

**(Order No. 163 of the  
Cabinet of Ministers of  
March 18, 2004)**

**Action Programme for  
vulnerable zones subject to special requirements for protection of waters and soil  
against pollution caused by nitrates from agricultural sources  
(informational part)**

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## **1. Linking of the Programme with the priorities of the Government and the Ministry and the approved policy documents**

The European Union Directive of December 12, 1991 (91/676/EEC) (hereinafter – the Nitrate Directive) has been adopted to lay down requirements and restrictions for protection of waters against pollution and nitrates caused by agricultural sources. These requirements and restrictions are expressed in a lot of measures that must be secured in the national law system of each Member State of the European Union.

Similar recommendations are mentioned in the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area of 1992 (HELCOM).

The issues relating to performance of the Nitrate Directive have been solved by Latvia already since 1994 when, in cooperation with the Nordic Countries (Sweden and Norway), development of an agricultural runoff monitoring system was commenced. At present, agricultural runoff monitoring stations are established in three locations (Dobele, Saldus and Cēsis Districts). Monitoring of surface water quality is carried out by the Latvian Environment Agency; monitoring of marine waters – by the Hydro-Ecology Institute of the University of Latvia; and monitoring of groundwater – by the State Geological Service. The Latvian Environment Agency is evaluating compliance of the water monitoring of the Latvian National Environment Monitoring Programme with the European Union Directives and especially with the Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

According to the requirements of the Nitrate Directive, each Member State must develop the Code of Good Agricultural Practice and an Action Programme laying down procedures of management of vulnerable zones. The objective of both of the documents is to stimulate measures aimed at protection of water and soil against pollution by nitrates.

The Code of Good Agricultural Practice (hereinafter – GAP) were developed in 1998 – 1999 in cooperation with the Danish Agricultural Consulting Centre and agreed with the Ministries of Agriculture and Environment in June of 1999. This document is a wide summary of practical advice, recommendations and laws, which encompasses the principal spheres of agricultural activity, and is to be performed on voluntary basis within the whole territory of Latvia.

The Law “On Pollution” adopted on March 1, 2001, delegates to the Cabinet of Ministers the right to identify vulnerable zones and develop regulations on the action programme in the vulnerable zones as well as fix terms of implementation of the Programme. According to Section 18 Part Four of the Law, the Minister of Environment shall, upon coordination with the Minister of Agriculture, establish a consultative council for coordination of measures of management of the said vulnerable zones (Decree No. 58 of the Minister of Environment of February 18, 2004), by including in the council representatives of the Ministry of Environment, the Ministry of Agriculture, the Ministry of Health and institutions subordinated to the said Ministries as well as representatives of public organisations, and approve the regulation of this council.

The criteria for designation of vulnerable zones are included in the Regulation of the Cabinet of Ministers No. 531 of December 18, 2001 “Regulation on the protection of waters and soil against pollution caused by nitrates from agricultural sources”. There have been adopted stricter requirements as to protection of waters and soil against pollution caused by nitrates from agricultural sources in these zones as well as management procedures of the vulnerable zones.

Basing upon the monitoring data, certain higher risk areas – vulnerable zones located in the basins of the rivers Lielupe and Daugava – have been presently identified in Latvia. From the viewpoint of the Nitrate Directive, the biggest measured water pollution in these zones is 38 mg/l, however, the nitrate content limit value of 50 mg/l laid down in the Nitrate

Directive is not exceeded. But taking into account the gradual transfer to more intensive agricultural methods in the future, the agriculture may threaten the quality of the inland waters and the water of the Riga Gulf, and, therefore, action programmes containing compulsory measures must be implemented in these zones.

To encourage water and soil protection against pollution by nitrates in the course agricultural activities carried out by land owners and users, the Minister of Agriculture approves recommendations containing regulations of good agricultural practice. A part of the measures included in the Code of Good Agricultural Practice are included in the programme of management of the vulnerable zones as the compulsory minimum requirements.

