

**PUE “INSTITUTE OF RADIATION SAFETY “BELRAD”**

APPROVED

Director of PUE “Institute of Radiation  
Safety “Belrad”

\_\_\_\_\_ A.V. Nesterenko

“ \_\_\_\_ ” \_\_\_\_\_ 20\_\_

**SHORT REPORT**

**UNDER THE CONTRACT No. 36 (ATLAS-2) DATED TO JUNE 25, 2008**

**(STAGES 5 AND 6)**

Deputy director  
for international cooperation

\_\_\_\_\_ V.I. Babenko

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**MINSK**



According to the Contract No. 36 dated to June 25, 2008 following actions given in the table 1 were performed in framework of the stages 5 and 6.

Table 1 – Data on the number of measurements and the quantity of the preparation VITAPECT given in framework of the stages 5 and 6 to the Contract No. 36.

Settlement	Date	Number of measurements			Quantity of VITAPECT		Notes
		expected	all	children	expected	actual	
Lelchitsy secondary school No. 2 of Gomel region	26-28.01.2010 г.	888	769	716	1776	888	
	04-06.05.2010 г.	888	726	672	-	-	
	14.06.2010 г.	-	-	-	-	888	
Lelchitsy kindergarten No. 1 of Gomel region	16.02.2010 г.	98	91	71	98	-	
	03.05.2010 г.	-	-	-	-	98	
	07.06.2010 г.	-	74	65	-	-	Control measurement
Lelchitsy kindergarten No. 2 of Gomel region	18.02.2010 г.	126	114	96	126	-	
	03.05.2010 г.	-	-	-	-	126	
	12.05.2010 г.	-	115	99	-	-	Control measurement
<b>TOTAL:</b>		<b>2000</b>	<b>1889</b>	<b>1719</b>	<b>2000</b>	<b>2000</b>	

Hereafter there is a statistical data processing.

## LELCHITSY, SECONDARY SCHOOL No. 2

Characteristics	Value	Source
<sup>137</sup> Cs contamination density of the territory	1.51 Ci/km <sup>2</sup>	Dose catalogue of the Ministry for Public Health Services of the Republic of Belarus, 2004
Number of inhabitants	9565 persons	Lelchitsy district executive committee, dated to 01.01.2009
External dose	0.18 mSv/a	Dose catalogue of the Ministry for Public Health Services of the Republic of Belarus, 2004
Internal dose	1.40 mSv/a	-----<-----
Cumulative dose	1.58 mSv/a	-----<-----

According to the data dated to January 2010 in the Lelchitsy secondary school No. 2 there are 965 children, 116 teachers and 29 persons of another staff.

Children from following settlements go to the Lelchitsy secondary school No. 2: Lelchitsy and Chemernoje.

January 26-28, 2010

The first measurement of children in the Lelchitsy secondary school No.2 of Gomel region was performed in the school building. A total of measured persons was 769 persons (716 children and 53 adults).

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 716):  $(24.7 \pm 0.6)$  Bq/kg.

Average specific activity in the critical group (n = 30):  $(77.5 \pm 10.5)$  Bq/kg.

Median value in the whole group: 22.1 Bq/kg.

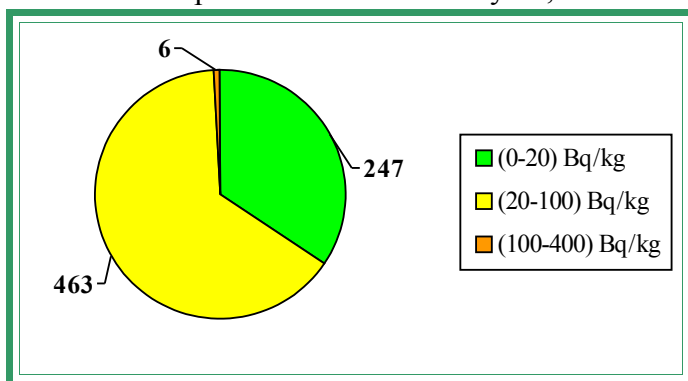
Median value in the critical group: 52.7 Bq/kg.

The table 2 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements performed from January 26, 2010 to January 28, 2009.

