

ANNEX D

**DATABASE ON THE EFFECTS OF RADIATION ON SOIL FAUNA
(RELEVANT TO NORTHERN AREAS), CHRONIC AND ACUTE EXPOSURE.
RUSSIAN DATA**

DATABASE ON THE EFFECTS OF RADIATION ON SOIL FAUNA (RELEVANT TO NORTHERN AREAS, RUSSIAN DATA), CHRONIC AND ACUTE EXPOSURE. Effect codes: NE-no effect; REPR-effect on reproduction success; MT-effect on mortality; MB-effect on morbidity; ECOL -ecological effect. (*)-preliminary dose estimates made by authors of the database.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
S1-1	Soil mesofauna	<i>Larvae of beetles</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. 18 soil samples.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			10-70 Gy	No effects on beetle larvae were found. Numbers did not change (n=23 spec/m ² - in the experimental plot; n=20,5 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, pp.31-32.
S1-2	Soil mesofauna	<i>Diptera order Larvae of flies</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. 18 soil samples.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			10-70 Gy	No effects on fly larvae. Numbers did not differ from the control (n=20,4 spec/m ² - in the experimental plot; n=21,3 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, pp.31-32.
S1-3	Soil mesofauna	<i>Lithobius forficatus . common British centipede</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. 18 soil samples.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			10-70 Gy	No effect on centipedes. Numbers did not practically change (n=5 spec/m ² - in the experimental plot; n=7,5 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, pp.31-32.
S1-4	Soil mesofauna	<i>Geophilidae. Geophilytes</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation.	External point source of gamma-			10-70 Gy	No effects on Geophilidae. Numbers did not practically change (n=7,1 spec/m ² - in the experimental plot; n=5,5	NE	Krivolutsky, 1983, pp.31-32.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Late fall of 1973, soon after the exposure. 18 soil samples.	irradiation (137Cs): 1,18E+15 Bq.				spec/m ² - in the control plot).		
S1-5	Soil mesofauna	<i>Terricola</i> order. <i>Earthworms</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. 18 soil samples.	External point source of gamma-irradiation (137Cs), 1,18E+15 Bq.			10-70 Gy	Numbers of earthworms greatly decreased (n=13,4 specimens/m ² - in the experimental plot; n= 66 spec/m ² - n the control plot; 19% of the control).	MT	Krivolutsky, 1983, pp.31-32.
S1-6	Soil mesofauna	<i>Araneida</i> order. <i>Spiders</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. 18 soil samples.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			10-70 Gy	Numbers of spiders greatly decreased (n=6,1 specimens/m ² - in the experimental plot; n=11,7 spec/m ² - in the control plot; 22% of the control).	MT	Krivolutsky, 1983, pp.31-32.
S1-7	Soil mesofauna	<i>Staphylinidae</i> . <i>Rove beetles</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. 18 soil samples.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			70-250 Gy	Numbers of Staphylinidae increased in the irradiated plot (n=5,7 spec/m ² - in the experimental plot; n= 0,4 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, pp.31-32.
S1-8	Soil mesofauna	<i>Curculionidae</i> . <i>Weevils</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Number of soil	External point source of gamma-irradiation (137Cs): 1,18E+15			70-250 Gy	Numbers of Curculionidae increased in the irradiated plot (n=23,6 spec/m ² - in the experimental plot; n=16 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, pp.31-32.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			samples = 18.	Bq.						
S1-9	Soil mesofauna	Insects	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Forest litter.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			70-250 Gy	Numbers of insects in forest litter increased in the irradiated plot (n=30,4 spec/m ² - in the control plot; n= 41,5 spec/m ² - in the experimental plot).	ECOL	Krivolutsky, 1983, p.33.
S1-10	Soil mesofauna	Insects	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 0-5 cm.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			30-140 Gy	Numbers of insects slightly decreased in the upper soil layer (n=26,4 spec/m ² - in the control plot; n=20,4 spec/m ² - in the experimental plot).	MT, ECOL	Krivolutsky, 1983, p.33.
S1-11	Soil mesofauna	Insects	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 5-10 cm.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			13-70 Gy	Numbers of insects increased in soil layer 5-10 cm (n=4,4 spec/m ² - in the control plot; n= 7,8 spec/m ² - in the experimental plot).	ECOL	Krivolutsky, 1983, p.33.
S1-12	Soil mesofauna	Insects	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 10-15 cm.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			2-3 Gy	No effects on insects in soil layer 10-15 cm (n=2,5 spec/m ² - in the experimental plot; n=2,9 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, p.33.
S1-13	Soil mesofauna	Insects	Experimental plot of pine-birch forest was	External point			1-10 Gy	No effects on insects in soil layer 15-20 cm (n=1,3 spec/m ²	NE	Krivolutsky, 1983, p.33.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 15-20 cm.	source of gamma-irradiation (137Cs): 1,18E+15 Bq.				- in the control plot; n=1,5 spec/m ² - in the experimental plot).		
S1-14	Soil mesofauna	Insects	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 20-25 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			<10 Gy	No effects on insects in soil layer 15-20 cm.	NE	Krivolutsky, 1983, p.33.
S1-15	Soil mesofauna	<i>Lithobius forticatus</i> . common British centipede	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Forest litter.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			70-250 Gy	No effect on Centipede numbers in forest litter (n=3,6 spec/m ² - in the experimental plot; n= 4,9 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, p.33.
S1-16	Soil mesofauna	<i>Lithobius forticatus</i> . common British centipede	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 0-5 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			30-140 Gy	No effect on centipede numbers in soil layer 0-5 cm (n=1,2 spec/m ² - in the experimental plot; n=2 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, p.33.
S1-17	Soil mesofauna	<i>Lithobius forticatus</i> . common British centipede	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after	External point source of gamma-irradiation			13-70 Gy	Some decrease in centipede numbers in soil layer 5-10 cm was observed (n=0,2 spec/m ² - in the experimental plot; n=0,7 spec/m ² - in the control plot).	MT, ECOL	Krivolutsky, 1983, p.33.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			the exposure. Layer of soil 5-10 cm.	(137Cs): 1,18E+15 Bq.						
S1-18	Soil mesofauna	<i>Geophili dae.</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 10-15 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			70-250 Gy	No effects on Geophylidae (n=1,4 spec/m ² - in the experimental plot; n=1,1 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, p.33.
S1-19	Soil mesofauna	<i>Geophili dae Geophytes</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 0-5 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			30-140 Gy	Increase in Geophylidae numbers in soil layer 0-5 cm was observed (n=3 spec/m ² - in the experimental plot; n=1,6 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, p.33.
S1-20	Soil mesofauna	<i>Geophili dae Geophytes</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 5-10 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			13-70 Gy	No effect on Geophylidae in soil layer 5-10 cm (n=1,2 spec/m ² - in the experimental plot; n=1,6 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, p.33.
S1-21	Soil mesofauna	<i>Geophili dae Geophytes</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 10-15 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			2-3 Gy	No effects on geophylidae in soil layer 10-15 cm (n=0,8 spec/m ² - in the experimental plot; n=1,1 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, p.33.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
S1-22	Soil mesofauna	<i>Enchitreides</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Forest litter.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			70-250 Gy	Numbers of Enchitreides considerably increased in the experimental plot (n=15,6 spec/m ² - in the experimental plot; n=8 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, p.33.
S1-23	Soil mesofauna	<i>Enchitreides</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 0-5 sm.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			30-140 Gy	Numbers of Enchitreides considerably increased in the upper soil layer of the experimental plot (n=9,7 spec/m ² - in the experimental plot; n=1,6 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, p.33.
S1-24	Soil mesofauna	<i>Enchitreides</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 10-15 sm.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			2-3 Gy	No effects on Enchitreides in the soil layer 10-15 cm.	NE	Krivolutsky, 1983, p.33.
S1-25	Soil mesofauna	<i>Terricola e. Earthworms</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Forest litter.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			70-250 Gy	Numbers of earthworms in forest litter greatly decreased in the irradiated plot.	MT	Krivolutsky, 1983, p.33.
S1-26	Soil mesofauna	<i>Terricola e. Earthworm</i>	Experimental plot of pine-birch forest was exposed to acute	External point source of			30-140 Gy	Numbers of earthworms greatly decreased in the soil layer 0-5 cm of the experimental plot	MT	Krivolutsky, 1983, p.33.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		<i>ms</i>	gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 0-5 sm.	gamma-irradiation (137Cs): 1,18E+15 Bq.				(n=3,8 spec/m ² - in the experimental plot; n=18,9 spec/m ² - in the control plot).		
S1-27	Soil mesofauna	<i>Terricola e. Earthworms</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 5-10 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			13-70 Gy	Numbers of earthworms greatly decreased in soil layer 5-10 cm of the experimental plot (n=1 spec/m ² - in the experimental plot; n=19,1 spec/m ² - in the control plot).	MT	Krivolutsky, 1983, p.33.
S1-28	Soil mesofauna	<i>Terricola e. Earthworms</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 10-15 cm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			2-3 Gy	Numbers of earthworms greatly decreased in the soil layer 10-15 cm of the experimental plot (n=1,5 spec/m ² - in the experimental plot; n=12 spec/m ² - in the control plot).	MT	Krivolutsky, 1983, p.33.
S1-29	Soil mesofauna	<i>Terricola e. Earthworms</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 15-20 sm.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			1-10 Gy	Numbers of earthworms greatly decreased in the soil layer 15-20 cm of the experimental plot (n=0,2 spec/m ² - in the experimental plot; n=6 spec/m ² - in the control plot).	MT	Krivolutsky, 1983, p.33.
S1-30	Soil mesofauna	<i>Terricola e. Earthworms</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure.	External point source of gamma-irradiation (137Cs):			<1 Gy	Numbers of earthworms decreased in the soil layer 20-25 cm of the experimental plot (n=0,2 spec/m ² - in the experimental plot; n=3,8 spec/m ² - in the control plot).	MT	Krivolutsky, 1983, p.33.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Layer of soil 20-25 sm.	1,18E+15 Bq.						
S1-31	Soil mesofauna	<i>Nematoda</i>	Experimental exposure of forest area from external source of radiation. Sample area in the pine-birch forest. Late fall of 1973, soon after the exposure. Layer of soil 20-25 cm.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			<1 Gy	Numbers of <i>Nematoda</i> slightly increased in the experimental plot (n=0,6 spec/m ² - in the experimental plot; n=0,2 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, p.33.
