

## DOBRUSH DISTRICT



Dobrush district is located in the east of Gomel region. It was founded in December, 1926. It was abolished on August 04, 1927 and it was reestablished on February 12, 1935. The area of the district makes 1.44 thousand square kilometers. There 102 settlements in its territory including the district centre, the town of regional subordination Dobrush, and the settlement Terekhovka. The population consists of 46.1 thousand inhabitants. 21.8 thousand persons live in urban conditions and 24.3 thousand persons live in villages.

Dobrush district borders with Vetka and Gomel districts of Gomel region, Novozybkov, Zlynka and Klim districts of Bryansk region of Russian Federation and with Gorodnyanka district of Chernigov region of the Ukraine.

It is an agricultural and industrial district. The most developed branches of industry are paper, food industries and production of building materials. The largest enterprises are the PC "Dobrush Paper Mill "Hero of Labor", the CC " Dobrush ceramic works", the PC " Dobrush

creamery", the "Dobrush bread-baking plant", the national unitary enterprise "Gomel ore mining and processing enterprise", CC "Terekhovka building materials ".

65% of the territory of the district are covered by agricultural holdings, 67.7% of them are plough-lands. The basic users are 17 collective farms and 4 state farmings, 3 forestries. The agriculture is specialized in milk and meat cattle breeding. The territory of the district is crossed by the railways Gomel-Bryansk, Gomel-Bakhmach, Gomel-Krugovets and by the motor roads.

In the district there flows the river Iput with its inflows Khoroput and Netesha. The total area of agricultural holdings counts 70.7 thousand hectares, 20.8% are covered with forests. There are following minerals: peat, clay, sand and sapropels. There was organized the national biological "Shabrinsky" to keep the herb resources.

After the accident at the Chernobyl NPP a part of the territory of the district was included in the resettlement zone. In 1991 Ogorodno-Gomel rural soviet was abolished. From 1986 to 1994 4862 persons were resettled from 23 settlements. The places of the compact residence of the resettlers in the borders of the district are the settlement Terekhovka and the villages Antonovka, Borshchyovka, Zhgun, Laguny, Nosovichi, Usokhskaya Buda (all are situated in Dobrush district) and the cities Gomel, Grodno and Minsk.

#### **The settlements, the inhabitants were resettled from (on November 01, 1995)**

Demyanki village soviet: villages Vylevo, Veliki Les, Demyanki (partially), Dubovy Log (partially), Leontyevo (partially), Mlynok, Krasnoye Znamya.

Korma village soviet: villages Dubetskoye, Zaytsevo (partially), Zakopytye, Kolodye, Ploskoye, Selishche-2 (partially), Khoroshevka (partially), the town military unit No. 11724, the settlement Uborok (partially).

Krugovka village soviet: villages Ocheso-Rudnya, Beryozki (partially), Krasny Log, Krugovka (partially), Morozovka (partially), Pennoye, Yasnaya Dolina.

From 2001 to 2005 the WBC measurements were performed in the following settlements of Dobrush district: the town Dobrush (gymnasia, secondary school No.1, secondary school No.2, secondary school No.3, secondary school No.5, city vocational school No.99), Dubovy Log, Khoroshevka..

## Dobrush, gymnasia

Index	Value	Data source
<sup>137</sup> Cs contamination density of the territory	2,76 Ci/km <sup>2</sup>	Dose Catalogue of the Ministry for Public Health Services of the Republic of Belarus 2004.
Number of inhabitants	19381 persons	-----«-----
External dose	0.26 mSv/a	-----«-----
Internal dose	0.50 mSv/a	-----«-----
Cumulative dose	0.76 mSv/a	-----«-----

According to data dated to September 2004: the number of pupils in the gymnasia makes 469 persons, of teachers – 78 persons, other workers – 25 persons;

The measurements were performed on September 09, 2003, September 15-16, 2004, January 27-28, 2005 and May 03-05, 2005.