Table 2

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	N.V.S.	SCHOOLBOY	M	41	1998	291.7
2.	N.N.S.	SCHOOLGIRL	F	21	2003	226.4
3.	S.M.S.	SCHOOLGIRL	F	40	2003	135.4
4.	H.A.V.	SCHOOLBOY	M	29	1998	128.4
5.	M.A.F.	SCHOOLBOY	M	44	1996	127.4
6.	L.M.A.	SCHOOLBOY	M	34	1997	125.5
7.	M.V.S.	SCHOOLBOY	M	67	1994	86.1
8.	B.A.V.	SCHOOLBOY	M	60	1993	84.0
9.	A.A.V.	SCHOOLGIRL	F	66	1994	77.5
10.	T.E.A.	SCHOOLGIRL	F	52	1992	68.6
11.	G.Yu.V.	SCHOOLBOY	M	36	1998	66.9
12.	S.I.A.	SCHOOLGIRL	F	48	1994	56.7
13.	L.A.A.	SCHOOLGIRL	F	33	1998	55.6
14.	A.S.P.	SCHOOLGIRL	F	73	1993	55.5
15.	A.V.V.	SCHOOLGIRL	F	58	1992	52.9
16.	L.R.V.	SCHOOLBOY	M	39	1998	52.6
17.	L.T.A.	SCHOOLGIRL	F	28	2003	50.0
18.	T.S.V.	SCHOOLGIRL	F	47	1998	47.7
19.	K.K.A.	SCHOOLBOY	M	21	2001	46.5
20.	G.N.I.	SCHOOLBOY	M	62	1993	46.5
21.	F.D.M.	SCHOOLGIRL	F	37	1999	46.4
22.	L.A.E.	SCHOOLGIRL	F	31	2001	45.8
23.	H.A.V.	SCHOOLGIRL	F	34	2000	45.4
24.	S.N.V.	SCHOOLGIRL	F	71	1995	45.0
25.	M.E.S.	SCHOOLGIRL	F	36	2001	45.0
26.	K.D.N.	SCHOOLGIRL	F	46	1996	44.4
27.	B.M.V.	SCHOOLBOY	M	63	1993	43.7
28.	N.K.V.	SCHOOLBOY	M	45	1998	43.5
29.	T.M.A.	SCHOOLGIRL	F	33	2000	42.7
30.	K.A.V.	SCHOOLGIRL	F	36	1999	41.7

The figure 1 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy secondary school No. 2 of Gomel region in accordance with the results of measurements performed from January 26, 2010 to January 28, 2010.



←Figure 1 – Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy secondary school No. 2 of Gomel region in accordance with the results of measurements performed from January 26, 2010 to January 28, 2010

On completion of the work 888 packings of the pectin preparation VITAPECT were given for children.

### May 4-6, 2010

The second measurement of children in the Lelchitsy secondary school No.2 of Gomel region was performed in the school building. A total of measured persons was 726 persons (672 children and 54 adults).

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 672):  $(17.5 \pm 0.6)$  Bq/kg.

Average  $^{137}\text{Cs}$  specific activity in the critical group (n = 30):  $(54.3 \pm 9.9)$  Bq/kg.

Median value in the whole group: 16.1 Bq/kg.

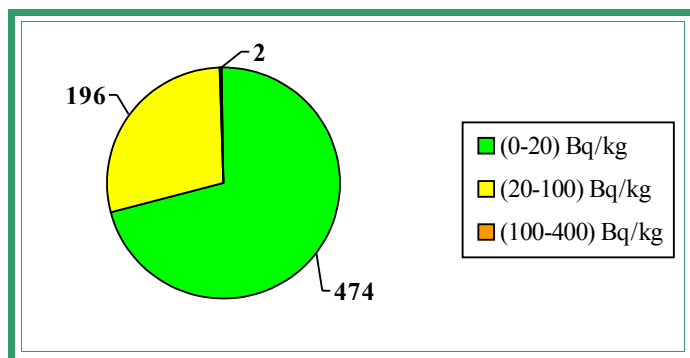
Median value in the critical group: 37.5 Bq/kg.

The table 3 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements performed from May 04 to May 06, 2010.

Table 3

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	N.V.S.	SCHOOLBOY	M	43	1998	248.2
2.	N.N.S.	SCHOOLGIRL	F	21	2003	247.0
3.	K.D.N.	SCHOOLGIRL	F	46	1996	82.7
4.	D.V.S.	SCHOOLBOY	M	51	1994	72.9
5.	B.D.A.	SCHOOLBOY	M	57	1995	61.0
6.	K.V.N.	SCHOOLBOY	M	45	1997	59.5
7.	L.R.V.	SCHOOLBOY	M	39	1998	55.0
8.	A.Yu.P.	SCHOOLGIRL	F	29	1999	52.3
9.	T.E.A.	SCHOOLGIRL	F	53	1992	42.6
10.	M.M.F.	SCHOOLBOY	M	33	2000	42.5
11.	B.V.S.	SCHOOLBOY	M	50	1993	40.0
12.	M.A.A.	SCHOOLGIRL	F	32	2002	38.9
13.	H.Yu.I.	SCHOOLGIRL	F	52	1996	38.6
14.	T.V.V.	SCHOOLBOY	M	34	1998	38.6
15.	K.D.V.	SCHOOLBOY	M	39	1999	37.7
16.	V.A.A.	SCHOOLBOY	M	44	1998	37.3
17.	B.M.V.	SCHOOLBOY	M	61	1993	34.0
18.	S.D.S.	SCHOOLBOY	M	28	2003	32.5
19.	A.A.V.	SCHOOLGIRL	F	62	1994	32.4
20.	A.V.V.	SCHOOLGIRL	F	57	1992	32.1
21.	K.A.N.	SCHOOLGIRL	F	50	1995	31.9
22.	H.A.V.	SCHOOLGIRL	F	35	2000	31.7
23.	N.V.V.	SCHOOLBOY	M	36	1999	31.7
24.	Yu.I.A.	SCHOOLBOY	M	26	2002	30.9
25.	B.D.V.	SCHOOLGIRL	F	19	2003	30.2
26.	S.A.V.	SCHOOLBOY	M	51	1998	29.9
27.	K.D.V.	SCHOOLBOY	M	46	1998	29.8
28.	A.R.I.	SCHOOLBOY	M	64	1994	29.4
29.	A.S.P.	SCHOOLGIRL	F	72	1993	29.3
30.	T.T.V.	SCHOOLGIRL	F	56	1995	29.2