S1-32	Soil mesofauna	<i>Araneida</i> order. <i>Spiders</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Forest litter.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			70-250 Gy	Numbers of spiders decreased in the forest litter of the experimental plot (n=4,6 spec/m ² - in the experimental plot; n=10,4 spec/m ² - in the control plot).	MT	Krivolutsky, 1983, p.33.
S1-33	Soil mesofauna	<i>Araneida</i> order. <i>Spiders</i>	Experimental plot of pine-birch forest was exposed to acute gamma-radiation. Late fall of 1973, soon after the exposure. Layer of soil 0-5 sm.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			30-140 Gy	No effects on spiders in the upper soil layer 0-5 cm (n=1,2 spec/m ² - in the experimental plot; n=1,3 spec/m ² - in the control plot).	NE	Krivolutsky, 1983, p.33.
S2-1	Soil mesofauna	<i>Terricola</i> e. <i>Earthworms</i>	In September of 1975, two years after the acute gamma-irradiation experimental plot of pine-birch forest was repeatedly investigated. Total	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 70-250 Gy	Numbers of earthworms were 10 times lower than those in the control (n=3,2 spec/m ² - in the experimental plot; n=34 spec/m ² - in the control plot).	MT, ECOL	Krivolutsky, 1983, p.34.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			numbers of soil samples were 11.							
S2-2	Soil mesofauna	<i>Geophilidae</i>	In September of 1975, in 2 years after the acute gamma-irradiation experimental plot of pine-birch forest was repeatedly investigated. Total numbers of soil samples were 11.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 70-250 Gy	Numbers of Geophilidae were higher in the experimental plot (n=4 spec/m ² - in the experimental plot; n=0,8 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, p.34.
S2-3	Soil mesofauna	<i>Lithobius forficatus</i> . common British centipede	In September of 1975, in 2 years after the acute gamma-irradiation experimental plot of pine-birch forest was repeatedly investigated. Total numbers of soil samples were 11.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 70-250 Gy	Numbers of centipede were higher in the experimental plot (n=8 spec/m ² - in the experimental plot; n=3,6 spec/m ² - in the control plot).	ECOL	Krivolutsky, 1983, p.34.
S2-4	Soil mesofauna	Diptera order. Larvae of flies	In September of 1975, in 2 years after the acute gamma-irradiation experimental plot of pine-birch forest was repeatedly investigated. Total numbers of soil samples were 11.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 70-250 Gy	No effects on larvae of flies.	NE	Krivolutsky, 1983, p.34.
S2-5	Soil mesofauna	<i>Elateridae</i> . Larvae of click	In September of 1975, in 2 years after the acute gamma-	External point source of			After-effects of acute	Numbers of click beetles were higher in the experimental plot (n=7,2 spec/m ² - in the	ECOL	Krivolutsky, 1983, p.34.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		<i>beetles</i>	irradiation experimental plot of pine-birch forest was repeatedly investigated. Total numbers of soil samples were 11.	gamma-irradiation (137Cs): 1,18E+15 Bq.			exposure at 70-250 Gy	experimental plot; n=3,6 spec/m ² - in the control plot).		
S3-1	Soil mesofauna	<i>Lasius flavus</i> , <i>Lasius niger</i> <i>Common black ant</i>	In May of 1974, in 9 months after the acute gamma-irradiation of pine-birch forest land ant hills from the experimental plot were investigated.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Some decrease in black ant populations. From 60 ant hills 35 were inhabited (58%). In the control 70-95% of ant hills were inhabited.	MT, ECOL	Krivolutsky, 1983, p.34.
S3-2	Soil mesofauna	<i>Lasius flavus</i> , <i>Lasius niger</i> <i>Common black ant</i>	In September of 1974, one year after the acute gamma-irradiation of pine-birch forest land ant hills from the experimental plot were investigated.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Some decrease in black ant populations. Habitability of ant hills was 60% of the control in the irradiated plot.	MT, ECOL	Krivolutsky, 1983, p.34.
S3-3	Soil mesofauna	<i>Terricola</i> <i>Earthworms</i>	In May of 1974, in 9 months after the acute gamma-irradiation of pine-birch forest land ant hills from the experimental plot were investigated. Number of soil samples was 10.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Numbers of earthworms found in abandoned ant's hills were only 5% of the control.	MT, ECOL	Krivolutsky, 1983, p.35.
S3-4	Soil mesofauna	Larvae of insects	In May of 1974, in 9 months after the acute gamma-irradiation of	External point source of			After-effects of acute	Numbers of insect larvae found in abandoned ant's hills did not differ from the control.	NE	Krivolutsky, 1983, p.35.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			pine-birch forest land ant hills from the experimental plot were investigated. Number of soil samples was 10.	gamma-irradiation (137Cs): 1,18E+15 Bq.			exposure at 100-220 Gy			
S3-5	Soil mesofauna	<i>Myriapoda Polypody - geophytes</i>	In May of 1974, in 9 months after the acute gamma-irradiation of pine-birch forest land ant hills from the experimental plot were investigated. Number of soil samples was 10.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Number of geophilides found in abandoned ant hills did not differ from the control.	NE	Krivolutsky, 1983, p.35.
S3-6	Soil mesofauna	Larvae of insects	In September of 1975, in 2 years after the acute gamma-irradiation of pine-birch forest land ant hills from the experimental plot were investigated.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure	Numbers of insect larvae found in abandoned ant's hills did not differ from the control.	NE	Krivolutsky, 1983, p.35.
S3-7	Soil mesofauna	<i>Terricola e. Earthworms</i>	In September of 1975, in 2 years after the acute gamma-irradiation of pine-birch forest land ant hills from the experimental plot were investigated.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 70-250 Gy	Numbers of earthworms found in abandoned ant's hills did not differ from the control.	NE	Krivolutsky, 1983, p.35.
S4-1	Soil mesofauna	<i>Oribatidae .Beetle mites</i>	In May of 1974, in 9 months after the acute gamma-irradiation experimental plot of	External point source of gamma-			After-effects of acute exposure	Numbers of beetle mites decreased in the experimental plot (n=24 spec/dm ² - in the experimental plot; n=43	MT, ECOL	Krivolutsky, 1983, p.35.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			pine-birch forest was investigated.	irradiation (137Cs)			at 100-220 Gy	spec/dm ² - in the control plot).		
S4-2	Soil mesofauna	<i>Gamasoidae. Gamasid mites</i>	In May of 1974, in 9 months after the acute gamma-irradiation experimental plot of pine-birch forest was investigated.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Numbers of Gamasid mites increased in the experimental plot (n=8 spec/dm ² - in the experimental plot; n=4,4 spec/dm ² - in the control plot).	ECOL	Krivolutsky, 1983, p.35.
S4-3	Soil mesofauna	<i>Collembola. Spring tails</i>	In May of 1974, in 9 months after the acute gamma-irradiation experimental plot of pine-birch forest was investigated.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Numbers of Collembola increased in the experimental plot (n=34,6 spec/dm ² - in the experimental plot; n=19,4 spec/dm ² - in the control plot).	ECOL	Krivolutsky, 1983, p.35.
S4-4	Soil mesofauna	<i>Chilopoda order Centipedes</i>	In May of 1974, in 9 months after the acute gamma-irradiation experimental plot of pine-birch forest was investigated.	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Numbers of Centipedes decreased in the experimental plot (n=0,2 spec/dm ² - in the experimental plot; n=1 spec/dm ² - in the control plot).	ECOL	Krivolutsky, 1983, p.35.
S4-5	Soil mesofauna	<i>Oribatidae Beetle mites</i>	At the end of September of 1974, in one year after the acute gamma-irradiation of pine-birch forest experimental plot of pine-birch forest was	External point source of gamma-irradiation (137Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Numbers of beetle mites slightly decreased in the experimental plot (n=83 spec/dm ² - in the experimental plot; n=98 spec/dm ² - in the control plot).	ECOL	Krivolutsky, 1983, p.36.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			investigated.							
S4-6	Soil mesofauna	<i>Gamasoidae Gamasid mites</i>	At the end of September of 1974, in one year after the acute gamma-irradiation of pine-birch forest experimental plot of pine-birch forest was investigated.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Numbers of Gamasid mites were lower than in the control (n=8,6 - in the experimental plot; n=13 - in the control plot).	ECOL	Krivolutsky, 1983, p.36.
S4-7	Soil mesofauna	<i>Collembola Springtails</i>	At the end of September of 1974, in one year after the acute gamma-irradiation of pine-birch forest experimental plot of pine-birch forest was investigated.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Numbers of springtails did not differ from the control (n=31 spec/dm ² - in the experimental plot; n=26 spec/dm ² - in the control plot).	NE	Krivolutsky, 1983, p.36.
S4-8	Soil mesofauna	<i>Different species</i>	At the end of September of 1974, in one year after the acute gamma-irradiation of pine-birch forest experimental plot of pine-birch forest was investigated.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 35-110 Gy	Numbers of soil mesofauna were lower in the experimental plot (n=5,8 spec/dm ² - in the experimental plot; n=11,4 spec/dm ² - in the control plot).	ECOL	Krivolutsky, 1983, p.36.
S4-9	Soil mesofauna	<i>Acarina order Ticks</i>	At the end of September of 1974, in one year after the acute gamma-irradiation of pine-birch forest experimental plot of	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15			After-effects of acute exposure at 100-220 Gy	Species diversity of <i>Ticks</i> decreased from 17 to 10 in the irradiated plot.	ECOL	Krivolutsky, 1983, p.36.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			pine-birch forest was investigated.	Bq.						
S4-10	Soil mesofauna	<i>Oribatid ae. Beetle mites</i>	At the end of September of 1974, in one year after the acute gamma-irradiation of pine-birch forest experimental plot of pine-birch forest was investigated.	External point source of gamma-irradiation (¹³⁷ Cs): 1,18E+15 Bq.			After-effects of acute exposure at 100-220 Gy	Species diversity of beetle mites decreased from 26 to 17 in the irradiated plot.	ECOL	Krivolutsky, 1983, p.36.
S5-1	Soil mesofauna	Invertebrate predators	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Biodiversity in the trophic group of invertebrate predators decreased in the experimental plot (n=32 spec/m ² – in the control plot; n=22 spec/m ² – in the experimental plot).	MT, REPR	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-2	Soil mesofauna	Phytophagous mesofauna	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Species diversity in phytophagous mesofauna was lower in the experimental plot (n=17,5 species/m ² – in the control plot; n=10 spec/m ² – in the experimental plot).	ECOL	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-3	Soil mesofauna	Saprophagan	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of saprophagous invertebrates were considerably lower in the experimental plot (n=16 spec/m ² – in the control plot; n=1,5 spec/m ² – in the experimental plot).	MT, ECOL	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-4	Soil mesofauna	<i>Terricolae Earthworm</i>	Area contaminated in 1957 as a result of the Kyshtym accident.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of earthworms were lower in the experimental plot (n=18 spec/m ² – in the control	MT	Ilyenko, 1974; Sokolov et.al.,1975;