The vulnerable zones are located within the boundaries of the administrative areas of Dobele, Bauska, Jelgava and Riga Districts (78 civil parishes) except the administrative areas of Riga and Jūrmala cities.

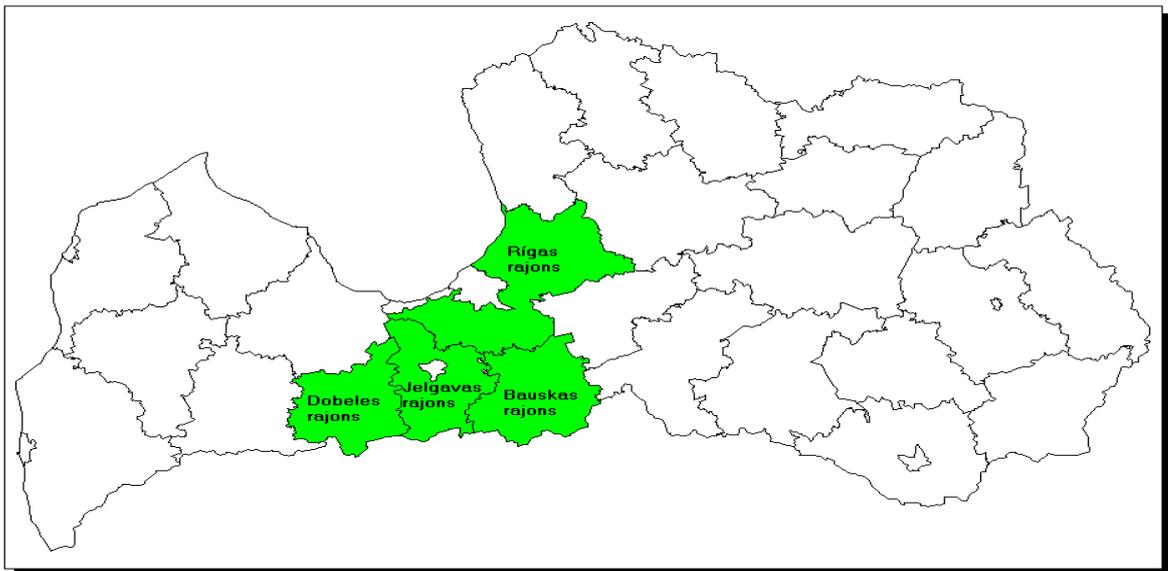


Figure 1. The vulnerable zones.

The specialists of the Ministry of Agriculture, the Ministry of Environment, the Latvia University of Agriculture and other institutions have taken part in development of the Action Programme. The Cooperation Council of Farmer Organisations (CCFO) has actively participated in discussion of the Action Programme by presenting proposals and objections.

Successful implementation of the Action Programme is possible if the farmers and the persons connected with agriculture are informed on the measures specified in the Action Programme and the requirements connected therewith, on various management restrictions aimed at prevention of pollution caused by agricultural sources as well as on responsibility and control functions of the institutions involved. To make these requirements binding for the farmers of the vulnerable zones, specific requirements and restrictions are included in the amendments to the Regulation of the Cabinet of Ministers No. 531 of December 18, 2001 “Regulation on the protection of waters and soil against pollution caused by nitrates from agricultural sources”.

Since no financing of the implementation of the Action Programme is planned, the possible source of financing is the measure “Friendly to Environment Agricultural Methods” of the Priority “Agro-environment” of the Latvian Rural Development Plan of 2004 – 2006 where the vulnerable zone is specified as the earmarked area in accordance with the

Regulation of the Cabinet of Ministers No. 531 of December 18, 2001; this measure determines the possibility of receipt of allowances to natural and legal persons who are engaged in agricultural production and whose farmlands are located in this area. The activities included in and supported by this measure are: covering of losses caused by revenue forgone from harvest, for grasslands laid out along rivers, around lakes, water bodies and along land drainage collecting ditches as vegetation buffer zones; field buffer zones. Among the measures to be supported within the framework of the Rural Development Plan is "Improvement of Animal Welfare on Farms Approximating It to the EU Standards" as well as the supporting measure "Training" aimed at provision of help to training of the population of rural areas benefiting from the support available under this plan.