### September 09, 2003

The measurement of pupils in the Dobrush gymnasia was performed in the gymnasia building. A total of measured persons was 428 persons (383 children and 45 adults).

Average <sup>137</sup>Cs specific activity in the whole group (n = 383): 24.7 ± 0.9 Bq/kg.

Average <sup>137</sup>Cs specific activity in the critical group (n = 30): 57.7 ± 7.9 Bq/kg.

Median value in the whole group: 23.3 Bq/kg.

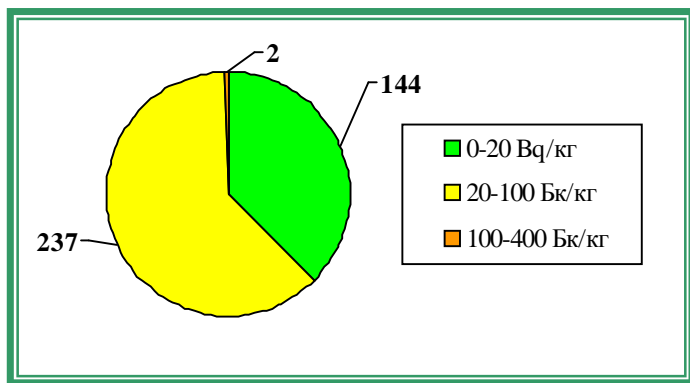
Median value in the critical group: 44.1 Bq/kg.

The table 1.1 demonstrates the maximal levels of <sup>137</sup>Cs specific activity (the critical group) according to the results of measurements dated to September 09, 2003.

Table 1.1

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	A.A.V.	SCHOOLGIRL	F	37	1993	256.5
2.	M.A.V.	SCHOOLBOY	M	33	1993	154.7
3.	S.Ye.V	SCHOOLGIRL	F	48	1988	75.9
4.	M.I.A.	SCHOOLBOY	M	40	1991	64.6
5.	Zh.O.O.	SCHOOLGIRL	F	45	1988	59.1
6.	G.Yu.A.	SCHOOLGIRL	F	48	1991	57.1
7.	Sh.K.Yu.	SCHOOLGIRL	F	19	1997	56.7
8.	Sh.M.V.	SCHOOLGIRL	F	24	1994	55.0
9.	G.Ye.V.	SCHOOLGIRL	F	21	1996	50.7
10.	P.L.A.	SCHOOLGIRL	F	26	1994	49.1
11.	S.S.Yu.	SCHOOLBOY	M	49	1991	47.0
12.	M.A.I.	SCHOOLGIRL	F	38	1992	45.4
13.	B.M.I.	SCHOOLGIRL	F	30	1994	44.8
14.	M.K.I.	SCHOOLGIRL	F	20	1997	44.6
15.	H.D.R.	SCHOOLGIRL	F	17	1996	44.2
16.	V.A.A.	SCHOOLBOY	M	22	1997	44.1
17.	K.A.A.	SCHOOLBOY	M	54	1989	43.7
18.	Zh.A.O.	SCHOOLBOY	M	35	1994	43.7
19.	Z.I.V.	SCHOOLBOY	M	21	1996	43.3
20.	S.A.V.	SCHOOLGIRL	F	38	1992	42.7
21.	Sh.A.S.	SCHOOLBOY	M	21	1997	42.6
22.	Ye.O.V.	SCHOOLGIRL	F	23	1995	41.7
23.	I.M.V.	SCHOOLBOY	M	34	1993	41.2
24.	Ts.A.N.	SCHOOLGIRL	F	24	1995	41.2
25.	Ya.S.A.	SCHOOLGIRL	F	24	1993	40.7
26.	K.O.P.	SCHOOLGIRL	F	55	1987	40.6
27.	K.A.A.	SCHOOLBOY	M	31	1995	40.6
28.	P.Yu.O.	SCHOOLGIRL	F	35	1995	40.3
29.	Zh.D.V.	SCHOOLGIRL	F	30	1994	40.2
30.	Ch.A.O.	SCHOOLGIRL	F	26	1995	40.1

The figure 1.1 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed on the 9<sup>th</sup> of September 2003



←Figure 1.1 - Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed on the 9<sup>th</sup> of September 2003

## September 15-16, 2004

The measurement of pupils in the Dobrush gymnasia was performed in the gymnasia building. A total of measured persons was 459 persons (407 children and 52 adults).

