaminated area during 20-22 days. The exposed mice were interbreeded with intact animals in 2,5 months after birth.		
T117-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,2-1,4 (gamma-and beta-exposure to gonads)	No impact on the level of of the dominant lethal mutations (DLM) (embryonic mortality in posterity of mice) in comparison with the control. The embryonic mortality (after implantation) was 9,2 % (7,4-11%) (N=252) in contaminated area, and 6,6% (4,7-8,5%) (N=157) in the control. Females of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area during 5-12 days. The exposed mice were interbreeded with intact animals in 2,5 months after birth.	NE	Shevchenko,1991
T118	Mammal	Mus musculus Linnaeus House mouse	Chernobyl zone, Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to gonads)	The exposed males were temporarily sterile during 30-40 days after completion of expostion.	CG	Shevchenko,1991
T119-1	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June	Cs-134 Cs-137 Sr-89 Sr-90	Data not reported	Data not reported	0,067 (external gamma-exposure)	25 (gamma-and beta-	Increase of the frequency of abnormal sperm heads to 7,0% (5,8-8,2%) (N=900) in comparison with the control, 4,4 % (3,2-5,6%)	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1987; exposition of laboratory mice	Zr-95 Ru-106 Ce-144 and others				exposure to gonads)	(N=2400). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 7 days.		
T119-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,067 (external gamma-exposure)	25 (gamma-and beta-exposure to gonads)	Increase of the frequency of abnormal sperm heads to 10,3% (8,4-12,2%) (N=536) in comparison with the control, 4,4 % (3,2-5,6%) (N=2400). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 30 days.	CG	Shevchenko,1991
T119-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads in 9,2% (3,9-14,5%) (N=650) in comparison with the control, 4,4% (3,2-5,6%) (N=2400). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 7 days.	NE	Shevchenko,1991
T119-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to	Increase of the frequency of abnormal sperm heads to 13,8% (12,7-14,9%) (N=4050) in comparison with the control, 4,4% (3,2-5,6%) (N=2400). Sexually mature males of laboratory mice	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			laboratory mice	Ce-144 and others				gonads)	(hybrids (CBAxc57B1)F1)) were exposed to radiation in the contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 30 days.		
T119-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads in 3,4% (2,1-4,7%) (N=1800) in comparison with the control, 3,5% (2,6-4,4%) (N=2400). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in the contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 120days.	NE	Shevchenko,1991
T119-6	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads in 4,7% (4,0-5,4%) (N=1800) in comparison with the control, 4,4% (3,2-5,6%) (N=2400). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 25 days. Time of analysis after completion of expostion of mice in contaminated area: 7 days.	NE	Shevchenko,1991
T119-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to	No statistical discrepancy for the frequency of abnormal sperm heads in 3,2% (2,1-4,3%) (N=3600) in comparison with the control, 4,4% (3,2-5,6%) (N=2400). Sexually mature males of laboratory mice	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			laboratory mice	Ce-144 and others				gonads)	(hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 25 days. Time of analysis after completion of expostion of mice in contaminated area: 30 days.		
T119-8	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads in 2,4% (2,2-2,6%) (N=1860) in comparison with the control, 3,5% (2,6-4,4%) (N=2400). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 120 days.	NE	Shevchenko,1991
T119-9	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	Increase of the frequency of abnormal sperm heads to 16,8% (14,5-19,1%) (N=1223) in comparison with the control, 1,3% (1,0-1,6%) (N=3900). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 18 days.	CG	Shevchenko,1991
T119-10	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	Increase of the frequency of abnormal sperm heads to 2,6% (2,1-3,1%) (N=2700) in comparison with the control, 1,3% (1,0-1,6%) (N=3900). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 22 days.	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									Time of analysis after completion of exposure of mice in contaminated area: 45 days.		
T119-11	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads to 1,1% (0,8-1,4%) (N=2400) in comparison with the control, 1,3% (1,0-1,6%) (N=3900). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 90 days.	NE	Shevchenko,1991
T119-12	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads to 1,6% (1,4-1,8%) (N=1800) in comparison with the control, 1,3% (1,0-1,6%) (N=3900). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 1 day.	NE	Shevchenko,1991
T119-13	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	Increase of the frequency of abnormal sperm heads to 16,8% (13,4-20,2%) (N=2100) in comparison with the control, 1,3% (1,0-1,6%) (N=3900). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									in contaminated area: 18 days.		