The figure 2 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy secondary school No. 2 of Gomel region in accordance with the results of measurements performed from May 04, 2010 to May 06, 2010.



←Figure 2 – Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy secondary school No. 2 of Gomel region in accordance with the results of measurements performed from May 04, 2010 to May 06, 2010.

To demonstrate the efficiency of the effects of pectin preparations there are comparative data on interval distribution of the specific activity of  $^{137}\text{Cs}$  in children having taken VITAPECT and having passed two WBC measurements (from January 26, 2010 to January 28, 2010 and from May 04, 2010 to May 06, 2010). This group consists of 504 children.

### January 26-28, 2010

### May 4-6, 2010

The first measurement of children in the Lelchitsy secondary school No.2 of Gomel region was performed in the school building. A total of measured persons was 769 persons (716 children and 53 adults).

The second measurement of children in the Lelchitsy secondary school No.2 of Gomel region was performed in the school building. A total of measured persons was 726 persons (672 children and 54 adults).

The data of statistical processing of the results of measurements of the group of children having passed two WBC measurements and having taken VITAPECT-T (504 children).

Average specific activity of  $^{137}\text{Cs}$ :

after the first measurement:  $(24.6 \pm 0.8)$  Bq/kg,

after the second measurement:  $(17.6 \pm 0.8)$  Bq/kg.

Reduction of average specific activity of  $^{137}\text{Cs}$  was 28%.

Increase of specific activity: in 13% children.

The same level of specific activity: in 19% children.

Reduction of specific activity: in 71% children.

The evaluation of the scientific significance according to T-Student criterion ( $n = 504$ ):  $t=9.24$ . The received criterion  $t > 1.96$ ;  $p < 0.01$ .

Median value after the first measurement: 22.5 Bq/kg.

Median value after the second measurement: 16.2 Bq/kg.

Reduction of median value of specific activity of  $^{137}\text{Cs}$  was 28%.

The figure 3 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy secondary school No. 2 of Gomel region in accordance with the results of measurements performed from January 26, 2010 to January 28, 2010 and from May 04, 2010 to May 06, 2010.