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		<i>ms</i>	Experimental plot of birch forest with high level radiation was studied.					plot; n=0,5 spec/m ² – in the experimental plot).		Krivolutsky, 1983, p.39.
S5-5	Soil mesofauna	<i>Chilopoda order Centipedes</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of Centipedes were lower in the contaminated plot (n=10 spec/m ² – in the control plot; n=1 spec/m ² – in the experimental plot).	MT, ECOL	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-6	Soil mesofauna	<i>Juliformia, Inlus terrestris .Black wireworm</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of black wireworms decreased in the experimental plot (n=4 spec/m ² – in the control plot; n=0,3 spec/m ² – in the experimental plot).	MT	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-7	Soil mesofauna	<i>Araneida order. Spiders</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of spiders were lower in the contaminated plot (n=5 spec/m ² – in the control plot; n=1 spec/m ² – in the experimental plot).	MT	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-8	Soil mesofauna	Mollusca	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of land molluscs were lower in the contaminated plot (n=2 spec/m ² – in the control plot; n=0,3 spec/m ² – in the experimental plot).	MT	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-9	Soil mesofauna	<i>Diptera order Larvae of</i>	Area contaminated in 1957 as a result of the Kyshtym accident.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of fly larvae were lower in the experimental plot (n=8,5 spec/m ² – in the control	MT	Ilyenko, 1974; Sokolov et.al.,1975;

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		<i>flies</i>	Experimental plot of birch forest with high level radiation was studied.					plot; n=2 spec/m ² – in the experimental plot).		Krivolutsky, 1983, p.39.
S5-10	Soil mesofauna	<i>Carabidae Ground beetles</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of ground beetles were higher on the contaminated plot (n=4,5 spec/m ² – in the experimental plot; n=2,5 spec/m ² – in the control plot).	ECOL	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-11	Soil mesofauna	<i>Staphylinidae Rove beetles</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of rove beetles were higher in the experimental plot than in the control plot (n=7,5 spec/m ² – in the experimental plot; n=5,5 spec/m ² – in the control plot).	ECOL	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-12	Soil mesofauna	<i>Curculionidae Larvae of weevils</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of larvae of weevils were higher in the experimental plot than in the control plot (n=6,5 spec/m ² – in the experimental plot; n=3 spec/m ² – in the control plot).	ECOL	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-13	Soil mesofauna	<i>Elateridae Larvae of click beetles</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		Numbers of larvae of click beetles were lower in the experimental plot (n=12,5 spec/m ² – in the control plot; n=7,5 spec/m ² – in the experimental plot).	MT	Ilyenko, 1974; Sokolov et.al.,1975; Krivolutsky, 1983, p.39.
S5-14	Soil mesofauna	<i>Tineoidae Leaf miners</i>	Area contaminated in 1957 as a result of the Kyshtym accident.	Sr-90	(67-126)E+06	(9-17)E-3*		Leaves of irradiated birch trees were strongly damaged by leaf miners (93%)(in the control -	ECOL	Ilyenko,1974; Krivolutsky, 1983, p.39-41.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Experimental plot of birch forest with high level radiation was studied.					4% (N=30000 leaves).		
S5-15	Soil mesofauna	<i>Tineoidae Leaf miners</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Cs-137	(2,00-4,00)E+05			Leaves of irradiated birch trees were strongly damaged by leaf miners: 50% in the contaminated plot (in the control - 4%).		Ilyenko, 1974; Krivolutsky, 1983, p.39-41.
S5-16	Soil mesofauna	Soil mesofauna	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		The distribution of soil fauna along the soil profile in the contaminated plot differed from the control with most of soil mesofauna concentrated in the upper soil layer.	ECOL	Ilyenko, 1974; Krivolutsky, 1983, p.39-41.
S5-17	Soil mesofauna	<i>Oribatidae Beetle mites</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		No effect on beetle mites, no difference between the control and in the experimental plots.	NE	Gilyarov et.al.,1971; Krivolutsky, 1983, p.42.
S5-18	Soil mesofauna	<i>Collembola Springtails</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Experimental plot of birch forest with high level radiation was studied.	Sr-90	(67-126)E+06	(9-17)E-3*		No effect on springtails, no difference between the control and in the experimental plots.	NE	Gilyarov et.al.,1971; Krivolutsky, 1983, p.42.
S5-19	Soil mesofauna	<i>Enchitreides</i>	Area contaminated in 1957 as a result of the Kyshtym accident.	Sr-90	(67-126)E+06	(9-17)E-3*		No effect on Enchitreides, no difference between the control and in the experimental plots.	NE	Gilyarov et.al.,1971; Krivolutsky,