T119-14	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads to 1,6% (1,2-2,0%) (N=2700) in comparison with the control, 1,3% (1,0-1,6%) (N=3900). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 45 days.	NE	Shevchenko,1991
T119-15	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads to 1,3% (1,1-1,5%) (N=2400) in comparison with the control, 1,3% (1,0-1,6%) (N=3900). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 90 days.	NE	Shevchenko,1991
T119-16	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,85 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads to 5,1% (0,5-9,7%) (N=1900) in comparison with the control, 3,4% (2,1-4,7%) (N=5250). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.	NE	Shevchenko,1991
T119	Mammal	Mus	Chernobyl 10-	Cs-134	Data not	Data not	0,015	1,68	No statistical discrepancy for the	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
-17		musculus Linnaeus House mouse	km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-137 Sr-90 Ru-106 Ce-144 and others	reported	reported	(external gamma-exposure)	(gamma-and beta-exposure to gonads)	frequency of abnormal sperm heads to 3,5% (2,7-4,3%) (N=10550) in comparison with the control, 3,4% (2,1-4,7%) (N=5250). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.		
T119-18	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,0-1,2 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads to 4,5% (3,1-5,9%) (N=4200) in comparison with the control, 3,4% (2,1-4,7%) (N=5250). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.	NE	Shevchenko,1991
T119-19	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	0,8 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of abnormal sperm heads to 4,3% (3,1-5,5%) (N=4500) in comparison with the control, 3,4% (2,1-4,7%) (N=5250). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.	NE	Shevchenko,1991
T119-20	Mammal	Mus musculus Linnaeus	Chernobyl 10-km zone; Field studies in	Cs-134 Cs-137 Sr-90	Data not reported	Data not reported	0,015 (external gamma-	0,42 (gamma-and	No statistical discrepancy for the frequency of abnormal sperm heads to 1,6% (1,1-2,1%) (N=1850) in	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		House mouse	June 1988; exposition of laboratory mice in stage of embryogeny	Ru-106 Ce-144 and others			exposure)	beta-exposure to gonads)	comparison with the control, 3,4% (2,1-4,7%) (N=5250). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.		
T120-1	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,067 (external gamma-exposure)	25 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 48,5 mg (N=6) in comparison with the control, 197 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 7 days.	CG	Shevchenko,1991
T120-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,067 (external gamma-exposure)	25 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 36,2 mg (N=2) in comparison with the control, 197 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 30 days.	CG	Shevchenko,1991
T120-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,067 (external gamma-exposure)	25 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 38,2 mg (N=2) in comparison with the control, 205 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 120 days.	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
T120-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 62,0 mg (N=6) in comparison with the control, 197 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 7 days.	CG	Shevchenko,1991
T120-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 141,8 mg (N=11) in comparison with the control, 197 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 30 days.	CG	Shevchenko,1991
T120-6	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 201,5 mg (N=7) in comparison with the control, 205 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 120 days.	NE	Shevchenko,1991
T120-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to gonads)	No considerable change for the mass of testicle in 173 mg (N=6) in comparison with the control, 197 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			mice	and others					25 days. Time of analysis after completion of exposure of mice in contaminated area: 7 days.		
T120-8	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 191,8 mg (N=12) in comparison with the control, 197 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 30 days.	NE	Shevchenko,1991
T120-9	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 207,7 mg (N=6) in comparison with the control, 205 mg (N=8). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days. Time of analysis after completion of exposure of mice in contaminated area: 120 days.	NE	Shevchenko,1991
T120-10	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 71,3 mg (N=7) in comparison with the control, 205 mg (N=13). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 18 days.	CG	Shevchenko,1991
T120-11	Mammal	Mus musculus Linnaeus	Chernobyl 10-km zone; Field studies in June	Cs-134 Cs-137 Sr-90	Data not reported	Data not reported	0,023 (external gamma-	3,4 (gamma-and	Decrease of the mass of testicle to 166,7 mg (N=9) in comparison with the control, 205 mg (N=13).	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		House mouse	1988; exposition of laboratory mice	Ru-106 Ce-144 and others			exposure)	beta-exposure to gonads)	Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 45 days.		
T120-12	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 202,9 mg (N=8) in comparison with the control, 205 mg (N=13). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 90 days.	NE	Shevchenko,1991
T120-13	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 121,3 mg (N=6) in comparison with the control, 205 mg (N=13). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 1 day.	CG	Shevchenko,1991
T120-14	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 81,3 mg (N=7) in comparison with the control, 205 mg (N=13). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									exposure of mice in contaminated area: 18 days.		
T120-15	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	Decrease of the mass of testicle to 167,7 mg (N=9) in comparison with the control, 205 mg (N=13). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 45 days.	CG	Shevchenko,1991
T120-16	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 203,8 mg (N=8) in comparison with the control, 205 mg (N=13). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 90 days.	NE	Shevchenko,1991
T120-17	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,85 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 190 mg (N=6) in comparison with the control, 179 mg (N=13). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.	NE	Shevchenko,1991
T120-18	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988;	Cs-134 Cs-137 Sr-90 Ru-106	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,68 (gamma-and beta-	No change for the mass of testicle in 174 mg (N=34) in comparison with the control, 179 mg (N=13). Males of laboratory mice (in stage of	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			exposition of laboratory mice in stage of embryogeny	Ce-144 and others				exposure to gonads)	embryogeny) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.		