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 407):  $17.6 \pm 0.5$  Bq/kg.

Average  $^{137}\text{Cs}$  specific activity in the critical group (n = 30):  $37.6 \pm 2.9$  Bq/kg.

Median value in the whole group: 18.5 Bq/kg.

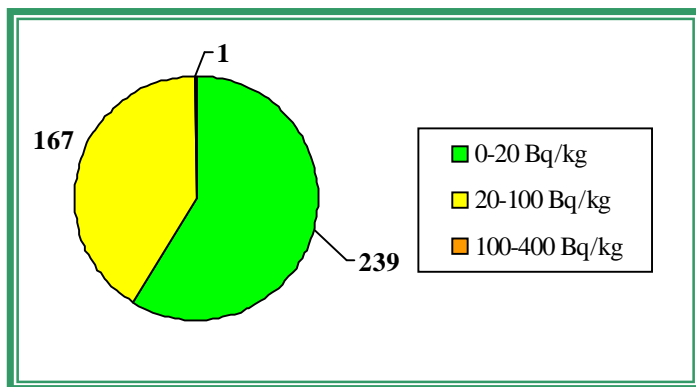
Median value in the critical group: 33.2 Bq/kg.

The table 1.2 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements dated to September 15, 2004 and September 16, 2004.

Table 1.2

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	M.I.A.	SCHOOLBOY	M	45	1991	112.3
2.	B.Ye.O.	SCHOOLGIRL	F	24	1997	69.8
3.	Sh.M.V.	SCHOOLGIRL	F	26	1994	48.0
4.	P.Ye.A.	SCHOOLGIRL	F	48	1989	43.2
5.	K.Ye.A	SCHOOLGIRL	F	24	1998	38.9
6.	G.Ye.M.	SCHOOLGIRL	F	49	1988	37.9
7.	Zh.V.L.	SCHOOLBOY	M	24	1998	37.2
8.	A.A.A.	SCHOOLBOY	M	36	1993	36.7
9.	Ye.D.V.	SCHOOLBOY	M	44	1991	35.3
10.	G.A.V.	SCHOOLGIRL	Ж	39	1989	35.2
11.	M.M.A.	SCHOOLBOY	M	47	1990	35.1
12.	G.Yu.E.	SCHOOLGIRL	F	20	1997	34.4
13.	K.Ye.M.	SCHOOLGIRL	F	44	1990	34.2
14.	D.K.G.	SCHOOLGIRL	F	19	1998	34.1
15.	M.I.O.	SCHOOLGIRL	F	32	1994	33.5
16.	K.T.S.	SCHOOLBOY	M	22	1998	32.8
17.	Ts.T.P.	SCHOOLBOY	M	26	1997	32.5
18.	M.A.V.	SCHOOLBOY	M	35	1993	31.6
19.	B.M.A.	SCHOOLGIRL	F	34	1995	31.6
20.	M.I.G.	SCHOOLGIRL	F	34	1993	31.5
21.	V.A.M.	SCHOOLBOY	M	40	1992	31.5
22.	D.A.B.	SCHOOLGIRL	F	19	1997	31.4
23.	K.Yu.A.	SCHOOLBOY	M	24	1998	30.8
24.	A.K.A.	SCHOOLBOY	M	37	1991	30.8
25.	K.V.A.	SCHOOLGIRL	F	47	1993	30.5
26.	M.V.N.	SCHOOLGIRL	F	21	1998	30.1
27.	O.M.V.	SCHOOLBOY	M	48	1991	30.0
28.	A.A.V.	SCHOOLGIRL	F	42	1993	29.9
29.	L.M.V.	SCHOOLBOY	M	33	1997	29.5
30.	K.P.V.	SCHOOLBOY	M	48	1993	29.4

The figure 1.2 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed from the 15<sup>th</sup> to 16<sup>th</sup> of September 2004



← Figure 1.2 - Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed from the 15<sup>th</sup> to 16<sup>th</sup> of September 2004

## January 27-28, 2005

The measurement of pupils in the Dobrush gymnasia was performed in the gymnasia building. A total of measured persons was 447 persons (397 children and 50 adults).