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Experimental plot of birch forest with high level radiation was studied.							1983, p.42.
S6-1	Soil mesofauna	<i>Oribatid ae Beetle mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	90Sr	2,00E+08	0.026 *		Numbers of beetle mites decreased in the experimental plot (n=53 spec/dm ² - in the control plot; n=21 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-2	Soil mesofauna	<i>Oribatid ae Beetle mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	137Cs	1,30E+08	0.011*		Numbers of beetle mites decreased in the experimental plot (n=53 spec/dm ² - in the control plot; n=26 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-3	Soil mesofauna	<i>Oribatid ae Beetle mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	95Zr	1,22E+08	0.023*		Numbers of beetle mites decreased in the experimental plot (n=53 spec/dm ² - in the control plot; n=20 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-4	Soil mesofauna	<i>Oribatid ae Beetle mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	106Ru	8,50E+08	0.16*		Numbers of beetle mites decreased in the experimental plot (n=53 spec/dm ² - in the control plot; n=21 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-5	Soil mesofauna	<i>Oribatid ae Beetle mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	144Ce	1,10E+08	0.017*		Numbers of beetle mites decreased in the experimental plot (n=53 spec/dm ² - in the control plot; n=19 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-6	Soil	<i>Collemba</i>	Experimental plots of	90Sr	2,00E+08	0.026*		Numbers of springtails	MT	Krivolutsky

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
	mesofauna	<i>la Springtails</i>	meadow contaminated by radionuclide. Two years following the contamination.					decreased in the experimental plot (n=9 spec/dm ² - in the control plot; n=2 spec/dm ² - in the experimental plot).		et.al.,1972; Krivolutsky, 1983, p.43.
S6-7	Soil mesofauna	<i>Collembola Springtails</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	137Cs	1,30E+08	0.011*		Numbers of springtails decreased in the experimental plot (n=9 spec/dm ² - in the control plot; n=4 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-8	Soil mesofauna	<i>Collembola Springtails</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	95Zr	1,22E+08	0.023*		Numbers of springtails decreased in the experimental plot (n=9 spec/dm ² - in the control plot; n=6 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-9	Soil mesofauna	<i>Collembola Springtails</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	106Ru	8,50E+08	0.16*		Numbers of springtails decreased in the experimental plot (n=9 spec/dm ² - in the control plot; n=3 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-10	Soil mesofauna	<i>Collembola Springtails</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	144Ce	1,10E+08	0.017*		Numbers of springtails decreased in the experimental plot (n=9 spec/dm ² - in the control plot; n=3 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-11	Soil mesofauna	<i>Gamasoidae Gamasid mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	90Sr	2,00E+08	0.026*		Numbers of gamasid mites decreased in the experimental plot (n=6 spec/dm ² - in the control plot; n=2 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
S6-12	Soil mesofauna	<i>Gamasoidae</i> <i>Gamasid mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	137Cs	1,30E+08	0.011*		Numbers of gamasid mites decreased in the experimental plot (n=6 spec/dm ² - in the control plot; n=1 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-13	Soil mesofauna	<i>Gamasoidae</i> <i>Gamasid mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	95Zr	1,22E+08	0.023*		Numbers of gamasid mites decreased in the experimental plot (n=6 spec/dm ² - in the control plot; n=2 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-14	Soil mesofauna	<i>Gamasoidae</i> <i>Gamasid mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	106Ru	8,50E+08	0.16*		Numbers of gamasid mites decreased in the experimental plot (n=6 spec/dm ² - in the control plot; n=1 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S6-15	Soil mesofauna	<i>Gamasoidae</i> <i>Gamasid mites</i>	Experimental plots of meadow contaminated by radionuclide. Two years following the contamination.	144Ce	1,10E+08	0.017*		Numbers of gamasid mites decreased in the experimental plot (n=6 spec/dm ² - in the control plot; n=2 spec/dm ² - in the experimental plot).	MT	Krivolutsky et.al.,1972; Krivolutsky, 1983, p.43.
S7-1	Soil mesofauna	Soil mesofauna	Field plot (200 m ²) contaminated by solution of radionuclide. Total number of soil samples was 20 (size of soil sample 10x10x5 cm ³). Two years following the contamination.	239Pu	6,60E+07	0,042*		Total numbers of mesofauna were 2,3 times lower in the experimental plot than in the control plot (n=16 spec/m ² - in the control plot; n=7 spec/m ² - in the experimental plot).	ECOL	Krivolutsky et.al.,1973; Krivolutsky, 1983, p.44-45.
S7-2	Soil	<i>Terricola</i>	Field plot (200 m ²)	239Pu	6,60E+07	0,042*		No difference with control in	NE	Krivolutsky