T120-19	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,0-1,2 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 186 mg (N=14) in comparison with the control, 179 mg (N=13). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.	NE	Shevchenko,1991
T120-20	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	0,8 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 173 mg (N=14) in comparison with the control, 179 mg (N=13). Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.	NE	Shevchenko,1991
T120-21	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	0,42 (gamma-and beta-exposure to gonads)	No change for the mass of testicle in 189 mg (N=6) in comparison with the control, 179 mg (N=13). Males of laboratory mice (in stage of embryogeny) were exposed to radiation in contaminated area during 22 days. Time of analysis after completion of exposure of mice in contaminated area: 100-120 days.	NE	Shevchenko,1991
T121-1	Mammal	Mus musculus	Chernobyl 10-km zone; Field	Cs-134 Cs-137	Data not reported	Data not reported	0,023 (external	3,0 (gamma	No statistical discrepancy for the frequency of reciprocal	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Linnaeus House mouse	studies in May-June 1987; exposition of laboratory mice	Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others			gamma-exposure)	-and beta-exposure to gonads)	translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,2 (0,1-0,3) per 100 cells (N=3479) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days.		
T121-2	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in May-June 1987; exposition of laboratory mice	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0038 (external gamma-exposure)	0,1 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,2 (0,1-0,3) per 100 cells (N=1991) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exposed to radiation in contaminated area during 25 days.	NE	Shevchenko,1991
T121-3	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	3,4 (gamma-and beta-exposure to gonads)	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,5 (0,4-0,6) per 100 cells (N=3205) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									during 22 days.		
T121-4	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	2,7 (gamma-and beta-exposure to gonads)	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,6 (0,5-0,7) per 100 cells (N=3943) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Sexually mature males of laboratory mice (hybrids (CBAxc57B1)F1)) were exhibited in contaminated area during 22 days.	CG	Shevchenko,1991
T121-5	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,85 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,3 (0,1-0,5) per 100 cells (N=600) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Males of laboratory mice (in stage of embryogeny) were exhibited in contaminated area during 22 days.	NE	Shevchenko,1991
T121-6	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,68 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,2 (0,0-0,2) per 100 cells (N=1900) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Males of laboratory mice (in stage of		

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									embryogeny) were exhibited in contaminated area during 20 days.		
T121-7	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	1,0-1,2 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,2 (0,0-0,2) per 100 cells (N=1100) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Males of laboratory mice (in stage of embryogeny) were exhibited in contaminated area during 12-14 days.	NE	Shevchenko,1991
T121-8	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	0,76-0,84 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0,2 (0,0-0,2) per 100 cells (N=955) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Males of laboratory mice (in stage of embryogeny) were exhibited in contaminated area during 9-10 days.	NE	Shevchenko,1991
T121-9	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,015 (external gamma-exposure)	0,42 (gamma-and beta-exposure to gonads)	No statistical discrepancy for the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 0 per 100 cells (N=600) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Males of laboratory	NE	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
									mice (in stage of embryogeny) were exhibited in contaminated area during 9-10 days.		
T121-10	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	1,68 (gamma-and beta-exposure to gonads)	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 49 (44-54) per 100 cells (N=100) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Males of laboratory mice (in stage of embryogeny) were exposured to radiation in contaminated area during 20 days. Males were heterozygous in relation to reciprocal translocations.	CG	Shevchenko,1991
T121-11	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	1,68 (gamma-and beta-exposure to gonads)	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 57 (52-62) per 100 cells (N=100) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Male of laboratory mice (in stage of embryogeny) was exhibited in contaminated area during 20 days. Male was heterozygous in relation to reciprocal translocations.	CG	Shevchenko,1991
T121-12	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and	Data not reported	Data not reported	0,023 (external gamma-exposure)	1,2 (gamma-and beta-exposure to	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 43 (38-48) per 100 cells (N=100) in contaminated	CG	Shevchenko,1991

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			mice in stage of embryogeny	others				gonads)	area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Male of laboratory mice (in stage of embryogeny) was exhibited in contaminated area during 14 days. Male was heterozygous in relation to reciprocal translocations.		