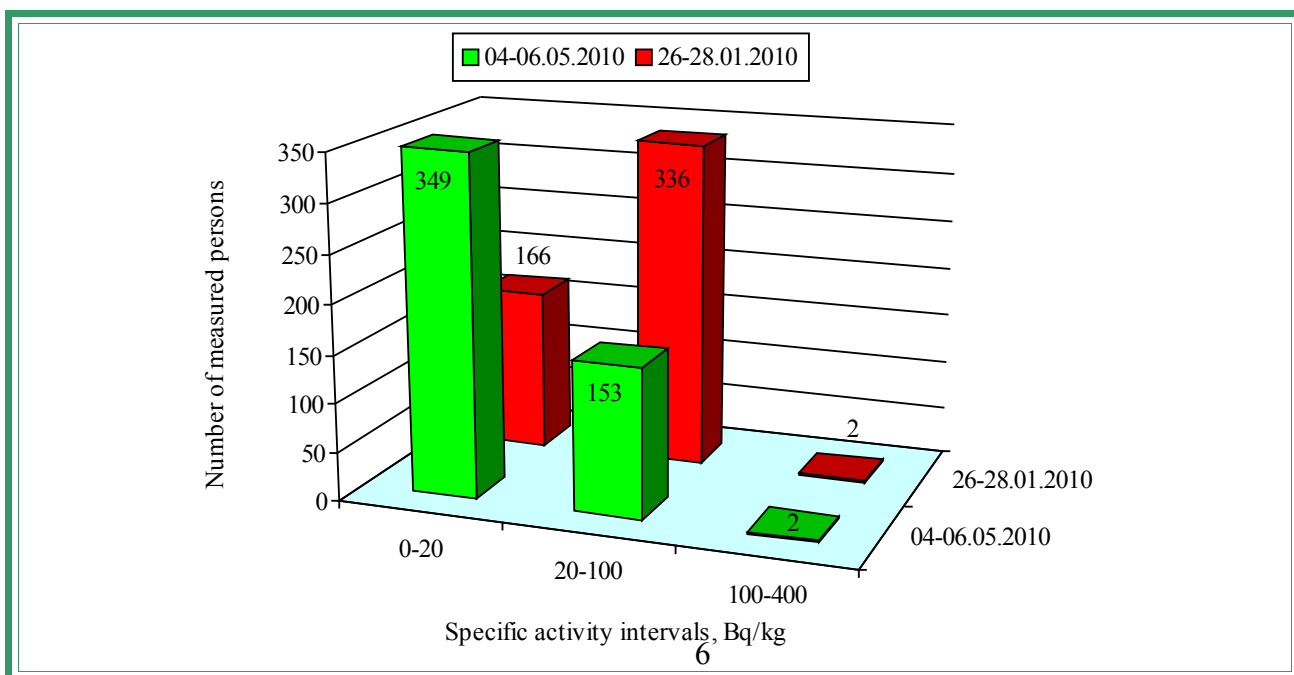


Figure 3 – Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy secondary school No. 2 of Gomel region in accordance with the results of measurements performed from January 26, 2010 to January 28, 2010 and from May 04, 2010 to May 06, 2010

## LELCHITSY, KINDERGARTEN No. 1

Characteristics	Value	Source
$^{137}\text{Cs}$ contamination density of the territory	1.51 Ci/km <sup>2</sup>	Dose catalogue of the Ministry for Public Health Services of the Republic of Belarus, 2004
Number of inhabitants	9565 persons	Lelchitsy district executive committee, dated to 01.01.2009
External dose	0.18 mSv/a	Dose catalogue of the Ministry for Public Health Services of the Republic of Belarus, 2004
Internal dose	1.40 mSv/a	-----«-----
Cumulative dose	1.58 mSv/a	-----«-----

According to the data dated to October 2009 in the Lelchitsy kindergarten No. 1 there are 97 children and 38 persons of another staff.

### February 16, 2010

The first measurement of children in the Lelchitsy kindergarten No.1 of Gomel region was performed in the kindergarten building. A total of measured persons was 91 persons (71 children and 20 adults).

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 71): (25.2 ± 0.8) Bq/kg.

Average specific activity in the critical group (n = 15): (34.5 ± 0.8) Bq/kg.

Median value in the whole group: 24.5 Bq/kg.

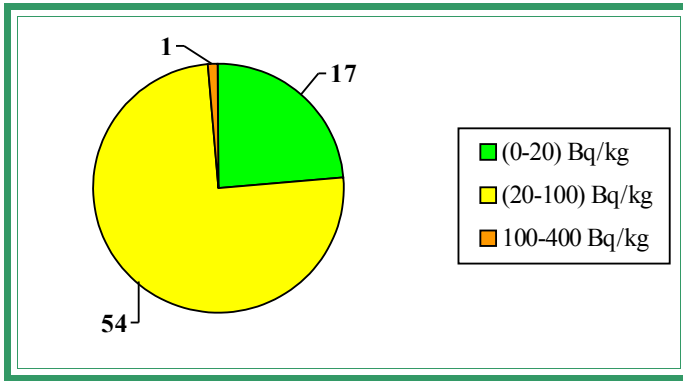
Median value in the critical group: 33.5 Bq/kg.

The table 4 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements dated to February 16, 2010.

Table 4

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	Ch.S.N.	CHILD PRESCHOOL AGE	F	33	2003	40.7
2.	Ch.A.N.	CHILD PRESCHOOL AGE	F	18	2004	40.5
3.	B.P.V.	CHILD PRESCHOOL AGE	M	19	2004	38.4
4.	P.V.V.	CHILD PRESCHOOL AGE	F	15	2004	35.0
5.	B.I.I.	CHILD PRESCHOOL AGE	M	18	2005	34.9
6.	S.K.V.	CHILD PRESCHOOL AGE	M	15	2007	34.3
7.	R.I.V.	CHILD PRESCHOOL AGE	M	17	2006	34.0
8.	R.E.G.	CHILD PRESCHOOL AGE	F	18	2005	33.5
9.	P.K.S.	CHILD PRESCHOOL AGE	F	19	2004	32.9
10.	K.E.V.	CHILD PRESCHOOL AGE	M	15	2006	32.8
11.	N.A.P.	CHILD PRESCHOOL AGE	F	22	2003	32.3
12.	S.V.V.	CHILD PRESCHOOL AGE	M	27	2002	32.2
13.	L.E.V.	CHILD PRESCHOOL AGE	M	19	2005	31.9
14.	Sh.D.G.	CHILD PRESCHOOL AGE	F	19	2005	31.7
15.	B.K.V.	CHILD PRESCHOOL AGE	F	18	2005	31.7

The figure 4 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 1 of Gomel region in accordance with the results of measurements dated to February 16, 2010



←Figure 4 - Diagram of the interval <sup>137</sup>Cs specific activity distribution in children in the Lelchitsy kindergarten No. 1 of Gomel region in accordance with the results of measurements dated to February 16, 2010

On May 03, 2010 98 packings of the pectin preparation VITAPECT were given for children.