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 397):  $19.5 \pm 0.7$  Bq/kg.

Average  $^{137}\text{Cs}$  specific activity in the critical group (n = 30):  $42.6 \pm 2.7$  Bq/kg.

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

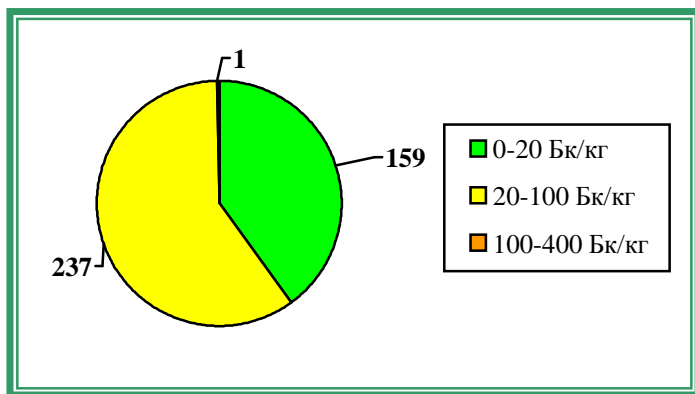
Median value in the critical group: 37.5 Bq/kg.

The table 1.3 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements dated to January 27, 2005 and January 28, 2005.

Table 1.3

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	L.Ye.V.	SCHOOLGIRL	F	59	1987	112.3
2.	B.T.A.	SCHOOLGIRL	F	65	1990	64.1
3.	S.V.Yu.	SCHOOLBOY	M	72	1987	56.1
4.	K.S.L.	SCHOOLGIRL	F	42	1988	52.5
5.	K.V.A.	SCHOOLBOY	M	52	1989	48.9
6.	P.A.M.	SCHOOLBOY	M	47	1993	45.0
7.	M.A.A.	SCHOOLGIRL	F	25	1996	41.2
8.	T.M.V.	SCHOOLGIRL	F	53	1993	40.5
9.	A.D.N.	SCHOOLGIRL	F	55	1988	39.5
10.	Sh.M.V.	SCHOOLGIRL	F	26	1994	39.4
11.	Zh.O.V.	SCHOOLGIRL	F	49	1988	38.9
12.	L.D.V.	SCHOOLBOY	M	58	1990	38.2
13.	V.A.V.	SCHOOLGIRL	F	37	1992	38.1
14.	Sh.K.Yu.	SCHOOLGIRL	F	21	1997	38.1
15.	A.R.V.	SCHOOLBOY	M	31	1992	37.7
16.	Sh.A.Yu.	SCHOOLGIRL	F	53	1988	37.3
17.	K.Ya.A.	SCHOOLGIRL	F	35	1994	37.3
18.	K.O.A.	SCHOOLGIRL	F	23	1998	37.2
19.	Z.A.N.	SCHOOLBOY	M	41	1993	36.9
20.	S.Ye.V.	SCHOOLGIRL	F	48	1988	36.9
21.	P.A.Yu.	SCHOOLBOY	M	46	1995	36.9
22.	T.N.N.	SCHOOLGIRL	F	59	1988	36.7
23.	L.Yu.R.	SCHOOLGIRL	F	38	1995	36.7
24.	K.S.A.	SCHOOLBOY	M	66	1990	36.4
25.	R.A.A.	SCHOOLGIRL	F	51	1994	36.4
26.	K.V.V.	SCHOOLGIRL	F	26	1998	36.3
27.	V.M.S.	SCHOOLGIRL	F	35	1992	36.0
28.	P.V.I.	SCHOOLBOY	M	34	1994	36.0
29.	G.I.V.	SCHOOLBOY	M	65	1988	35.6
30.	B.M.M.	SCHOOLBOY	M	77	1990	35.3