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
	mesofauna	<i>e Earthworms</i>	contaminated by solution of radionuclide. Total number of soil samples was 20 (size of soil sample 10x10x5 cm ³). Two years following the contamination.					number of earthworms		et.al.,1973; Krivolutsky, 1983, p.44-45.
S7-3	Soil mesofauna	Beetles	Field plot (200 m ²) contaminated by solution of radionuclide. Total number of soil samples was 20 (size of soil sample 10x10x5 cm ³). Two years following the contamination.	239Pu	6,60E+07	0,042*		Numbers of beetles decreased in the experimental plot (n=5 spec/m ² – in the control plot; n=1 spec/m ² – in the experimental plot).	MT	Krivolutsky et.al.,1973; Krivolutsky, 1983, p.44-45.
S7-4	Soil mesofauna	Larvae of insects	Field plot (200 m ²) contaminated by solution of radionuclide. Total number of soil samples was 20. Two years following the contamination.	239Pu	6,60E+07	0,042*		Numbers of insect larvae decreased in the experimental plot (n=5,5 spec/m ² – in the control plot; n=2 spec/m ² – in the experimental plot).	MT	Krivolutsky et.al.,1973; Krivolutsky, 1983, p.44-45.
S7-5	Soil mesofauna	Ticks-prostigmates	Field plot (200 m ²) contaminated by solution of radionuclide. Total number of soil samples was 20. Two years following the contamination.	239Pu	6,60E+07	0,042*		Numbers of prostigmates sharply decreased in the experimental plot (n=620 spec/m ² – in the control plot; n=37 spec/m ² – in the experimental plot).	MT	Krivolutsky et.al.,1973; Krivolutsky, 1983, p.44-45.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
S7-6	Soil mesofauna	<i>Oribatidae</i> <i>Beetle mites</i>	Field plot (200 m ²) contaminated by solution of radionuclide. Total number of soil samples was 20. Two years following the contamination.	239Pu	6,60E+07	0,042*		Numbers of beetle mites sharply decreased in the experimental plot (n=120 spec/m ² – in the control plot; n=74 spec/m ² – in the experimental plot).	MT	Krivolutsky et.al.,1973; Krivolutsky, 1983, p.44-45.
S7-7	Soil mesofauna	<i>Gamasidae</i> <i>Gamasid mites</i>	Field plot (200 m ²) contaminated by solution of radionuclide. Two years following the contamination.	239Pu	6,60E+07	0,042*		All gamasid mites died in the experimental plot (n=50 spec/m ² – in the control plot; n=0 – in the experimental plot).	MT	Krivolutsky et.al.,1973; Krivolutsky, 1983, p.44-45.
S7-8	Soil mesofauna	<i>Collembola</i> <i>Springtails</i>	Field plot (200 m ²) contaminated by solution of radionuclide. Two years following the contamination. 10x10x5 cm ³).	239Pu	6,60E+07	0,042*		Numbers of springtails sharply decreased in the experimental plot (n=150 spec/m ² – in the control plot; n=23 spec/m ² – in the experimental plot).	MT	Krivolutsky et.al.,1973; Krivolutsky, 1983, p.44-45.
S8-1	Soil mesofauna	<i>Diptera</i> <i>order</i>	Area with high level natural radioactivity Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	(2.4-7.2)E-5 Gy/d (gamma)		Numbers of Diptera were lower in the experimental plot (n=3,85 spec/m ² - in the control plot; n=0,75 spec/m ² - in the experimental plot).	MT	Krivolutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S8-2	Soil mesofauna	<i>Elateridae</i> <i>e</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	(2.4-7.2)E-5 Gy/d (gamma)		Numbers of Elateridae were lower in the experimental plot (n=3,85 spec/m ² - in the control plot; n=0,65 spec/m ² - in the experimental plot).	MT	Krivolutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S8-3	Soil mesofauna	<i>Insecta</i> <i>larvae</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	(2.4-7.2)E-5 Gy/d (gamma)		Numbers of Insecta larvae were about the same both in the control and the experimental plot (n=1,60 spec/m ² - in the control	NE	Krivolutsky et.al., 1983; Gilyarov, 1988, p.192-194.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								plot; n=1,30 spec/m ² - in the experimental plot).		
S8-4	Soil mesofauna	<i>Staphylinidae</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	(2.4-7.2)E-5 Gy/d (gamma)		Numbers of Staphylinidae were lower in the experimental plot (n=10,75 spec/m ² - in the control plot; n=8,2 spec/m ² - in the experimental plot).	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S8-5	Soil mesofauna	<i>Carabidae</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	(2.4-7.2)E-5 Gy/d (gamma)		Numbers of Carabidae were lower in the experimental plot (n=1,45 spec/m ² - in the control plot; n=0,85 spec/m ² - in the experimental plot).	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S8-6	Soil mesofauna	<i>Insecta imago</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	(2.4-7.2)E-5 Gy/d (gamma)		Numbers of Insecta imago were lower in the experimental plot (n=2,7 spec/m ² - in the control plot; n=0,9 spec/m ² - in the experimental plot).	REPR	Krivilutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S8-7	Soil mesofauna	<i>Trombidiidae imago</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	(2.4-7.2)E-5 Gy/d (gamma)		Numbers of Trombidiidae imago decreased in the experimental plot (n=0,55 spec/m ² - in the control plot; n=0,30 spec/m ² - in the experimental plot).	REPR	Krivilutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S8-8	Soil mesofauna	<i>Limbricidae. Earthworms.</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	(7,1E-10 - 5,6E-11) g/g of soil (d.w.).	5E-5 Gy/d (gamma)		Numbers of Limbricidae sharply decreased in the experimental plot (n=2,05 spec/m ² - in the control plot; n=0,30 spec/m ² - in the experimental plot).	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S8-9	Soil mesofauna	<i>Dendrobena D.subrubidies Earthworms.</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	(7,1E-10 - 5,6E-11) g/g of soil (d.w.).	2E-3 Gy/d (gamma)		Violations in the epithelium of earthworms were found	MB	Krivilutsky et.al., 1983; Gilyarov, 1988, p.192-194.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
S8-10	Soil mesofauna	<i>Dendrobiana subrubridies</i> <i>Earthworms</i>	Area with high level natural radioactivity. Komi region of Russia.	226Ra, U	Ra (7,1E-10 - 5,6E-11) g/g of soil (d.w.).	5E-5 - 2E-3 Gy/d (gamma)		Amounts of mucous cells in epithelium and in middle intestine of earthworms were considerably higher comparing with the control.	MB	Krivilutsky et.al., 1983; Gilyarov, 1988, p.192-194.
S9-1	Soil mesofauna	<i>Lumbricidae</i>	Area with high level natural radioactivity. Komi region of Russia. Highland tundra. Total number of soil samples was 32.	232Th (also U, Ra)	Th (2-5)E-5 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Number of earthworms was lower in the experimental plot (n=3,75 spec/ 0,25 m ² - in the control plot; n=2,37 spec/m ² - in the experimental plot)	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.194-195; Semyashkina, 1985,pp.144-147.
S9-2	Soil mesofauna	<i>Enchytraeidae</i>	Area with high level natural radioactivity. Komi region of Russia. Highland tundra. Total number of soil samples was 32.	232Th (also U, Ra)	Th (2-5)E-5 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Numbers of Enchytraeidae was lower in the experimental plot (n=16,5 spec/ 0,25 m ² - in the control plot; n=3,41 spec/ 0,25 m ² - in the experimental plot)	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.194-195; Semyashkina, 1985,pp.144-147.
S9-3	Soil mesofauna	<i>Lithobiidae</i>	Area with high level natural radioactivity. Komi region of Russia. Highland tundra. Total number of soil samples was 32.	232Th (also U, Ra)	Th (2-5)E-5 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Numbers of Lithobiidae were lower in the experimental plot (n=0,56 spec/ 0,25 m ² - in the control plot; n=0,16 spec/ 0,25 m ² - in the experimental plot)	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.194-195; Semyashkina, 1985,pp.144-147.
S9-4	Soil mesofauna	<i>Carabidae imago</i>	Area with high level natural radioactivity. Komi region of Russia. Highland tundra. Total number of soil samples was 32.	232Th (also U, Ra)	Th (2-5)E-5 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Number of Carabidae was lower in the experimental plot (n=1,37 spec/ 0,25 m ² - in the control plot; n=0,27 - in the experimental plot)	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.194-195; Semyashkina, 1985,pp.144-147.
S9-5	Soil	<i>Staphylin</i>	Area with high level	232Th	Th (2-5)E-5	(1-2)E-4		Numbers of Staphylinidae imago	NE	Krivilutsky

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
	mesofauna	<i>idae imago</i>	natural radioactivity. Komi region of Russia. Highland tundra. Total number of soil samples was 32.	(also U, Ra)	g/g of soil (d.w.).	Gy/d (gamma)		were about the same as in the control(n=1,00 spec/ 0,25 m ² - in the control plot; n=1,12 spec/ 0,25 m ² - in the experimental plot).		et.al., 1983; Gilyarov, 1988, p.194-195; Semyashkina, 1985,pp.144-147.
S9-6	Soil mesofauna	<i>Insecta larvae</i>	Area with high level natural radioactivity. Komi region of Russia. Highland tundra. Total number of soil samples was 32.	²³² Th (also U, Ra)	Th (2-5)E-5 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Numbers of Insecta larvae were lower in the experimental plot (n=8 spec/ 0,25 m ² - in the control plot; n=1,8 spec/ 0,25 m ² - in the experimental plot)	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.194-195; Semyashkina, 1985,pp.144-147.
S9-7	Soil mesofauna	<i>Aranea</i>	Area with high level natural radioactivity. Komi region of Russia. Highland tundra. Total number of soil samples was 32.	²³² Th (also U, Ra)	Th (2-5)E-5 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Numbers of Aranea were lower in the experimental plot (n=2,81 spec/ 0,25 m ² - in the control plot; n=0,24 spec/ 0,25 m ² - in the experimental plot)	MT	Krivilutsky et.al., 1983; Gilyarov, 1988, p.194-195; Semyashkina, 1985,pp.144-147.
S10-1	Soil mesofauna	<i>Lumbricidae</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	²³² Th (also U, Ra)	Th (7-9)E-6 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Numbers of Lumbricidae were lower in the experimental plot (n=3,94±0,46 spec/ 0,25 m ² - in the control plot; n=5,30±0,98 spec/ 0,25 m ² - in the experimental plot).	MT	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S10-2	Soil mesofauna	<i>Enchytraeidae</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	²³² Th (also U, Ra)	Th (7-9)E-6 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		Numbers of Enchytraeidae were lower in the experimental plot (n=2,55±1,60 spec/ 0,25 m ² - in the control plot; n=0,81±0,40 spec/ 0,25 m ² - in the experimental plot)	MT	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S10-3	Soil mesofauna	<i>Lithobiidae</i>	Area with high level natural radioactivity. Komi region of	²³² Th (also U, Ra)	Th (7-9)E-6 g/g of soil (d.w.).	(1-2)E-4 Gy/d (gamma)		No difference in numbers of Lithobiidae in the experimental and in the control plots	NE	Semyashkina, 1985; Krivolutsky,