### June 07, 2010

The control measurement of children in the Lelchitsy kindergarten No.1 of Gomel region was performed in the kindergarten building. A total of measured persons was 74 persons (65 children and 11 adults).

Average <sup>137</sup>Cs specific activity in the whole group (n = 65): (29.0 ± 1.0) Bq/kg.

Average <sup>137</sup>Cs specific activity in the critical group (n = 15): (39.3 ± 0.9) Bq/kg.

Median value in the whole group: 31.1 Bq/kg.

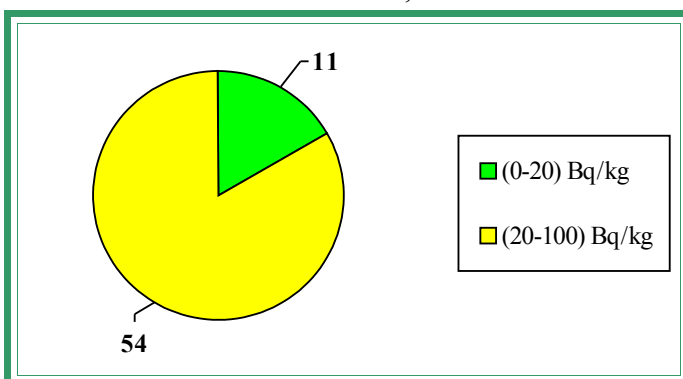
Median value in the critical group: 39.0 Bq/kg.

The table 5 demonstrates the maximal levels of <sup>137</sup>Cs specific activity (the critical group) according to the results of measurements dated to June 07, 2010.

Table 5

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	D.Ya.A.	CHILD PRESCHOOL AGE	M	14	2006	45.7
2.	Yu.D.A.	CHILD PRESCHOOL AGE	M	14	2006	43.9
3.	K.N.A.	CHILD PRESCHOOL AGE	F	14	2006	43.6
4.	L.S.V.	CHILD PRESCHOOL AGE	M	13	2006	43.6
5.	K.D.V.	CHILD PRESCHOOL AGE	M	16	2007	42.1
6.	N.I.P.	CHILD PRESCHOOL AGE	M	14	2006	40.2
7.	L.N.P.	CHILD PRESCHOOL AGE	F	14	2006	39.4
8.	M.D.A.	CHILD PRESCHOOL AGE	F	15	2006	39.0
9.	B.O.V.	CHILD PRESCHOOL AGE	F	16	2006	37.2
10.	Z.A.V.	CHILD PRESCHOOL AGE	F	18	2006	36.6
11.	V.V.V.	CHILD PRESCHOOL AGE	M	17	2007	36.6
12.	P.O.A.	CHILD PRESCHOOL AGE	F	21	2005	36.3
13.	P.K.S.	CHILD PRESCHOOL AGE	F	21	2004	35.2
14.	Sh.V.V.	CHILD PRESCHOOL AGE	M	10	2009	35.2
15.	D.T.M.	CHILD PRESCHOOL AGE	F	16	2006	34.9

The figure 5 contains the diagram of the interval <sup>137</sup>Cs specific activity distribution in children in the Lelchitsy kindergarten No. 1 of Gomel region in accordance with the results of measurements dated to June 07, 2010.



← Figure 5 – Diagram of the interval <sup>137</sup>Cs specific activity distribution in children in the Lelchitsy kindergarten No. 1 of Gomel region in accordance with the results of measurements dated to June 07, 2010



To demonstrate the efficiency of the effects of pectin preparations there are comparative data on interval distribution of the specific activity of  $^{137}\text{Cs}$  in children having passed two WBC measurements (on February 16, 2010 and June 07, 2010). This group consists of 45 children.

## February 16, 2010

## June 07, 2010

The first measurement of children in the Lelchitsy kindergarten No.1 of Gomel region was performed in the kindergarten building. A total of measured persons was 91 persons (71 children and 20 adults).

The control measurement of children in the Lelchitsy kindergarten No.1 of Gomel region was performed in the kindergarten building. A total of measured persons was 74 persons (65 children and 11 adults).

The data of statistical processing of the results of measurements of the group of children having passed two WBC measurements (45 children).

Average specific activity of  $^{137}\text{Cs}$ :

after the first measurement:  $(25.3 \pm 1.0)$  Bq/kg,

after the second measurement:  $(28.2 \pm 1.3)$  Bq/kg.

Increase of average specific activity of  $^{137}\text{Cs}$  was 12%.

Increase of specific activity: in 44% children.

The same level of specific activity: in 25% children.

Reduction of specific activity: in 31% children.

The evaluation of the scientific significance according to T-Student criterion (n = 45):  $t=2.56$ . The received criterion  $t > 1.96$ ;  $p < 0.01$ .

Median value after the first measurement: 24.1 Bq/kg.

Median value after the second measurement: 28.5 Bq/kg.

Increase of median value of specific activity of  $^{137}\text{Cs}$  was 18%.

The figure 6 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 1 of Gomel region in accordance with the results of measurements dated to February 16, 2010 and June 07, 2010.