The figure 1.3 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed from the 27<sup>th</sup> to 28<sup>th</sup> of January 2005



←Figure 1.3 - Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed from the 27<sup>th</sup> to 28<sup>th</sup> of January 2005

### May 3-5, 2005

The measurement of pupils in the Dobrush gymnasia was performed in the gymnasia building. A total of measured persons was 381 persons (358 children and 23 adults).

Average  $^{137}\text{Cs}$  specific activity in the whole group (n = 358):  $13.8 \pm 0.3$  Bq/kg.

Average  $^{137}\text{Cs}$  specific activity in the critical group (n = 30):  $41.3 \pm 1.0$  Bq/kg.

Median value in the whole group: 4.8 Bq/kg.

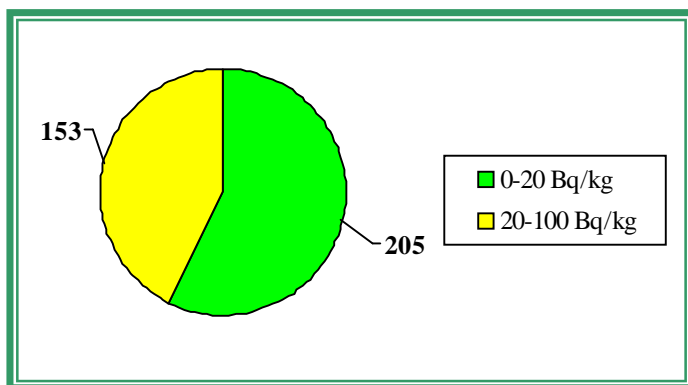
Median value in the critical group: 41.5 Bq/kg.

The table 1.4 demonstrates the maximal levels of  $^{137}\text{Cs}$  specific activity (the critical group) according to the results of measurements dated to May 03, 2005 and May 05, 2005.

Table 1.4

No.	Surname Name Patronymic	Occupation	Sex	Weight, kg	Year of birth	Sp. activity, Bq/kg
1.	M.A.N.	SCHOOLGIRL	F	41	1995	59.9
2.	D.N.A.	SCHOOLGIRL	F	29	1996	53.3
3.	B.M.M.	SCHOOLBOY	M	77	1990	45.2
4.	N.Ye.V.	SCHOOLGIRL	F	23	1997	44.7
5.	Ye.S.A.	SCHOOLBOY	M	41	1992	44.4
6.	S.A.V.	SCHOOLGIRL	F	46	1992	44.4
7.	N.A.S.	SCHOOLBOY	M	29	1994	44.3
8.	S.V.A.	SCHOOLBOY	M	34	1994	44.0
9.	T.T.K.	SCHOOLBOY	M	40	1995	43.8
10.	S.P.Ye.	SCHOOLBOY	M	24	1998	43.6
11.	P.V.V.	SCHOOLGIRL	F	37	1994	42.6
12.	M.I.G.	SCHOOLGIRL	F	35	1993	42.6
13.	P.A.A.	SCHOOLBOY	M	26	1996	42.6
14.	V.O.I.	SCHOOLGIRL	F	42	1993	42.3
15.	V.A.V.	SCHOOLGIRL	F	38	1992	42.2
16.	T.A.V.	SCHOOLGIRL	F	29	1995	41.1
17.	K.F.V.	SCHOOLBOY	M	36	1995	40.0
18.	M.K.V.	SCHOOLBOY	M	53	1990	39.0
19.	G.Ye.N.	SCHOOLGIRL	F	34	1994	38.3
20.	Ts.D.A.	SCHOOLGIRL	F	28	1995	38.2
21.	N.V.A.	SCHOOLBOY	M	34	1996	37.5
22.	L.A.I.	SCHOOLBOY	M	25	1998	37.4
23.	T.O.V.	SCHOOLGIRL	F	23	1998	37.0
24.	Sh.D.S.	SCHOOLBOY	M	35	1992	37.0
25.	S.E.N.	SCHOOLGIRL	F	54	1989	36.5
26.	L.M.S.	SCHOOLBOY	M	34	1994	35.9
27.	Ts.A.N.	SCHOOLGIRL	F	28	1995	35.6
28.	G.A.N.	SCHOOLGIRL	F	31	1995	35.3
29.	Z.A.S.	SCHOOLGIRL	F	49	1991	35.2
30.	Z.A.N.	SCHOOLBOY	M	41	1993	34.7