T121-13	Mammal	Mus musculus Linnaeus House mouse	Chernobyl 10-km zone; Field studies in June 1988; exposition of laboratory mice in stage of embryogeny	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,023 (external gamma-exposure)	0,84 (gamma-and beta-exposure to gonads)	Increase of the frequency of reciprocal translocations on males of mice in comparison with the control. The frequency of reciprocal translocations was 61 (56-66) per 100 cells (N=199) in contaminated area, and 0,1 (0,0-0,2) per 100 cells (N=2242) in the control. Males of laboratory mice (in stage of embryogeny) were exhibited in contaminated area during 10 days. Males were heterozygous in relation to reciprocal translocations.	CG	Shevchenko,1991
T122-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in September 1986)	1,1 (external gamma-exposure; april-september 1986) Preliminary assessment	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 1,6% (1,2-2,0 %) (N=11) in contaminated area, and 0,5% (0,4-0,6 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T122-2	Mammal	Microtus oeconomus Pallas	Chernobyl zone, 4-5 km to the south of	Cs-134 Cs-137 Sr-90	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-	0,3 (external	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control.	CG	Zaynullin,1994,1998; Kudyasheva,1997;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Root vole	NPP; Field study in spring 1987	Ru-106 Ce-144 and others			exposure in May 1987) 5E-3 (external beta-exposure in 1987)	gamma-exposure; august 1986-may 1987) 0,3 (internal exposure to bone; august 1986-may 1987) Preliminary assessment	The level of chromosomal aberrations was 2,1% (1,8-2,4 %) (N=19) in contaminated area, and 0,5% (0,4-0,6 %) (N=10) in the control. The numbers of analysed metaphases per the animal were no less than 100.		Taskaev,1988
T122-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in 1988	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,3E-4 (external gamma-exposure in 1988) 2E-4 (external beta-exposure in 1988)	0,07 (external gamma-exposure) 0,4 (internal exposure to bone; august 1986-may 1987) Prelimi	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 1,8% (1,3-2,3 %) (N=6) in contaminated area, and 0,5% (0,4-0,6 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								nary assessment			
T122-4	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	1,4E-05 (external gamma-exposure in September 1986)	0,02 (external gamma-exposure; april-september 1986) 0,0036 (internal exposure to bone; april-october 1986) Preliminary assessment	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 1,4% (1,1-1,7 %) (N=12) in contaminated area, and 0,5% (0,4-0,6 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T122-5	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,003 (external gamma-exposure; august 1986-may 1987) 0,01 (internal	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 1,5% (1,0-2,0 %) (N=7) in contaminated area, and 0,5% (0,4-0,6 %) (N=10) in the control. The numbers of analysed metaphases per the animal were no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								exposure to bone) Preliminary assessment			
T122-6	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in 1988	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	3,3E-06 (external gamma-exposure in 1988)	0,001 (external gamma-exposure) 0,012 (internal exposure to bone) Preliminary assessment	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 2,0% (1,3-2,7 %) (N=4) in contaminated area, and 0,5% (0,4-0,6 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T123-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in September 1986)	1,1 (external gamma-exposure; april-september 1986)	Increase of the level of chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations was 1,2% (0,85-1,55 %) (N=11) in contaminated area, and 0,1% (0,05-0,15 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T123-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field	Cs-134 Cs-137 Sr-90 Ru-106	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure	0,3 (external gamma-	Increase of the level of chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			study in spring 1987	Ce-144 and others			in May 1987) 5E-3 (external beta-exposure in 1987)	exposure; august 1986-may 1987) 0,3 (internal exposure to bone; august 1986-may 1987) Preliminary assessment	was 1,1% (0,85-1,35 %) (N=19) in contaminated area, and 0,1% (0,05-0,15 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.		
T123-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in 1988	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,3E-4 (external gamma-exposure in 1988) 2E-4 (external beta-exposure in 1988)	0,07 (external gamma-exposure) 0,4 (internal exposure to bone; august 1986-may 1987) Preliminary	Increase of the level of chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations was 0,7% (0,4-1,0 %) (N=6) in contaminated area, and 0,1% (0,05-0,15 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								assessment			
T123-4	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	1,4E-05 (external gamma-exposure in September 1986)	0,02 (external gamma-exposure; april-september 1986) 0,0036 (internal exposure to bone; April-October 1986) Preliminary assessment	Increase of the level of chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations was 1,0% (0,7-1,3 %) (N=12) in contaminated area, and 0,1% (0,05-0,15 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T123-5	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,003 (external gamma-exposure; august 1986-may 1987) 0,01 (internal exposur	No statistical discrepancy for the level of chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations was 1,0% (0,1-2,0 %) (N=7) in contaminated area, and 0,1% (0,05-0,15 %) (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	NE	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								e to bone) Preliminary assessment			
T123-6	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in 1988	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	3,3E-06 (external gamma-exposure in 1988)	0,001 (external gamma-exposure) 0,012 (internal exposure to bone) Preliminary assessment	Increase of the level of chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations was 1,5% (0,9-2,1 %) (N=4) in contaminated area, and 0,1% (0,05-0,15 %) (N=10) in the control. The numbers of analysed metaphases per the animal were no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T124-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in September 1986)	1,1 (external gamma-exposure; april-september 1986)	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was 0,7% (0,44-0,96 %) (N=11) in contaminated area, and 0 % (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T124-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in spring	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May	0,3 (external gamma-exposur	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was 1,5% (1,2-1,8 %) (N=19) in	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1987	and others			1987) 5E-3 (external beta-exposure in 1987)	e; august 1986-may 1987) 0,3 (internal exposure to bone; august 1986-may 1987) Preliminary assessment	contaminated area, and 0 % (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.		