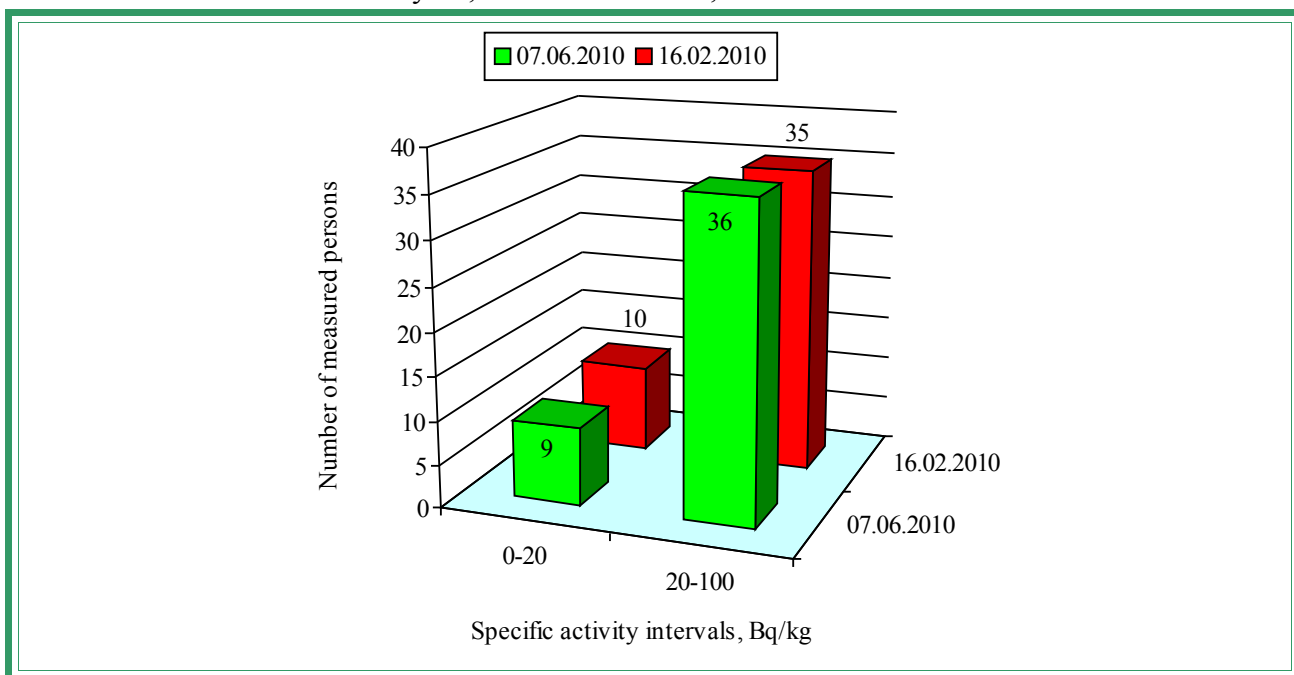


Figure 6 - Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 1 of Gomel region in accordance with the results of measurements dated to February 16, 2010 and June 07, 2010

## LELCHITSY, KINDERGARTEN No. 2

Characteristics	Value	Source
<sup>137</sup> Cs contamination density of the territory	1.51 Ci/km <sup>2</sup>	Dose catalogue of the Ministry for Public Health Services of the Republic of Belarus, 2004
Number of inhabitants	9565 persons	Lelchitsy district executive committee, dated to 01.01.2009

External dose	0.18 mSv/a	Dose catalogue of the Ministry for Public Health Services of the Republic of Belarus, 2004
Internal dose	1.40 mSv/a	-----«-----
Cumulative dose	1.58 mSv/a	-----«-----

According to the data dated to October 2009 in the Lelchitsy kindergarten No. 2 there are 126 children and 37 teachers and persons of another staff.

### February 18, 2010

The first measurement of children in the Lelchitsy kindergarten No.2 of Gomel region was performed in the kindergarten. A total of measured persons was 114 persons (96 children and 18 adults).

The results of the statistical data processing do not contain Yu.A. Romanovich's results (born in 2005) because she was measured in the kindergarten No.5 on February 17, 2010 and the results of her measurement was included in the statistical data processing concerning the kindergarten No.5

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 95): (23.4 ± 0.6) Bq/kg.

Average specific activity in the critical group (n = 15): (32.3 ± 0.7) Bq/kg.

Median value in the whole group: 23.7 Bq/kg.

Median value in the critical group: 31.8 Bq/kg.

The table 6 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements dated to February 18, 2010.