The figure 1.4 contains the diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed from the 3<sup>rd</sup> to 5<sup>th</sup> of May 2005



←Figure 1.4 - Diagram of the interval  $^{137}\text{Cs}$  specific activity distribution in pupils in the Dobrush gymnasia of Gomel region in accordance with the results of measurements performed from the 3<sup>rd</sup> to 5<sup>th</sup> of May 2005

The figure 1.5 contains the dynamics of the average specific activity of  $^{137}\text{Cs}$  radionuclides in all measured children in the Dobrush gymnasia within four WBC measurements performed in 2003 and 2005.

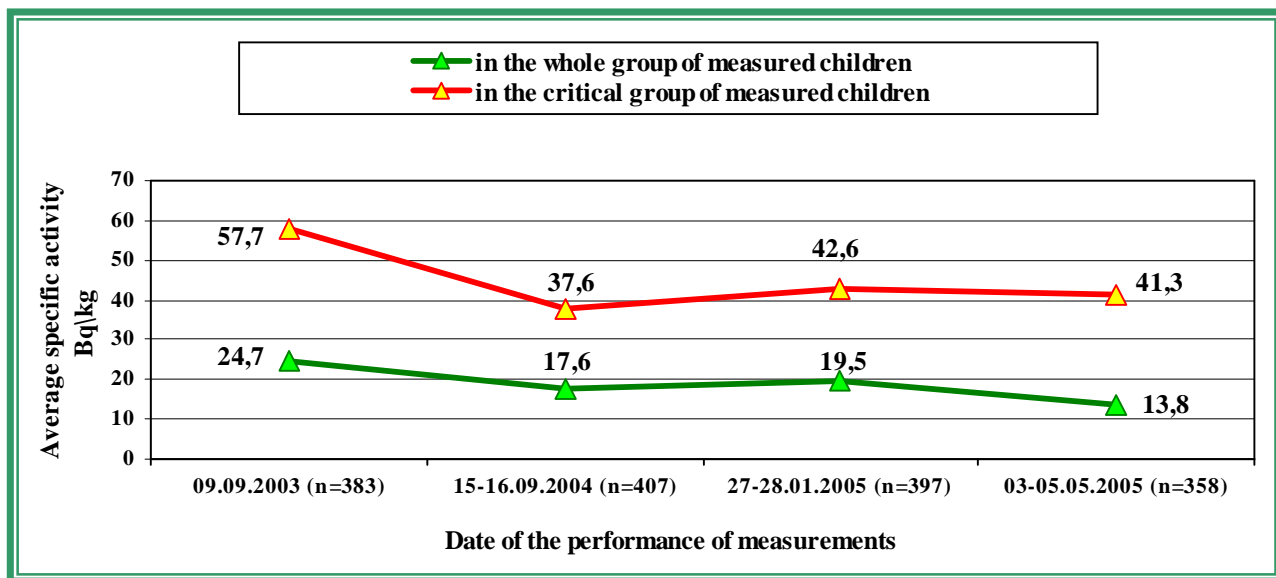


Figure 1.5 - Dynamics of the average specific activity of  $^{137}\text{Cs}$  radionuclides in all measured children in the Dobrush gymnasia within four WBC measurements performed in 2003 and 2005