The monitoring programme developed and approved by the Ministry of Environment shall provide possibility of obtaining information on ecological and hydro-chemical condition of the surface waters and groundwater, which, in its turn, will allow control of efficiency of performance of the measures specified in the Action Programme.

The transitional period having been fixed for implementation of the Action Programme, will allow the farmers to realize the measures and perform the tasks specified in the Program gradually and according to plan.

In the result of meeting of the requirements laid down in the Programme, the farmers of the vulnerable zones would be able with the help of the support from the part of the Ministry of Agriculture to put in order their farms and carrying out their activity in accordance with the provisions of Good Agricultural Practice, to prevent pollution of the environment and retain the values of the Latvian nature.

The Action Programme shall be implemented within four years as of the date of approval thereof.

## **1.1. Linking of the Programme with the existing legal basis**

### **1.1.1. ES Directives**

- Directive 91/676/EEC of December 12, 1991 (Directive on the Protection of Waters Against Pollution Caused By Nitrates from Agricultural Sources);
- Directive 2000/60/EC of October 23, 2000 (Water Framework Directive (WFD));
- Directive 75/440/EEC of June 16, 1975 (Council Directive Concerning the Quality Required of Surface Water Intended for the Abstraction of Drinking Water in the Member States);
- Directive 76/160/EEC of December 8, 1975 (Council Directive Concerning the Quality of Bathing Water);
- Directive 98/93/EC of November 3, 1998 (Directive on the Quality of Water Intended for Human Consumption).

### **1.1.2. International Conventions**

The Helsinki Convention of 1992 (Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 1974, 1992). The Parliament of the Republic of Latvia ratified the Convention on March 3, 1994 by the Law *On the Helsinki Conventions on the Protection of the Marine Environment of the Baltic Sea Area of 1974 and 1992 (10.03.1994)*.

The requirements to agriculture contained in Annex III Part 2 of the HELCOM Convention are binding to Latvia.

### 1.1.3. Laws of the Republic of Latvia

- Law „On Environmental Protection” of August 6, 1991 with amendments of January 23, 2002;
- Law „On Pollution” of July 2001;
- Law on Protective Zones of February 25, 1997;
- Law „On Land Amelioration” of November 22, 2003;
- Law on Agriculture of November 8, 1996;
- Law on Circulation of Fertilizer of November 16, 2001;
- Law on Water Management of November 16, 2001.

### 1.1.4. Regulations of the Cabinet of Ministers

- Regulation of the Cabinet of Ministers No.8 of January 5, 1999 „Methods of Identification of Protective Zones Around Water Intake Places”;
- Regulation of the Cabinet of Ministers No.531 of December 18, 2001 „Regulation of Protection of Waters and Soil Against Pollution Caused by Nitrates From Agricultural Sources”;
- Regulation of the Cabinet of Ministers No. 34 of January 22, 2002 „On Emission of Pollutants in Water”;
- Regulation of the Cabinet of Ministers No. 118 of March 12, 2002 „On Quality of Surface Water and Groundwater”;
- Regulation of the Cabinet of Ministers No. 365 of August 20, 2002 „Regulation on Utilisation, Monitoring and Control of Sewage Sludge and Compost Thereof”;
- Regulation of the Cabinet of Ministers No. 235 of April 29, 2003 „Compulsory Requirements for Harmlessness and Quality to Potable Water, Procedure of Monitoring and Control”;
- Regulation of the Cabinet of Ministers No. 258 of May 13, 2003 „Regulation on Methods of Designation of Operational Protective Zones Around Amelioration Constructions and Devices in Agricultural Land and Forest Land”.