T124-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in 1988	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,3E-4 (external gamma-exposure in 1988) 2E-4 (external beta-exposure in 1988)	0,07 (external gamma-exposure) 0,4 (internal exposure to bone; august 1986-may 1987) Preliminary assessm	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was 0,8% (0,4-1,2 %) (N=6) in contaminated area, and 0 % (N=10) in the control. The numbers of analysed metaphases per the animal were no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								ent			
T124-4	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	1,4E-05 (external gamma-exposure in September 1986)	0,02 (external gamma-exposure; april-september 1986) 0,0036 (internal exposure to bone; april-october 1986) Preliminary assessment	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was 1,6 % (1,25-1,95 %) (N=12) in contaminated area, and 0 % (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T124-5	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	5,8E-06 (external gamma-exposure in May 1987)	0,003 (external gamma-exposure; august 1986-may 1987) 0,01 (internal exposure to	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was 1,7% (1,2-2,2 %) (N=7) in contaminated area, and 0 % (N=10) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								bone) Preliminary assessment			
T124-6	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in 1988	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	3,3E-06 (external gamma-exposure in 1988)	0,001 (external gamma-exposure) 0,012 (internal exposure to bone) Preliminary assessment	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was 2,2% (1,5-2,9 %) (N=4) in contaminated area, and 0 % (N=10) in the control. The numbers of analysed metaphases per the animal were no less than 100.	CG	Zaynullin,1994,1998; Kudyasheva,1997; Taskaev,1988
T125-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in September 1986)	1,1 (external gamma-exposure; april-september 1986)	No discrepancy for the level of chromosomal aberrations in the cells of cornea eye of mice in comparison with the control. The level of chromosomal aberrations was 3,0% (N=773) in contaminated area, and 2,5 % (N=119) in the control.	NE	Zaynullin,1988,1998; Kudyasheva,1997; Taskaev,1988
T125-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	4,8E-4 (external gamma-exposure in May 1987)	0,3 (external gamma-exposure;	Increase of the level of chromosomal aberrations in the cells of cornea eye of mice of mice in comparison with the control. The level of chromosomal aberrations was 7,2% (N=1138) in contaminated	CG	Zaynullin,1988,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
				others			5E-3 (external beta-exposure in 1987)	august 1986-may 1987) 0,3 (internal exposure to bone; august 1986-may 1987) Preliminary assessment	area, and 2,5% (N=119) in the control.		
T125-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	1,4E-05 (external gamma-exposure in September 1986)	0,02 (external gamma-exposure; april-september 1986) 0,0036 (internal exposure to bone; april-october 1986) Preliminary	Increase of the level of chromosomal aberrations in the cells of cornea eye of mice of mice in comparison with the control. The level of chromosomal aberrations was 5,4% (N=632) in contaminated area, and 2,5% (N=119) in the control.	CG	Zaynullin,1988,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								assessment			
T125-4	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km to the west of NPP; Field study in spring 1987	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	1,0E+07 (Bq/kg) for Cs-137	1,4E+06 (Bq/kg) for Cs-137	3,4E-02 (external gamma-exposure in may 1987) 1 (external beta-exposure in 1987)	20 (external gamma-exposure; august 1986-may 1987) 4 (internal exposure; august 1986-may 1987) Preliminary assessment	Increase of the level of chromosomal aberrations in the cells of cornea eye of mice of mice in comparison with the control. The level of chromosomal aberrations was 9,2% (N=65) in contaminated area, and 2,5% (N=119) in the control.	CG	Zaynullin,1988,1998; Kudyasheva,1997; Taskaev,1988
T126-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 4-5 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,8E+04 (Bq/kg) for Cs-137	1,2E+04 (Bq/kg) for Cs-137	1,0E-3 (external gamma-exposure in September 1986)	1,1 (external gamma-exposure; april-september 1986)	No discrepancy for the mitotic index in the cells of cornea eye of mice in comparison with the control. The mitotic index was 0,34 % (N=10) in contaminated area, and 0,37 % (N=6) in the control. The number of analysed metaphases per the animal was no less than 1000.	NE	Zaynullin,1998; Kudyasheva,1997; Taskaev,1988