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Russia. Middle taiga. Total number of soil samples was 20.					(n=3,61±0,65 spec/ 0,25 m ² - in the control plot; n=3,90±0,35 spec/ 0,25 m ² - in the experimental plot)		Semyashkina, 1980.
S10-4	Soil mesofauna	<i>Carabidae imago</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	232Th (also U, Ra)	Th (7-9)E-6 g/g of soil (d.w.)	(1-2)E-4 Gy/d (gamma)		Numbers of Carabidae were lower in the experimental plot (n=2,40±0,50 spec/ 0,25 m ² - in the control plot; n=1,60±0,25 spec/ 0,25 m ² - in the experimental plot)	MT	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S10-5	Soil mesofauna	<i>Staphylinidae imago</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	232Th (also U, Ra)	Th (7-9)E-6 g/g of soil (d.w.)	(1-2)E-4 Gy/d (gamma)		Numbers of Staphylinidae were lower in the experimental plot (n=8,25±1,10 spec/ 0,25 m ² - in the control plot; n=4,10±0,60 spec/ 0,25 m ² - in the experimental plot)	REPR	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S10-6	Soil mesofauna	<i>Insecta larvae</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	232Th (also U, Ra)	Th (7-9)E-6 g/g of soil (d.w.)	(1-2)E-4 Gy/d (gamma)		Numbers of Insecta larvae were lower in the experimental plot (n=2,54±0,42 spec/ 0,25 m ² - in the control plot; n=1,39±0,11 - in the experimental plot)	REPR	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S10-7	Soil mesofauna	<i>Aranea</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	232Th (also U, Ra)	Th (7-9)E-6 g/g of soil (d.w.)	(1-2)E-4 Gy/d (gamma)		Numbers of Aranea were lower in the experimental plot (n=8,70±0,87 spec/ 0,25 m ² - in the control plot; n=5,45±0,78 - in the experimental plot)	MT	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S11-1	Soil mesofauna	<i>Lumbricidae</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	U-Ra		up to 1.4E-3 Gy/d (gamma)		Numbers of Lumbricidae were lower in the experimental plot (n=5,65±1,50 spec/ 0,25 m ² - in the control plot; n=2,10±0,66 spec/ 0,25 m ² - in the experimental plot).	MT	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S11-2	Soil	<i>Enchytra</i>	Area with high level	U-Ra		up to 1.4E-3		Numbers of Enchytraeidae	ECOL	Semyashkina,

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
	mesofauna	<i>eidae</i>	natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.			Gy/d (gamma)		were higher in the experimental plot (n=6,49±1,92 spec/ 0,25 m ² - in the control plot; n=18,7±4,5 - in the experimental plot)		1985; Krivolutsky, Semyashkina, 1980.
S11-3	Soil mesofauna	<i>Carabidae imago</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	U-Ra		up to 1.4E-3 Gy/d (gamma)		Number of Carabidae was lower in the experimental plot (n=5,80±1,10 spec/ 0,25 m ² - in the control plot; n=3,13±0,32 - in the experimental plot)	MT	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S11-4	Soil mesofauna	<i>Staphylinidae imago</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	U-Ra		up to 1.4E-3 Gy/d (gamma)		Numbers of Staphylinidae were lower in the experimental plot (n=13,3±2,0 spec/ 0,25 m ² - in the control plot; n=7,14±1,30 - in the experimental plot)	REPR	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S11-5	Soil mesofauna	<i>Insecta larvae</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	U-Ra		up to 1.4E-3 Gy/d (gamma)		Numbers of Insecta larvae were lower in the experimental plot (n=9,60±2,2 spec/ 0,25 m ² - in the control plot; n=7,00±1,24 in the experimental plot)	REPR	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S11-6	Soil mesofauna	<i>Aranea</i>	Area with high level natural radioactivity. Komi region of Russia. Middle taiga. Total number of soil samples was 20.	U-Ra		up to 1.4E-3 Gy/d (gamma)		Numbers of Aranea were lower in the experimental plot (n=7,50±0,92 spec/ 0,25 m ² - in the control plot; n=2,41±0,54- in the experimental plot)	MT	Semyashkina, 1985; Krivolutsky, Semyashkina, 1980.
S12-1	Soil mesofauna	<i>Collembola order</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Number of springtails strongly increased in the experimental plot (n=25 spec/100 sm ² - in control; n=51 - in control).	STIM, ECOL	Krivolutsky, 1985
S12-2	Soil mesofauna	<i>Geophilidae</i>	Experimental meadow plot (size of soil	H-3	1,11E+10			Number of Geophilidae was decreased in the experimental	MT	Krivolutsky, 1985

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			sample 10x10x5 cm ³).					plot (n=1,1 -in control; n=0,5 -in the experimental plot).		
S12-3	Soil mesofauna	<i>Cecidomyiidae larvae</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Numbers of gall midges larvae were lower in the experimental plot (n=3,7 - in control; n=1,3 - in the experimental plot).	MT	Krivolutsky, 1985
S12-4	Soil mesofauna	<i>Spiders</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Number of spiders was lower on experimental plot (n=0,8 - in control; n=0,1 - in the experimental plot).	MT	Krivolutsky, 1985
S12-5	Soil mesofauna	<i>Insect imago</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Numbers of insect's imago were lower in the experimental plot (n=11 - in control; n=5,5 - in the experimental plot).	REPR	Krivolutsky, 1985
S12-6	Soil mesofauna	<i>Mites-prostigmatas</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Numbers of ticks-prostigmatas increased in the experimental plot (n=140 -in control; n=145 - in the experimental plot).	STIM, ECOL	Krivolutsky, 1985
S12-7	Soil mesofauna	<i>Gamasoidae</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Numbers of Gamasoidae decreased in the experimental plot (n=18 - in control; n=12 - in the experimental plot)	MT	Krivolutsky, 1985
S12-8	Soil mesofauna	<i>Oribatidae</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Number of beetle mites decreased in the experimental plot (n=102 - in control; n=73 - in the experimental plot).	MT	Krivolutsky, 1985
S12-9	Soil mesofauna	<i>Oribatidae nymph</i>	Experimental meadow plot (size of soil sample 10x10x5 cm ³).	H-3	1,11E+10			Numbers of Oribatidae nymph slightly increased in the experimental plot (n=58 -in control; n=77 in the experimental plot).	STIM, ECOL	Krivolutsky, 1985
S13-1	Soil mesofauna	<i>Oribatidae</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of ⁹⁰ Sr.	⁹⁰ Sr	1,11E+6	1.5E-4*		Numbers of beetle mites slightly increased in experimental plot (n=76,8 spec/dm ² - in control; n=82,7 - in the experimental	STIM, ECOL	Karaban', Tikhomirov, 1968; Karaban',1970;

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
								plot).		Krivolutsky, 1985.
S13-2	Soil mesofauna	<i>Collembola</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of 90Sr.	90Sr	1,11E+6	1.5E-4*		Numbers of springtails increased in experimental plot (n=25,2 - in control; n=41 - in the experimental plot).	STIM, ECOL	Karaban', Tikhomirov, 1968; Karaban', 1970; Krivolutsky, 1985.
S13-3	Soil mesofauna	<i>Gamasoidae</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of 90Sr.	90Sr	1,11E+6	1.5E-4*		Numbers of gamasid mites did not differ from control (n=12 - in control; n=15 - in the experimental plot).	NE	Karaban', Tikhomirov, 1968; Karaban', 1970; Krivolutsky, 1985.
S13-4	Soil mesofauna	<i>Oribatidae</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of 90Sr.	90Sr	2,22E+7	0.003*		No difference in numbers of Oribatidae between the experimental and control plots (n=76,8 spec/dm ² - in the control plot; n=67,5 - in the experimental plot)	NE	Karaban', Tikhomirov, 1968; Karaban', 1970; Krivolutsky, 1985.
S13-5	Soil mesofauna	<i>Collembola</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of 90Sr.	90Sr	2,22E+7	0.003*		No difference in numbers of Collembola between the experimental and control plots (n=25,2 spec/dm ² - in the control plot; n=37 - in the experimental plot)	NE	Karaban', Tikhomirov, 1968; Karaban', 1970; Krivolutsky, 1985.
S13-6	Soil mesofauna	<i>Gamasoidae</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of 90Sr.	90Sr	2,22E+7	0.003*		No difference in numbers of Gamasoidae between the experimental and control plots (n=12 spec/dm ² - in the control plot; n=16 - in the experimental plot)	NE	Karaban', Tikhomirov, 1968; Karaban', 1970; Krivolutsky, 1985.
S13-7	Soil mesofauna	<i>Oribatidae</i>	Experimental plot (6 m ²) of pine forest contaminated by water	90Sr	2,22E+8	0.029*		Numbers of Oribatidae considerably decreased in the experimental plot (n=76,8	MT	Karaban, Tikhomirov, 1968;