### 1.1.5. Programmes

- Environmental Protection Policy Plan;
- National Environmental Monitoring Programme;
- National Biological Diversity Programme;
- Single Programming Document of 2004 – 2006;
- Rural Development Plan of 2004 – 2006.

## 2. Objectives and Goals of the Programme

**The objective:** to reduce and prevent further pollution of water and soil by nitrates caused from agricultural sources.

**The goals:**

1. To lay down measures for efficient protection of water and soil against pollution by nitrates caused from agricultural sources in the vulnerable zones.
2. To put in order the organic fertilizer management in the vulnerable zones.
3. To lay down restrictions for working of certain fertilizer types into ground.
4. To ensure implementation of fertilizing planning measures.

5. To encourage cooperation of governmental institutions and coordination of actions in the field of control of pollution caused by agricultural sources.

6. To stimulate training measures for improvement of management skills and efficiency of the farmers.

### 3. Description of the Vulnerable Zone

Riga, Jelgava, Dobele and Bauska Districts are located in the Riga Gulf basin and occupy the largest part of the river Lielupe basin, a small part of the river Daugava and the river Gauja basins as well as a small part of the river Venta basin. In the flood-lands and meadows of the rivers Lielupe and Daugava specially protected species and biotopes are to be found.

The total area of the vulnerable zones is 8160,5 km<sup>2</sup>. Bauska and Jelgava Districts are located in the Zemgale lowland. Dobele District occupies the Eastern descent of the Austrumkurzeme elevation which turns into the Zemgale lowland.

The maximum nitrate content observed in the Misa river (the Lielupe basin), below Olaine Town, is 38,1 mg/l but in the river Lielupe, below Kalnciems Town – 34,8 mg/l. The said quantities are the highest nitrate content values observed in the vulnerable zones. The largest runoff of plant nutrients has been established in the catchment area of the central part of Zemgale where the percentage of arable land in the crop rotation achieves 80-90%, which is connected with utilization of mineral fertilizer. Utilization of mineral fertilizer in the central part of the country (Dobele, Jelgava, Bauska and Riga Districts) has reached 90 kg/ha in average. Unfortunately, there are no precise statistical data in Latvia on utilization of mineral fertilizer on the level of civil parishes.

Number of persons employed in agricultural production in the vulnerable zone is 42,934, which corresponds to 15% of all persons in Latvia employed in agricultural production.

The vulnerable zones are located in one of the warmest and driest regions of Latvia. The average precipitation quantity per year is 560 mm; the yearly average temperature is 5,5°C; length of the period without frost is 134 days in average.

SW and W winds are governing winds in the vulnerable zone. The overall snow cover is usually formed in the beginning of the third decade of December and exists 98 days. The average depth of soil freezing is 56 cm; the maximum depth is 124 cm.

The most fertile soils in Latvia with high cadastral value<sup>1</sup> are to be found just in Zemgale Region; also the agricultural land (hereinafter – AL) that is most intensively used for crop farming (about 364 thousand ha, or 15% of the total area of the AL of the country) where the percentage of arable land corresponds to 87%, is situated in Zemgale Region.

There are approximately 24 thousand farms in this area, which corresponds to 14% of the total number of farms of the country.

According to the data of the Central Statistical Bureau of Latvia, the area of the agricultural land in Bauska, Dobele, Jelgava and Riga Districts is 312072 ha including 257137 ha of arable land, 4037 ha of perennial crops, 17352 ha of pastures, and 12712 ha – unutilized agricultural land. The area of the arable land is utilized as follows: 80% of the land is utilized for crops; 10,3% - set-aside land, and 9,7% - fallow land. Percentages of the main crops in the arable land are as follows: cereals – 28,5%; triticale – 0,6%; winter canola – 0,86%, perennial grasses – 14,9%, and forage cultivated crops – 14,8%.

