**Demographic, Agricultural
Products, and Food Consumption
Data for a Collective Farm in
Oranoe District, Ivankov District
Kiev Region, Ukraine**

**I. N. Ryabov
G. M. Davidenko
W. L. Templeton**

September 1992

**Work supported by the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830**

**Pacific Northwest Laboratory
Operated for the U.S. Department of Energy
by Battelle Memorial Institute**

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor Battelle Memorial Institute, nor any of their employees, makes **any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.** Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or Battelle Memorial Institute. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

PACIFIC NORTHWEST LABORATORY
operated by
BATTELLE MEMORIAL INSTITUTE
for the
UNITED STATES DEPARTMENT OF ENERGY
under Contract DE-AC06-76RLO 1830

Printed in the United States of America

Available to DOE and DOE contractors from the
Office of Scientific and Technical Information, P.O. Box 62, Oak Ridge, TN 37831;
prices available from (615) 576-8401. FTS 626-8401.

Available to the public from the National Technical Information Service,
U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22161.

Demographic, Agricultural Products,
and Food Consumption Data for a
Collective Farm in Oranoe District,
Ivankov District
Kiev Region, Ukraine

I.N. Ryabov^{1,2}
G.M. Davidenko²
W.L. Templeton³

September 1992

Work supported by
the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830

¹A. N. Severtsova Institute of
Animal Evolutionary, Morphology and
Ecology and Russian Academy of
Sciences, 33 Leninski Prospect,
Moscow, Russia

²ECOPOLIS, Oranoe, Ivankov Region,
District of Kiev, Ukraine

³Pacific Northwest Laboratory,
Battelle Memorial Institute,
Richland, Washington, USA.

Demographic, Agricultural Products, and Food Consumption Data for a Collective Farm in Oranoe District, Ivankov District, Kiev Region, Ukraine.

I.N. Ryabov^{1,2}, G. M. Davidenko², and W. L. Templeton³

¹A. N. Severtsova Institute of Animal Evolutionary, Morphology and Ecology and Russian Academy of Sciences, 33 Leninski Prospect, Moscow, Russia; ²ECOPOLIS, Oranoe, Ivankov Region, District of Kiev, Ukraine; and ³Pacific Northwest Laboratory, Battelle Memorial Institute, Richland, Washington, USA.

This report provides some demographic, agricultural and food consumption data for the collective farms ("Kybisheva," composed of three villages) in the Oranoe Department, District of Ivankov, Kiev Region. This area is situated approximately 15 km south of the Chernobyl 30-km Exclusion Zone. The levels of ¹³⁷Cs are approximately 5-10 curies/km². This data was collected by the Integrated Radioecological Expedition to Chernobyl of the Russian Academy of Sciences as part of the co-operative studies on environmental radiation dose assessment conducted under the U.S./USSR Joint Co-operative Committee on Civilian Nuclear Reactor Safety (JCCCNRS) established in 1989.

The three villages within the confines of these collective farms are in an area of 43 km². There are 532 individual small holdings, farms, and homes with gardens in this area. The total population, including children, in 1991 of the three villages is given in Table 1. The populations by age group in 1980, 1985 and 1990 are given in Table 2 and the numbers of births and deaths in the same years in Table 3.

TABLE 1. Population of the Three Villages

<u>Village</u>	<u>Total Population</u>	<u>Number of Children</u>			
		<u>0-14 y</u>	<u>0-1 y</u>	<u>1-3 y</u>	<u>4-14 y</u>
Oranoe	930	137	12	17	108
Chocheva	200	32	2	9	21
Stephanolea	53	3	0	1	2
TOTAL	1183	172	14	27	131

TABLE 2. Population of Three Villages for 1980, 1985, and 1990

	<u>1980</u>	<u>1985</u>	<u>1990</u>
Population Totals	1476	1241	1120
Age Group 0-1 y	35	22	14
2-6 y	73	54	55
7-15 y	157	119	94
16-21 y	122	82	79
22-30 y	128	116	85
Males 31-60 y	266	209	179
61-70 y	50	60	91
Females 31-55 y	235	151	150
56-70 y	178	202	174
Male + Female >70 y	222	226	199

TABLE 3. Number of Births and Deaths for 1980, 1985, and 1990

	<u>1980</u>	<u>1985</u>	<u>1990</u>
Population Total	1476	1261	1120
Births	9	15	15
Deaths	34	24	40

All drinking water before 1988 was obtained from wells, and after 1988 all water was supplied by pipe from a central artesian well. Food consumption and production data are given in Tables 4 and 5.