T125-2	Mammal	Microtus oeconomus	Chernobyl zone, 4-5 km	Cs-134 Cs-137	8,8E+04 (Bq/kg)	1,2E+04 (Bq/kg)	4,8E-4 (external	0,3 (externa	Increase of the mitotic index un the cells of cornea eye of mice of	CG	Zaynullin,1998; Kudyasheva,1997;

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		Pallas Root vole	to the south of NPP; Field study in spring 1987	Sr-90 Ru-106 Ce-144 and others	for Cs-137	for Cs-137	gamma-exposure in May 1987) 5E-3 (external beta-exposure in 1987)	l gamma-exposure; august 1986-may 1987) 0,3 (internal exposure to bone; august 1986-may 1987) Preliminary assessment	mice in comparison with the control. The mitotic index was 0,7% (N=11) in contaminated area, and 0,37% (N=6) in the control. The number of analysed metaphases per the animal was no less than 100.		Taskaev,1988
T125-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 20 km to the south of NPP; Field study in autumn 1986	Cs-134 Cs-137 Sr-89 Sr-90 Zr-95 Ru-106 Ce-144 and others	8,0E+03 (Bq/kg) for Cs-137	1,2E+03 (Bq/kg) for Cs-137	1,4E-05 (external gamma-exposure in September 1986)	0,02 (external gamma-exposure; april-september 1986) 0,0036 (internal exposure to bone; april-	Increase of the mitotic index in the cells of cornea eye of mice of mice in comparison with the control. The mitotic index was 0,55% (N=13) in contaminated area, and 0,37 % (N=6) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1988,1998; Kudyasheva,1997; Taskaev,1988

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								october 1986) Preliminary assessment			
T126-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0096 (external gamma-exposure)	0,3 (external gamma-exposure) Preliminary assessment	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 1,1% (0,9-1,3 %) (N=4) in contaminated area, and 0,3% (0,1-0,5 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1998
T126-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,013 (external gamma-exposure)	0,4 (external gamma-exposure) Preliminary assessment	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 3,8% (2,8-4,8 %) (N=4) in contaminated area, and 0,3% (0,1-0,5 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1998
T126-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,029 (external gamma-exposure)	0,9 (external gamma-exposure) Preliminary assessm	Increase of the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 1,9% (1,6-2,2 %) (N=4) in contaminated area, and 0,3% (0,1-0,5 %) (N=4) in the control. The numbers of analysed metaphases per the animal were no	CG	Zaynullin,1998

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								ent	less than 100.		
T127-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0096 (external gamma-exposure)	0,3 (external gamma-exposure) Preliminary assessment	No statistical discrepancy for the level chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations was 1,1% (0,9-1,3 %) (N=4) in contaminated area, and 0,6% (0,3-0,9 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	NE	Zaynullin,1998
T127-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,013 (external gamma-exposure)	0,4 (external gamma-exposure) Preliminary assessment	No statistical discrepancy for the level of chromatid aberrations in the marrow cells of mice in comparison with the control. The level of chromatid aberrations was 1,3 % (0,7-1,9 %) (N=4) in contaminated area, and 0,6% (0,3-0,9 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	NE	Zaynullin,1998
T127-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,029 (external gamma-exposure)	0,9 (external gamma-exposure) Preliminary assessment	No statistical discrepancy for the level of chromosomal aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 0,5% (0,3-0,8 %) (N=4) in contaminated area, and 0,3% (0,1-0,5 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	NE	Zaynullin,1998
T128-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov);	Cs-134 Cs-137 Sr-90 Ru-106	Data not reported	Data not reported	0,0096 (external gamma-exposure)	0,3 (external gamma-	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was	CG	Zaynullin,1998

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			exposition of mice on experimental plots	Ce-144 and others				exposure) Preliminary assessment	1,4 % (0,9-1,9 %) (N=4) in contaminated area, and 0,3% (0,1-0,5 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.		