1940 farms are engaged in livestock farming in the vulnerable zones. In 1853 farms there are 5-50 livestock units, and this farm category makes the largest part of all the livestock farming farms in this area. 25 farms hold 51-100 livestock units; 24 farms – 101-250 livestock units, and 38 farms – over 250 livestock units.

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<sup>1</sup> Regulation of the Cabinet of Ministers No. 341 of July 31, 2001 „Determination of land cadastral value in rural areas”.

Since the size of the farm influences the costs of construction of a livestock manure storage vessel, the largest investments are needed for putting in order of the organic fertilizer management in the vulnerable zones. Unfortunately, there are no data on provision of the livestock holdings located in the vulnerable zones with environmentally safe livestock manure storage vessels.

#### **4. Planned Results of the Programme**

1. The environmentally safe livestock manure storage vessels that will be constructed shall:

- ensure storage of livestock manure during the periods of time when its working into the ground is not permitted;
- reduce loss of nutritional elements contained in the livestock manure;
- prevent surface runoff (leakage into groundwater);
- reduce the air pollution.

2. The prescribed restrictions of working of fertilizer into the ground shall ensure maintenance of soil fertility and reduce the environmental pollution.

3. The fixed periods of time when spreading of fertilizer and working of it into ground is permitted shall ensure better utilization of the plant nutrition elements contained in the fertilizer and reduce uncontrolled entering of the fertilizer into the environment.

4. Observation of the crop succession principle will ensure better utilization of the potential soil fertility, renewal of the soil and environment-friendly production.

5. Maintenance of minimum vegetation – the so-called “green areas” – during autumn and winter periods shall ensure reduction of soil erosion and washing-out of plant nutrition elements.

6. Utilization of mineral fertilizer only in the vegetation period of cultivated plants and use of optimum norms shall reduce the pollution of surface waters and groundwater.

7. Fertilizer plans shall ensure plant feeding schedules for economically advantageous yields, purposeful regulation of soil fertility, possibility of forecasting of changes of the content of the plant nutrition elements in the soil as well as reduction of the need of fertilizing and of the pollution of the environment.

#### **5. Indicators of Achievement of the Programme Results**

1. In the result of implementation of the Programme, environmentally safe livestock manure storage vessels shall be constructed in 80% of the farms keeping 5 and more livestock units.

2. Agricultural runoffs shall be reduced within 364 000 ha of the agricultural land.

3. The yearly quantity of the organic fertilizer utilized by all the farms shall not exceed 210 kg nitrogen per hectare (during the first four years).

4. The fertilizer plans shall be prepared by all farms having sowing areas of 10 ha or more, and by all fruit and vegetable growing farms of area 3 ha or more.

5. 50% of the agricultural land of the farms shall be provided with “green areas” during the autumn and winter periods for maintenance of minimum vegetation.

6. The nitrate content in the surface waters and the groundwater shall not exceed the limit value of 50 mg/l set out in Regulation of the Cabinet of Ministers No. 531 of December 18, 2001 “Regulation on the protection of waters and soil against pollution caused by nitrates from agricultural sources”.

## 6. Main Measures and Tasks for Achievement of the Programme Results

Performance of the measures set out in the Action Programme is based on certain requirements and restrictions that must be used in order to reduce emission of nitrates caused by agricultural sources:

- capacity of the livestock manure storage vessels must ensure storage of the livestock manure during the periods of time when it is not permitted to work the livestock manure into the ground. The construction of the livestock manure storage vessels shall ensure collection and storage of livestock manure in order to reduce loss of nutrition elements and environmental pollution;

- fertilizing with organic and mineral fertilizers must be carried out in accordance with certain requirements, which is an essential factor of maintenance of soil fertility and growing of cultivated plants because an incorrect utilization of fertilizer may cause substantial pollution of the environment;

- spreading of mineral fertilizer must be carried out as close as possible to the time of intensive ingestion of it by the plants; the norms must be specified taking into account the needs of the plants for nutrition elements in connection with the planned yields; the norms must be corrected taking into account the content of nutrition elements in the soil and the organic fertilizer utilized;

- the fertilizer planning task must secure a plant feeding regime for economically advantageous yields as well as maintenance of soil fertility and reduction of environmental pollution.