TABLE 4. Food Consumption Data (1990)

<u>Food</u>	<u>Per Capita Consumption Rate</u>
Milk and milk products	1 kg/day
Oil	40-50 gm/day
Meat and meat products	200 gm/day
Bread and bread products	300 gm/day
Potatoes and other vegetables	1 kg/day
Eggs	1 egg/day

<u>Food</u>	<u>Before accident</u>	<u>After accident</u>
Mushrooms	4.5-5 kg/yr	1.5-2 kg/yr
Fish	15.0 kg/yr	10-12 kg/yr
Berries	10-12 kg/yr	2-3 kg/yr

TABLE 5. Farm Production

<u>Crop</u>	<u>Production</u>
Winter wheat	3,540 kg/harvest
Potatoes	19,500 kg/harvest
Beets (animal feed)	49,900 kg/harvest
Milk	455,800 kg/yr
	3,039 kg/animal
Meat	413,000 kg/yr
	414 kg/ea animal

ACKNOWLEDGEMENT

We would like to thank Ganna Davidenko for her assistance in collecting this data.

DISTRIBUTION

No. of
Copies

No. of
Copies

OFFSITE

OFFSITE (continued)

12 DOE/Office of Scientific and
Technical Information

J. P. Peeters
Health Communications Coordination
Division
EH-422, GTN
Washington, D.C. 20874

R. P. Berube, EH-20
Deputy Assistant Secretary for
Environment
7A-075/FORS
U.S. Department of Energy
Washington, D.C. 20874

L. P. Duffy, Director, EM-1
Office of Environmental
Restoration and Waste Management
7A-049/FORS
U.S. Department of Energy
Washington, D.C. 20585

O. J. Galas, Associate Director
Office of Health and Environmental
Research, ER-70
U.S. Department of Energy
Washington, D.C. 20874

R. Goldsmith, Director, EH-42
Office of Epidemiology and
Health Surveillance
J-106/GTN
U.S. Department of Energy
Washington, D.C. 20874

R. A. Holten
Safety and Environmental Division
U.S. Department of Energy
Richland Field Office
P.O. Box 550
Richland, WA 99352

R. Jarrett
Office of Energy Research
ER-8.1, G-436, GTN
U.S. Department of Energy
Washington, D.C. 20545

R. Pelletier, Director
Environmental Guidance Division
GA-076/FORS
U.S. Department of Energy
Washington, D.C. 20585

H. J. Pettengill, EH-40
Deputy Assistant Secretary
for Health
G-165/GTN
U.S. Department of Energy
Washington, D.C. 20874

Office of Health and Environmental
Research, ER-70
F-208/GTN
U.S. Department of Energy
Washington, D.C. 20874

A. Wallo, EH-231
Environmental Guidance Division
GA-098/FORS
U.S. Department of Energy
Washington, D.C. 20585

P. Ziemer, Assistant Secretary
for Environment, Safety
and Health
7A-097/FORS
U.S. Department of Energy
Washington, D.C. 20585

No. of
Copies

OFFSITE (continued)

5 L. R. Anspaugh
Environmental Sciences Division
Biomedical and Environmental
Research Program
Lawrence Livermore National
Laboratory
P.O. Box 808
Livermore, CA 94550

B. G. Blaylock
Environmental Sciences Division
Oak Ridge National Laboratory
P.O. Box 2008
Oak Ridge, TN 37831-6250

D. Cool, Chief
Radiation Protection and Health
Effects Branch
Office of Research
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

M. Goldman, Profession of
Radiobiology
Laboratory for Energy-Related
Health Research
University of California
Davis, CA 95616

F. O. Hoffman, Jr.
Environmental Sciences Division
Oak Ridge National Laboratory
P.O. Box 2008
Oak Ridge, TN 37831-6250

Office of Scientific and Technical
Information, AD-21
P.O. Box 62
Oak Ridge, TN 37831

E. Shoemaker
Program Manager, NRC
U.S. Soviet Exchange Program
White Flint 3 H-5
U. S. Nuclear Regulatory
Commission
Washington, D.C. 20555

No. of
Copies

FOREIGN

U.S. Embassy
Science and Technology Science
Moscow
RUSSIA

G. M. Davidenko
ECOPOLIS
Oranoe, Ivankov Region
District of Kiev
UKRAINE

I. N. Ryabov
A. N. Severtsova Institute of
Animal Evolutionary Morphology
and Ecology
Russian Academy of Sciences
33 Leninski Prospect
Moscow
RUSSIA

ONSITE

57 Pacific Northwest Laboratory

W. J. Bair	K1-50
D. J. Bradley	K6-47
J. W. Falco	K6-78
R. H. Gray	K1-30
J. R. Johnson	K3-53
W. E. Kennedy	K3-54
B. A. Napier (2)	K3-54
D. B. Shipler	K1-25
J. D. Spencer	K1-40
P. S. Stansbury	K3-53
W. L. Templeton (40)	K1-30
Publishing Coordination	K1-06
Technical Report Files(5)	P8-55