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			solution of ⁹⁰ Sr.					spec/dm ² - in control; n=31,6 - in the experimental plot).		Karaban,1970; Krivolutsky, 1985.
S13-8	Soil mesofauna	<i>Collembola</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of ⁹⁰ Sr.	⁹⁰ Sr	2,22E+08	0.029*		Number of Collembola sharply decreased in the experimental plot (n=25,2 spec/dm ² - in control; n=13,5 - in the experimental plot).	MT	Karaban', Tikhomirov, 1968; Karaban',1970; Krivolutsky, 1985.
S13-9	Soil mesofauna	<i>Gamasoidea</i>	Experimental plot (6 m ²) of pine forest contaminated by water solution of ⁹⁰ Sr.	⁹⁰ Sr	2,22E+08	0.029*		Number of Gamasoidea decreased in the experimental plot (n=12 spec/dm ² - in control; n=8 - in the experimental plot).	MT	Karaban, Tikhomirov, 1968; Karaban, 1970; Krivolutsky, 1985.
S14-1	Soil mesofauna	<i>Gamasoidea</i>	Experimental plot with high level natural radioactivity. Komi region of Russia.Total number of soil samples (each 400 cm ²) was 15.	U-Ra		(3.6-4.5)E-4 Gy/d		Numbers of Gamasoidea were considerably lower in the experimental plot (n=400 spec/m ² - in control; n=62 - in the experimental plot).	MT	Krivolutsky, 1985.
S14-2	Soil mesofauna	<i>Collembola</i>	Experimental plot with high level natural radioactivity. Komi region of Russia.Total number of soil samples (each 400 cm ²) was 15.	U-Ra		(3.6-4.5)E-4 Gy/d		Numbers of Collembola were considerably lower in the experimental plot (n=705 spec/m ² - in control; n=205 - in the experimental plot).	MT	Krivolutsky, 1985.
S14-3	Soil mesofauna	<i>Staphylinidae imago</i>	Experimental plot with high level natural radioactivity. Komi region of Russia.Total number of soil samples (each 400	U-Ra		(3.6-4.5)E-4 Gy/d		Numbers of Staphylinidae were considerably lower in the experimental plot (n=29 spec/m ² - in control; n=7 - in the experimental plot).	MT	Krivolutsky, 1985.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			cm ²) was 15.							
S14-4	Soil mesofauna	<i>Beetles larvae</i>	Experimental plot with high level natural radioactivity. Komi region of Russia. Total number of soil samples (each 400 cm ²) was 15.	U-Ra		(3.6-4.5)E-4 Gy/d			MT	Krivolutsky, 1985.
S14-5	Soil mesofauna	<i>Diptera larvae</i>	Experimental plot with high level natural radioactivity. Komi region of Russia. Total number of soil samples (each 400 cm ²) was 15.	U-Ra		(3.6-4.5)E-4 Gy/d		Numbers of Diptera larvae were considerably lower in the experimental plot (n=207 spec/m ² - in control; n=135 - in the experimental plot).	MT	Krivolutsky, 1985.
S14-6	Soil mesofauna	<i>Oribatidae</i>	Experimental plot with high level natural radioactivity. Komi region of Russia. Total number of soil samples (each 400 cm ²) was 15.	U-Ra		(3.6-4.5)E-4 Gy/d		Numbers of Oribatidae were considerably lower in the experimental plot (n=2400 spec/m ² - in control; n=571- in the experimental plot).	MT	Krivolutsky, 1985.
S14-7	Soil mesofauna	<i>Oligochaeta, Lumbricidae</i>	Area with high level natural radioactivity. Komi region of Russia.	U-Ra		about 2E-3 Gy/d (gamma)		Numbers, sizes and proportion of sexually mature specimens were lower than in control	MT	Viktorov, 1999; Viktorov, 1989.
S15-1	Soil mesofauna	<i>Oribatidae, Gamasoidae, Staphylinidae l., Diptera l. and</i>	Area contaminated as a result of Chernobyl accident. 3-7 km from the Chernobyl NPP. July, 1986. Forest litter.				30 Gy	Number of soil ticks and larvae of different group of soil mesofauna decreased by 30 times.	MT	Krivolutsky et.al., 1990; Krivolutsky et.al., 1999.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
		<i>others</i>								
S15-2	Soil mesofauna	<i>Soil mesofauna</i>	Area contaminated as a result of Chernobyl accident. 3-7 km from the Chernobyl NPP. July, 1986. Fields and arable soils.				about 3.5 Gy (gamma) + beta; total 86 Gy on the soil surface	Number of soil mesofauna decreased in 2-3 times. Number of young earthworms decreased in 4 times.	MT	Krivolutsky et.al., 1990; Krivolutsky et.al., 1999.
S15-3	Soil mesofauna	<i>Soil mesofauna</i>	Area contaminated as a result of Chernobyl accident. 3-7 km from the Chernobyl NPP. Late fall of 1986.			(1,3-2,6)E-3 Gy/d		Slow recovery of soil fauna have been observed. Some larvae and nimpha appeared.	REPR	Krivolutsky et.al., 1990; Krivolutsky et.al., 1999.
S15-4	Soil mesofauna	<i>Soil mesofauna</i>	Area contaminated as a result of Chernobyl accident. 3-7 km from the Chernobyl NPP. July, 1987.					Soil fauna intensively recovered even in most contaminated plots. Total number of invertebrates in forest (Kopachi) was 45% of control. The base of mesofauna was represented by larvae of insects.	REPR	Krivolutsky et.al., 1990; Krivolutsky et.al., 1999.
S15-5	Soil mesofauna	<i>Soil mesofauna</i>	Area contaminated as a result of Chernobyl accident. 3-7 km from the Chernobyl NPP. October, 1988.			(2-3)E-4 Gy/d in 1988		Total numbers of microfauna organisms were completely recovered in 2-3 years after the accident.	REPR	Krivolutsky et.al., 1990; Krivolutsky et.al., 1999.
S15-7	Soil mesofauna	<i>Soil mesofauna</i>	Area contaminated as a result of Chernobyl accident. 3-7 km from the Chernobyl NPP. 1987-1988.			(5-7)E-3 Gy/day in 1987-1988		Biodiversity of microarthropods were only 50% of the control during 5 years.	MB	Krivolutsky et.al., 1990; Krivolutsky et.al., 1999.
S15-8	Soil mesofauna	<i>Soil mesofauna</i>	Area contaminated as a result of Chernobyl accident. 3-7 km from the Chernobyl NPP.			(5-7)E-3 Gy/day in 1987-1988		Recovery of biodiversity was observed (75-80% of the control).	REPR	Krivolutsky et.al., 1990; Krivolutsky et.al., 1999.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			1993-1995.							
S16-1	Soil mesofauna	<i>Porcellio scaber</i> , <i>Cylisticus convexus</i> , <i>Trachelipus wachtleri</i> . Wood-lice	Area contaminated as a result of Chernobyl accident. 3 km from the Chernobyl NPP (Kopachi). 1986.				30 Gy (in 1986)	Structure of domination of basic species changed; <i>P.scaber</i> was replaced by forest species <i>Tr. Wachtleri</i> ; the latter species became abundant in the area.	ECOL	Kupriyanova, 1999; Testov, 1993.
S16-2	Soil mesofauna	<i>Porcellio scaber</i> , <i>Cylisticus convexus</i> , <i>Trachelipus wachtleri</i> . Wood-lice	Area contaminated as a result of Chernobyl accident. 3 km from the Chernobyl NPP (Kopachi). 1989-1990.			1E-3 Gy/d		Recovery of biodiversity in wood-lice: species <i>P.scaber</i> recovered and the abundance of <i>Tr.Wachtleri</i> decreased.	NE	Kupriyanova, 1999; Kupriyanova, 1992.
S16-3	Soil mesofauna	<i>Porcellio scaber</i> , <i>Cylisticus convexus</i> , <i>Trachelipus wachtleri</i> . Wood-lice	Experiment with acute exposure. Wood-lice on embryonic stage from uncontaminated area.				3 Gy	Total cessation of reproduction in the season	REPR	Kupriyanova, 1999; Kupriyanova, 1992.
S17-1	Soil	<i>Oligocha</i>	Area contaminated as				29 Gy	Numbers of organisms and	MT	Viktorov,