Measures	Tasks for performance of the measures
Putting in order and construction of livestock manure storage vessels	<ul style="list-style-type: none"> <li>- to put in order the existing and construct new livestock manure storage vessels in accordance with the environmental requirements of a capacity that shall secure accumulation of collected livestock manure in the event of a farmyard livestock manure pit within at least six months but in the event of slurry (liquid manure) and urine storage vessels – within seven months;</li> <li>- urine from solid livestock manure storage vessels shall be collected in a separate storage vessel, capacity of which ensures accumulation of the volume collected during seven months;</li> <li>- slurry (liquid manure) storage vessels shall be covered with a cover, which reduces and inhibits vaporization of ammonia and spreading of bad odour.</li> </ul>
Fertilizer application restrictions	<p>Fertilizer of any type:</p> <ul style="list-style-type: none"> <li>- shall not be spread to frozen, water-saturated and snow-covered ground;</li> <li>- in low lands and flood-endangered areas shall be spread only after the end of the potential flood season; mineral fertilizers shall be applied to the said areas only during the vegetation period of cultivated plants;</li> <li>- shall not be spread in locations where the spreading is prohibited according to the normative acts of protection of protective zones;</li> <li>- shall not be spread to sloping grounds the slope of which towards water bodies exceeds 10°, as well as closer than 50 m from the coastal line of the water body or water course; fertilizer shall be spread if the field is covered by vegetation or if the fertilizer is immediately worked into the soil.</li> </ul>
Applying of organic fertilizer	<ul style="list-style-type: none"> <li>- farmyard manure, slurry (liquid manure) and urine shall not be spread to the ground during the period of time from November 15 till March 1;</li> <li>- farmyard manure after the spreading to arable land shall be worked into the ground within 24 hours; slurry (liquid manure) and urine shall be worked into the ground within 12 hours;</li> <li>- at least one half part of the slurry (liquid manure) collected during the winter shall be applied for fertilizing of cultivated plants by July 1;</li> <li>- in autumn, slurry (liquid manure) shall be applied to the ground only together with residual material of plant cutting (stubbles, chopped straw, grass roots) working it into the ground with a share-plough or by ploughing;</li> </ul>