T128-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,013 (external gamma-exposure)	0,4 (external gamma-exposure) Preliminary assessment	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of genome aberrations was 14,6% (12,6-16,6 %) (N=4) in contaminated area, and 0,3% (0,1-0,5 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1998
T128-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,029 (external gamma-exposure)	0,9 (external gamma-exposure) Preliminary assessment	Increase of the level of genome aberrations in the marrow cells of mice in comparison with the control. The level of chromosomal aberrations was 3,9% (3,2-4,6 %) (N=4) in contaminated area, and 0,3% (0,1-0,5 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1998
T129-1	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,0096 (external gamma-exposure)	0,3 (external gamma-exposure) Preliminary assessm	Increase of the level of micronuclei in the marrow cells of mice in comparison with the control. The level of micronuclei was 3,3 % (3,0-3,6 %) (N=4) in contaminated area, and 1,0% (0,9-1,1 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1998

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								ent			
T129-2	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,013 (external gamma-exposure)	0,4 (external gamma-exposure) Preliminary assessment	Increase of the level of micronuclei in the marrow cells of mice in comparison with the control. The level of micronuclei was 7,8% (6,2-9,4 %) (N=4) in contaminated area, and 1,0% (0,9-1,1 %)0,3% (0,1-0,5 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1998
T129-3	Mammal	Microtus oeconomus Pallas Root vole	Chernobyl zone, 2 km from NPP (Yanov); exposition of mice on experimental plots	Cs-134 Cs-137 Sr-90 Ru-106 Ce-144 and others	Data not reported	Data not reported	0,029 (external gamma-exposure)	0,9 (external gamma-exposure) Preliminary assessment	Increase of the level of micronuclei in the marrow cells of mice in comparison with the control. The level of micronuclei was 5,2% (4,9-5,5 %) (N=4) in contaminated area, and 1,0% (0,9-1,1 %) (N=4) in the control. The number of analysed metaphases per the animal was no less than 100.	CG	Zaynullin,1998
T130-1	Mammal	Dog	Chronic external exposure in long-term laboratory experiment				0,0034 (external exposure)	7,2 (external exposure)	Decrease of the life time period for dogs by factor with 1,4 in comparison with the control. The daily chronic external exposure during 6 years.	MT	Grigoriev,1989
T130-2	Mammal	Dog	Chronic external exposure in long-term laboratory experiment				0,0017 (external exposure)	7,5 (external exposure)	Decrease of the life time period for dogs by factor with 1,4 in comparison with the control. Chronic external exposure during 6 years, and acute exposure in 0,423 Gy and 0,08 Gy with time period in 4 month.	MT	Grigoriev,1989
T130-3	Mammal	Dog	Chronic external				0,0017 (external	11,4 (externa	Decrease of the life time period for dogs by factor with 2,5 in	MT	Grigoriev,1989

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			exposure in long-term laboratory experiment				exposure)	l exposure)	comparison with the control. Chronic external exposure during 6 years, and acute exposure in 0,423 Gy with time period in 4 month.		
T131-1	Amphibia	*Rana orvalis*. Brown frog	Area contaminated as a result of the Chernobyl accident (Belarus, Khoiniki district, Mogilev region) . Genetic monitoring of frogs, 1986-1989.Village Babchin (N=82)	Cs-137, Sr-90, Ru-106. Contamination of the territory is given for 1988	Cs-137: 1110E+03 Bq/m2; Sr-90:77.7E+03 Bq/m2	Cs-137: 7272 Bq/kg; Cs-134: 1931 Bq/kg; Sr-90:1015 Bq/kg; Ru-106: 454 Bq/kg (1988)	In 1989: from Sr-90 to bones 0.077E-03 Sv/d; internal from other radiobuclides 0.23E-03 Sv/d; external 0.25E-03 Sv/d		Increase of the level of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 1,75±0.19% in the contaminated area, and 0.6±0.17% in the the control (clean area with similar level of agricultural activity). Number of analysed cells 4917.	CG	Eliseeva et al., 1994
T131-2	Amphibia	Rana orvalis. Brown frog	Area contaminated as a result of the Chernobyl accident (Belarus, Khoiniki district, Mogilev region) . Genetic monitoring of frogs, 1986-1989.Villages Lomachi-	Cs-137, Sr-90, Ru-106. Contamination of the territory is given for 1988	Cs-137: 2331E+03 Bq/m2; Sr-90:284E+03 Bq/m2	Cs-137: 2500 Bq/kg; Cs-134: 625 Bq/kg; Sr-90:595 Bq/kg; Ru-106: 41 Bq/kg (1988)	In 1989: from Sr-90 to bones 0.045E-03 Sv/d; internal from other radiobuclides 0.058E-03 Sv/d; external 0.17E-03 Sv/d		Increase of the level of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 1,61±0.22% in the contaminated area, and 0.6±0.17% in the the control (clean area with similar level of agricultural activity). Number of analysed cells - 3496.	CG	Eliseeva et al., 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Kozhuski								