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
	mesofauna	<i>eta, Lumbricidae</i>	a result of Chernobyl accident. 3 km from the Chernobyl NPP. 1986. 2,5 months after accident. Pine forest of 50-60 years old.					biomass of mesofauna decreased by 30 times.		1999; Viktorov,1989.
S17-2	Soil mesofauna	<i>Aporrectodea caliginosa</i>	Area contaminated as a result of Chernobyl accident. 3 km from the Chernobyl NPP. 1986. 2,5 months after accident. Arable soils.				86 Gy	Total number of grown-up and juvenile individuals was about 3 times lower than in control. Number of cocoons was 2 times lower than that in contaminated plot.	MT	Viktorov, 1999; Viktorov,1989.
S17-3	Soil mesofauna	<i>Dendrobena octaedra Earthworms</i>	Area contaminated as a result of Chernobyl accident. 3 km from the Chernobyl NPP. 1987. Pine forest of 50-60 years.				After-effects of accidental exposure	Numbers of sexually-mature specimens were 15% of control.	MT	Viktorov,1999; Krivolutsky, 1994.
S17-4	Soil mesofauna	<i>Dendrobena octaedra Earthworms</i>	Area contaminated as a result of Chernobyl accident. 3 km from the Chernobyl NPP. October, 1988. Pine forest of 50-60 years.			(2.4-3.4)E-4 Gy/d (chronic)	After-effects of accidental exposure at 30 Gy	Number of earthworms recovered.	NE	Viktorov,1999; Krivolutsky, 1994.
S18-1	Soil mesofauna	<i>Micromycelium</i>	Area contaminated as a result of Chernobyl accident. 1986-October,1987.		3,7E+05 Bq/kg			Numbers of mushroom sporules decreased by 10-100 times.(Before the accident there were 20000-90000 per 1g). 70-75% of total mushrooms represented black-colored species.	MT, ECOL	Zhdanova et.al.,1999; Zhdanova et.al.,1990.
S18-2	Soil	<i>Micromy</i>	Area contaminated as		3,7E+05			Numbers of mushroom sporules	REPR	Zhdanova

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
	mesofauna	<i>celium</i>	a result of Chernobyl accident. 1987-1988.		Bq/kg			increased considerably (up to 150000-200000 per 1 g).		et.al.,1999; Zhdanova et.al.,1990.
S18-3	Soil mesofauna	<i>Micromy celium</i>	Area contaminated as a result of Chernobyl accident. 1989-1990.		3,7E+05 Bq/kg			Numbers of mushroom sporules recovered to pre-accidental level.	NE	Zhdanova et.al.,1999; Zhdanova et.al.,1990.
S18-4	Soil mesofauna	<i>Micromy celium</i>	Area contaminated as a result of Chernobyl accident. 1991-1995.		3,7E+05 Bq/kg			Light-colored species of micromycelium dominated in soil.	ECOL	Zhdanova et.al.,1999; Zhdanova et.al.,1990.
S19-1	Soil mesofauna	<i>Acarina order Ticks, Col lembola order, Spiders, Coleoptera, Protozoa, Rotifera, bear animalcule</i>	Lichens as habitat of invertebrates. Nearest zone of the Chernobyl NPP. Pine forest.					Invertebrates living in lichens died though the lichens were alive.	MT	Biazrov,1994a; Biazrov,1994b; Melekhina, Krivolutsky, 1993; Biazrov,1999.
S19-2	Soil mesofauna	<i>Oribatidae</i>	Lichens as habitat of invertebrates. Area contaminated as a result of Chernobyl Accident (Bryansk region of Russia). July,1993.			(7-8)E-5 Gy/d in 1993		Species diversity of Oribatidae connected with lichens (<i>Cladonia arbuscula</i> and <i>Cladonia uncialis</i>) was high and populations of some species were abundant.	NE	Biazrov et.al.,1971; Biazrov,Melekhina,1994;Biazrov,1999.
S19-3	Soil mesofauna	<i>Oribatidae</i>	Lichens as habitat of invertebrates. Area contaminated as a			(7-8)E-5 Gy/d in 1993		Structure of population (no dominating species) of Oribatidae in thallus of studied	ECOL	Biazrov et.al.,1971; Biazrov,Melek

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			result of Chernobyl Accident (Bryansk region). July, 1993.					lichens (<i>Cladonia arbuscula</i> and <i>Cladonia uncialis</i>) differed from structure of population in forest of other regions.		hina, 1994; Biazrov, Shtanc heva, 1999.
S20-1	Soil mesofauna	<i>Limbrici dae. Earthworms.</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Inspection of soil fauna in 1987-1989, 30 years after the accident.	Sr-90 - Y-90	(67-126)E+06			Numbers of Limbricidae were lower in the experimental plot (n=8,8±3,7 spec/m ² - in the control plot; n=3,7±0,9 spec/m ² - in the experimental plot).	REPR	Sokolov, Krivolutsky, 1993.
S20-2	Soil mesofauna	<i>Elateridae. Wireworms</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Inspection of soil fauna in 1987-1989, 30 years after the accident.	Sr-90 - Y-90	(67-126)E+06			Numbers of wireworms were lower in the experimental plot (n=25,5±10,7 spec/m ² - in the control plot; n=4,3±1,8 spec/m ² - in the experimental plot).	REPR	Sokolov, Krivolutsky, 1993.
S20-3	Soil mesofauna	<i>Curculionidae. Weevils</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Inspection of soil fauna in 1987-1989, 30 years after the accident.	Sr-90 - Y-90	(67-126)E+06			Numbers of Weevils were lower in the experimental plot (n=12,3±5,1 spec/m ² - in the control plot; n=1,8±0,7 spec/m ² - in the experimental plot).	REPR	Sokolov, Krivolutsky, 1993.
S20-4	Soil mesofauna	<i>Lithobiidae</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Inspection of soil fauna in 1987-1989, 30 years after the accident.	Sr-90 - Y-90	(67-126)E+06			Numbers of Lithobiidae were lower in the experimental plot (n=2,0±0,8 spec/m ² - in the control plot; n=0,3±0,1 spec/m ² - in the experimental plot).	REPR	Sokolov, Krivolutsky, 1993.
S20-5	Soil mesofauna	<i>Carabidae imago</i>	Area contaminated in 1957 as a result of the Kyshtym accident.	Sr-90 - Y-90	(67-126)E+06			Numbers of Carabidae were lower in the experimental plot (n=7,8±2,5 spec/m ² - in the	REPR	Sokolov, Krivolutsky, 1993.

Identification NN.	Type of organism	Latin name	Impact	Nuclide	Density of surface soil contamination, Bq/m ²	Dose rate, Gy/d	Dose, Gy	Effect	Effect code	Reference
			Inspection of soil fauna in 1987-1989, 30 years after the accident.					control plot; n=5,8±0,6 spec/m ² - in the experimental plot).		
S20-6	Soil mesofauna	<i>Staphylinidae imago</i>	Area contaminated in 1957 as a result of the Kyshtym accident. Inspection of soil fauna in 1987-1989, 30 years after the accident.	Sr-90 - Y-90	(67-126)E+06			Numbers of Staphylinidae were lower in the experimental plot (n=4,3±1,3 spec/m ² - in the control plot; n=1,7±0,6 spec/m ² - in the experimental plot).	REPR	Sokolov, Krivolutsky, 1993.