	<ul style="list-style-type: none"> <li>- to secure that for each farm the amount of organic fertilizer applied to the agricultural land each year does not exceed 210 kg nitrogen per hectare that corresponds to 2,1 livestock units;</li> <li>- if the annual quantity of organic fertilizer produced by a farm exceeds 210 kg nitrogen per hectare, the farm must enter into an agreement on usage of the organic fertilizer for applying to agricultural land of other farms, and it must be ensured that the annual quantity of the organic fertilizer applied to the agricultural land of each particular farm does not exceed 210 kg nitrogen per hectare.</li> </ul>
Applying of mineral fertilizer	<ul style="list-style-type: none"> <li>- only fertilizers that are under state supervision and control and that comply with the requirements of the normative acts on circulation of fertilizers may be used for fertilization;</li> <li>- in locations where groundwater reach the ground surface, mineral fertilizers shall be applied only after subsiding of the groundwater level and drying of the field ground;</li> <li>- nitrogen fertilizer shall be applied as the pre-plant fertilizer shortly before sowing or planting of cultivated plants;</li> <li>- if no organic fertilizer is applied to mineral soils for cultivated plants, the following relative maximum permissible norms of nitrogen mineral fertilizer must be used (kg/ha): field and meadow grasses – 190; grasslands with prevailing legumes – 35; winter wheat – 180, winter barley – 150; winter triticale – 140; winter rye – 130; spring wheat – 170; spring barley – 130; oats – 110; sugar beet – 190; potatoes – 150; oil seed canola – 200; oil flax – 60; legumes – 40; maize – 160; strawberry – 120; fruit trees – 130; carrots – 160; other vegetables – 220; and cultivated grasses for grazing – 240;</li> <li>- nitrogen fertilizer shall be applied to grasslands (fields, meadows, pastures) before September 15, phosphor and potassium fertilizers — before October 15.</li> </ul>
Fertilizer planning and succession of crops	<ul style="list-style-type: none"> <li>- a fertilizing plan based on the data of soil agro-chemical investigation that are not more than 5 years old, shall be prepared by the farms, which apply fertilizers to areas of 10 ha and more as well as by the fruit and vegetable growing farms, which apply fertilizers to areas of three hectares and more;</li> <li>- the fertilizing plan shall be prepared by farms for one year;</li> <li>- the plan of fertilizing of cultivated plants for spring and summer of the current year shall be developed at least by March 31; the plan of fertilizing of grasslands and winter crops sown for harvesting in the next year – at least by July 31. The plan shall be prepared basing on the data of soil agro-chemical investigation that are not more than 5 years old;</li> <li>- the minimum vegetation of cultivated plants (“green areas”) shall be maintained during autumn and winter time on at least 30 per cent of the agricultural land of a farm within the first two years of implementation of the action programme, and at least 50 per cent - within the further years of implementation of the Action Programme;</li> <li>- field history records starting from the second year of implementation of the Action Programme shall be maintained by the farms, which apply fertilizers to areas of 10 ha and more as well as by the fruit and vegetable growing farms, which apply fertilizers to areas of three hectares and more;</li> <li>- a crop succession plan in accordance with the methods approved by the Ministry of Agriculture shall be developed by the farms where the sowing area is 10 ha or more.</li> </ul>

## **7. Planning of Task Performance Time**

1. Putting in order and construction of livestock manure storage vessels: in 2005 – in 10% of the farms; in 2006 – in 30% of the farms; in 2007 – in 60% of the farms; and by the middle of 2008 – in 80% of the farms.

2. Implementation of the fertilizer application restrictions shall be started within the first year of the Action Programme.

3. The conditions of application of organic fertilizer shall be implemented in the first year of the Action Programme.

4. Meeting of the conditions of application of mineral fertilizer shall be started in the first year of the Action Programme.

5. The crop succession plans shall be developed for five years starting from the first year of the Action Programme.

6. A fertilizing plan based on the data of soil agro-chemical investigation shall be prepared for one year by the farms, which apply fertilizers to areas of 10 ha and more as well as by the fruit and vegetable growing farms, which apply fertilizers to areas of three hectares and more; however, not later than in the fourth year of the Action Programme.

7. The field history shall be provided starting from the second year of the Action Programme.

8. The minimum vegetation of cultivated plants (“green areas”) shall be maintained during autumn and winter time on at least 30 % of the agricultural land of a farm within the first two years of implementation of the action programme, and at least 50 % – in the fourth year of implementation of the Action Programme.

### **8. Principal Sources of Financing of Tasks and Measures Aimed at Implementation of the Programme**

The state budget does not envisage any financing to implementation of the Action Programme. The possible sources of financing of the measures included in the Action Programme are shown in the table below.