T131-3	Amphibia	Rana orvalis. Brown frog	Area contaminated as a result of the Chernobyl accident (Belarus, Gomel region, Bragin district). Genetic monitoring of frogs, 1986-1989.Village Savichi	Cs-137, Sr-90, Ru-106. Contamination of the territory is given for 1988	Cs-137: 740E+03 Bq/m2; Sr-90: 55.5E+03 Bq/m2	Cs-137: 442 Bq/kg; Cs-134: 115 Bq/kg; Sr-90:2345 Bq/kg (1988)	In 1989: from Sr-90 to bones 0.17E-03 Sv/d; internal from other radiobuclides 0.021E-03 Sv/d; external 0.059E-03 Sv/d		Increase of the level of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 2,06±0.28% in the contaminated area, and 0.6±0.17% in the control (clean area with similar level of agricultural activity). Number of analysed cells 2621.	CG	Eliseeva et al., 1994
T131-4	Amphibia	*Rana orvalis*. Brown frog	Area contaminated as a result of the Chernobyl accident (Belarus, Gomel region, Kormyan district) . Genetic monitoring of frogs, 1986-1989.Village Strumen	Cs-137, Sr-90, Ru-106.	Cs-137: 1554E+03 Bq/m2; Sr-90: 44.4E+03 Bq/m2	Cs-137: 1463 Bq/kg; Cs-134: 487 Bq/kg; Sr-90: 455 Bq/kg (1988)	In 1989: from Sr-90 to bones 0.035E-03 Sv/d; internal from other radiobuclides 0.07E-03 Sv/d; external 0.18E-03 Sv/d		Increase of the level of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 1,07±0.29% in the contaminated area, and 0.6±0.17% in the control (clean area with similar level of agricultural activity). Number of analysed cells 1118.	CG	Eliseeva et al., 1994
T131-5	Amphibia	Rana orvalis. Brown frog	Area contaminated as a result of the Chernobyl accident	Cs-137, Sr-90, Ru-106.	Cs-137: 177.6E+03 Bq/m2; Sr-90: 3.7E+03	Cs-137: 5465 Bq/kg; Cs-134: 1534	In 1989: from Sr-90 to bones 0.005E-03		Increase of the level of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 1,59±0.18% in the contaminated	CG	Eliseeva et al., 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			(Belarus, Mogilev region) . Genetic monitoring of frogs, 1986-1989 near the Cherikov city		Bq/m2	Bq/kg; Sr-90: 66 Bq/kg; Ru-106: 116 Bq/kg (1988)	Sv/d; internal from other radiobuclides 0.1E-03 Sv/d; external 0.013E-03 Sv/d		area, and 0.6±0.17% in the control (clean area with similar level of agricultural activity). Number of analysed cells 4837.		
T131-6	Amphibia	*Rana temporaria*. Grass frog	Area contaminated as a result of the Chernobyl accident (Belarus, Mogilev region) . Genetic monitoring of frogs, 1986-1989.near the Cherikov city	Cs-137, Sr-90, Ru-106. In 1986, also short-lived radionuclides.	Cs-137: 177.6E+03 Bq/m2; Sr-90: 3.7E+03 Bq/m2 (in 1988)	Cs-137: 1469 Bq/kg; Cs-134: 408 Bq/kg; Sr-90: 129 Bq/kg (1988)	In 1989: from Sr-90 to bones 0.01E-03 Sv/d; internal from other radiobuclides 0.038E-03 Sv/d; external 0.013E-03 Sv/d		Increase of the level of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 2,81±0.21% in the contaminated area, and 0.49±0.13% in the control (clean area with similar level of agricultural activity). Number of analysed cells 6149.	CG	Eliseeva et al., 1994
T131-7	Amphibia	*Rana temporaria*. Grass frog	Area contaminated as a result of the Chernobyl accident (Belarus, Mogilev region, Cherikov district) . Genetic	Cs-137, Sr-90, Ru-106. Contamination of the territory is given for 1988	Cs-137: 1202.5E+03 Bq/m2; Sr-90: (10-55.5)E+03 Bq/m2	Cs-137: 5294 Bq/kg; Cs-134: 1568 Bq/kg; Sr-90: 1050 Bq/kg (1988)	In 1989: from Sr-90 to bones 0.08E-03 Sv/d; internal from other radiobuclides 0.15E-03 Sv/d;		Increase of the level of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 1,88±0.23% in contaminated area, and 0.49±0.13% in the control (clean area with similar agricultural activity). Number of analysed cells 3502.	CG	Eliseeva et al., 1994

Identification NN.	Type of organism	Latin name, common name	Impact	Nuclide	Activity in soil, Bq/m^2	Activity in tissues, Bq/kg	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			monitoring of frogs, 1986-1989.Village Veprin				external 0.13E-03 Sv/d				
T131-8	Amphibia	*Rana temporaria*. Grass frog	Area contaminated as a result of the Chernobyl accident (Belarus, Mogilev region, Krasnopolsky district) . Genetic monitoring of frogs, 1986-1989.Village Paluzh	Cs-137, Sr-90, Ru-106. Contamination of the territory is given for 1988	Cs-137: 1554E+03 Bq/m2; Sr-90: 44.4E+03 Bq/m2	Cs-137: 224 Bq/kg; Cs-134: 62 Bq/kg; Sr-90: -(1988)			Increase of chromosomal aberrations in the marrow cells of frogs. The frequency of chromosomal aberrations was 1,55±0.34% in the contaminated area, and 0.6±0.17% in the control (clean area with similar level of agricultural activity). Number of analysed cells - 1351.	CG	Eliseeva et al., 1994