Table 6

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	M.N.Yu.	CHILD PRESCHOOL AGE	F	15	2006	37.5
2.	K.M.S.	CHILD PRESCHOOL AGE	F	18	2005	37.0
3.	M.D.N.	CHILD PRESCHOOL AGE	F	18	2004	34.7
4.	O.A.N.	CHILD PRESCHOOL AGE	F	19	2004	33.9
5.	N.D.P.	CHILD PRESCHOOL AGE	F	12	2007	33.5
6.	P.A.V.	CHILD PRESCHOOL AGE	F	16	2006	33.3
7.	R.Yu.P.	CHILD PRESCHOOL AGE	F	13	2006	32.5
8.	U.V.I.	CHILD PRESCHOOL AGE	F	22	2004	31.8
9.	M.A.Yu.	CHILD PRESCHOOL AGE	M	18	2006	31.2
10.	L.D.S.	CHILD PRESCHOOL AGE	M	13	2007	31.1
11.	L.V.E.	CHILD PRESCHOOL AGE	M	19	2006	30.6
12.	K.K.N.	CHILD PRESCHOOL AGE	M	15	2006	30.1
13.	B.K.A.	CHILD PRESCHOOL AGE	F	13	2007	29.0
14.	L.D.D.	CHILD PRESCHOOL AGE	F	18	2006	29.0
15.	L.O.I.	CHILD PRESCHOOL AGE	F	18	2006	29.0

The figure 7 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 2 of Gomel region in accordance with the results of measurements dated to February 18, 2010.

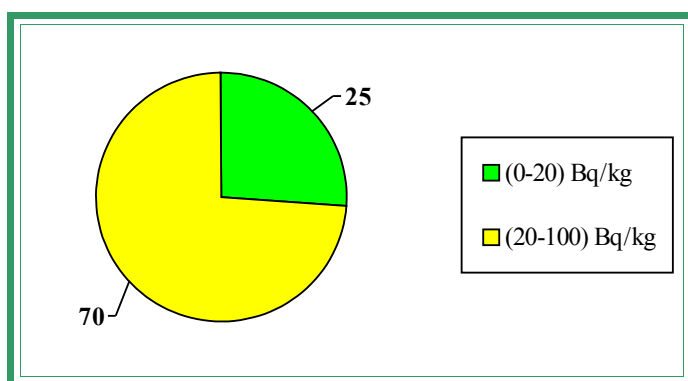


Figure 7 - Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 2 of Gomel region in accordance with the results of measurements dated to February 18, 2010

On May 03, 2010 126 packings of the pectin preparation VITAPECT were given for children.

### May 12, 2010

The control measurement of children in the Lelchitsy kindergarten No.2 of Gomel region was performed in the kindergarten building. A total of measured persons was 115 persons (99 children and 16 adults).

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 99):  $(35.2 \pm 0.9)$  Bq/kg.

Average  $^{137}\text{Cs}$  specific activity in the critical group (n = 15):  $(48.2 \pm 1.0)$  Bq/kg.

Median value in the whole group: 35.5 Bq/kg.

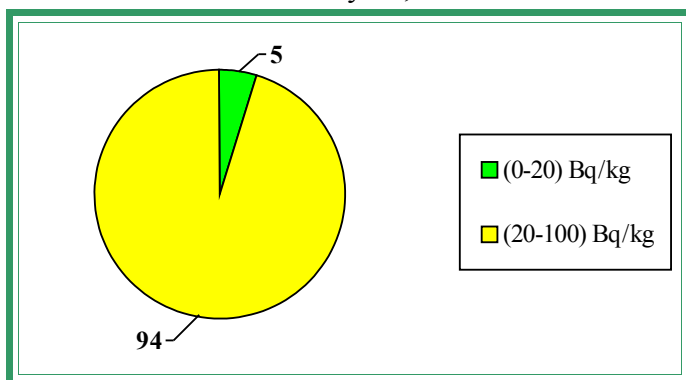
Median value in the critical group: 47.1 Bq/kg.

The table 7 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements dated to May 12, 2010.

Table 7

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	N.D.P.	CHILD PRESCHOOL AGE	F	12	2007	56.4
2.	B.K.A.	CHILD PRESCHOOL AGE	F	14	2007	55.2
3.	H.A.V.	CHILD PRESCHOOL AGE	M	14	2006	54.2
4.	J.A.V.	CHILD PRESCHOOL AGE	F	13	2006	49.0
5.	B.Yu.N.	CHILD PRESCHOOL AGE	F	15	2007	48.8
6.	B.K.A.	CHILD PRESCHOOL AGE	F	18	2004	48.1
7.	H.D.M.	CHILD PRESCHOOL AGE	M	16	2006	47.9
8.	D.D.S.	CHILD PRESCHOOL AGE	F	15	2006	47.1
9.	P.A.V.	CHILD PRESCHOOL AGE	F	17	2006	45.9
10.	S.M.A.	CHILD PRESCHOOL AGE	M	17	2006	45.9
11.	L.V.E.	CHILD PRESCHOOL AGE	M	19	2006	45.2
12.	B.A.O.	CHILD PRESCHOOL AGE	M	17	2004	45.1
13.	L.E.A.	CHILD PRESCHOOL AGE	F	15	2006	44.9
14.	M.A.S.	CHILD PRESCHOOL AGE	M	19	2005	44.8
15.	H.A.D.	CHILD PRESCHOOL AGE	M	15	2006	44.2

The figure 8 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 2 of Gomel region in accordance with the results of measurements dated to May 12, 2010.



←Figure 8 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 2 of Gomel region in accordance with the results of measurements dated to May 12, 2010.

To demonstrate the efficiency of the effects of pectin preparations there are comparative data on interval distribution of the specific activity of  $^{137}\text{Cs}$  in children having passed two WBC measurements (on February 18, 2010 and May 12, 2010). This group consists of 70 children.

### February 18, 2010

**May 12, 2010**

The first measurement of children in the Lelchitsy kindergarten No.2 of Gomel region was performed in the kindergarten. A total of measured persons was 114 persons (96 children and 18 adults).

The control measurement of children in the Lelchitsy kindergarten No.2 of Gomel region was performed in the kindergarten building. A total of measured persons was 115 persons (99 children and 16 adults).

The data of statistical processing of the results of measurements of the group of children having passed two WBC measurements (70 children).

Average specific activity of  $^{137}\text{Cs}$ :

after the first measurement:  $(22.9 \pm 0.7)$  Bq/kg,

after the second measurement:  $(34.6 \pm 1.1)$  Bq/kg.

Increase of average specific activity of  $^{137}\text{Cs}$  was 51%.

Increase of specific activity: in 80% children.

The same level of specific activity: in 10% children.

Reduction of specific activity: in 10% children.

The evaluation of the scientific significance according to T-Student criterion ( $n = 70$ ):  $t=12.34$ . The received criterion  $t > 1.96$ ;  $p < 0.01$ .

Median value after the first measurement: 23.7 Bq/kg.

Median value after the second measurement: 34.9 Bq/kg.

Increase of median value of specific activity of  $^{137}\text{Cs}$  was 47%.

The figure 9 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 2 of Gomel region in accordance with the results of measurements dated to February 18, 2010 and May 12, 2010.

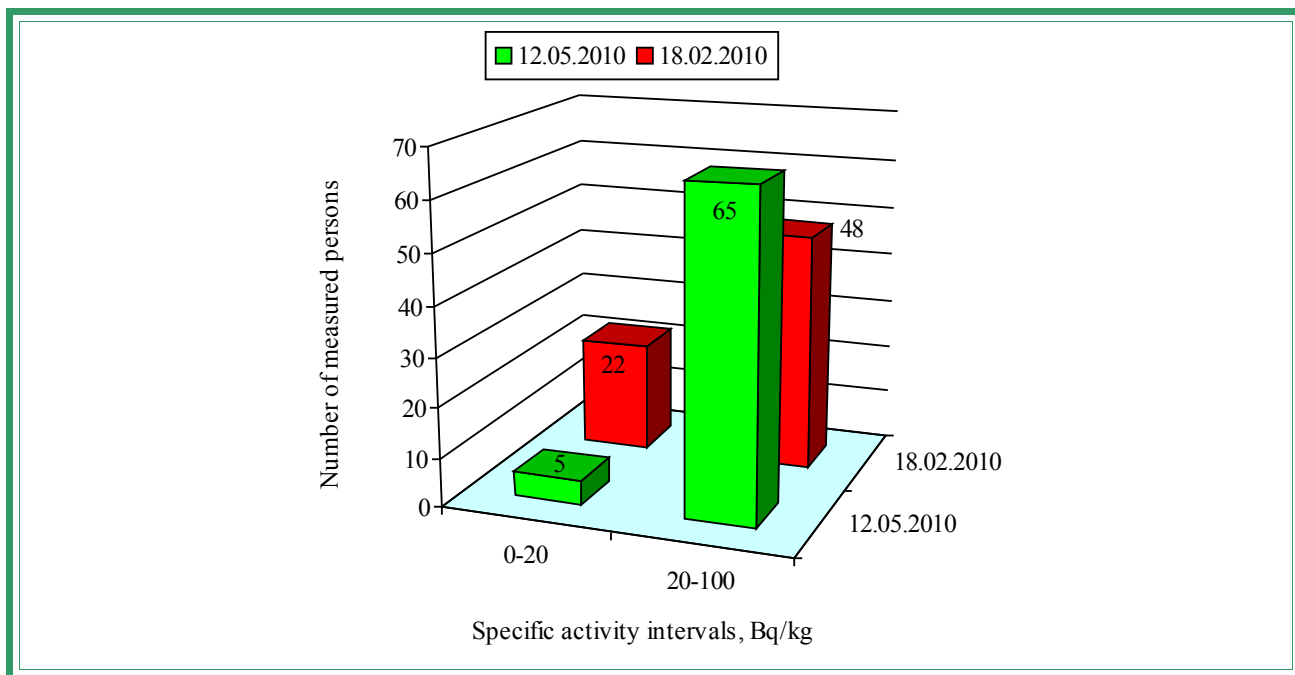


Figure 9 – Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in children in the Lelchitsy kindergarten No. 2 of Gomel region in accordance with the results of measurements dated to February 18, 2010 and May 12, 2010

Senior engineer

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