Measure, task	Financing source	Performance indicators	Responsible
1. To ensure appropriate storage of organic fertilizer in agricultural enterprises	1. Support to agricultural enterprises from the Priority 4.4.1 “Investments in Agricultural Holdings” of the Single Programming Document” <sup>2</sup>	- Investments are made for putting in order of the livestock manure management.	Ministry of Agriculture (MA)
	2. Support to agricultural enterprises for compensation of investments made (the Priority “Support to Rural Enterprises for the Attainment of the EU Environmental, Animal Welfare, Hygiene and Occupational Safety Standards” of the Rural Development Plan <sup>3</sup> ).		
2. Credit guarantees to agricultural enterprises	SSC “RDF” guarantees the credits granted to rural and agricultural development (does not guarantee the credit interest and penalties) if the borrower has no credit security.		Rural Development Fund (RDF)

<sup>2</sup> The total financing envisaged for the Priority „Investments in Agricultural Holdings” of the Single Programming Document.

<sup>3</sup> The total financing envisaged for the Priority “Support to Rural Enterprises for the Attainment of the EU environmental, Animal Welfare, Hygiene and Occupational Safety Standards” of the Rural Development Plan.

<p>3. To ensure a system of fertilizing of cultivated plants that is harmless to environment 1) Agro-chemical research of soil</p>	<p>The Priority 4.4.4 “Promotion of Development of Agriculture and Rural Areas” of the Single Programming Document.</p> <p>State Programme of Agricultural Subsidies of 2004: Chapter 4 “Scientific Projects Applicable in Agriculture” of the Regulation 4 “Distribution of Education, Science and Information”.</p>	<ul style="list-style-type: none"> <li>- Criteria for development of fertilizer plans are prepared.</li> <li>- Soil samples are taken in the farms; the soil acidity and content of organic matter, mobile phosphor, potassium and exchange magnesium are measured; results of tests are evaluated; agro-chemical maps and recommendations for use of research materials are prepared;</li> <li>- a data base for analysis of soil fertility condition changes is maintained.</li> </ul>	<p>Agricultural Chemistry Research Centre (ACRC), MA, Latvian Agricultural Advisory and Training Support Centre (LAAC)</p>
<p>2. Monitoring of soil mineral nitrogen</p>		<ul style="list-style-type: none"> <li>- Monitoring methods are developed; soil samples are taken in the selected locations; content of mineral nitrogen in soil in spring is measured; the mineral nitrogen forecast is précised; and recommendations for correction of nitrogen fertilizer dosage are given.</li> </ul>	<p>ACRC, MA, LAAC</p>
<p>3. Improvement of livestock manure norms</p>		<ul style="list-style-type: none"> <li>- Livestock manure samples are taken; the chemical composition thereof is determined; the data are mathematically processed, and the livestock manure norms for various livestock groups kept under various holding and feeding circumstances are specified.</li> <li>- Selection of demonstration farms, methodical guidance.</li> </ul>	<p>ACRC, MA,</p>
<p>4. Training measures for improvement of management skills and efficiency of farmers: 1) Courses 2) Workshops 3) Experience exchange trips 4) Training and informational trips</p>	<p>Priority 4.4.7 “Training” of the Single Programming Document</p>	<ul style="list-style-type: none"> <li>- Training aimed at improvement of knowledge of farmers on growing of cultivated plants and application of fertilizers, pollution caused by agricultural sources and consequences thereof, measures of storage and spreading of organic fertilizer is carried out.</li> <li>- Farmers are informed on environmental issues caused by agricultural sources.</li> <li>- Farmers are informed on the normative base of the</li> </ul>	<p>LAAC</p>

		EU and Latvia. - An experience is gained by visiting field experimental and demonstration farms. - Methods are prepared for preparation of the field history and the crop succession and fertilizer plans.	
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## 9. Institutions Responsible for Performance of the Measures

Implementation and supervision of the Action Programme shall be carried out and control performed mainly by the Ministry of Agriculture, the Ministry of Environment and the institutions subordinated to these Ministries. The Ministry of Agriculture shall be responsible for performance of the Action Programme. The Ministry of Environment shall approve the Vulnerable Zone Management Advisory Council. The institutions subordinated to this Ministry shall coordinate performance of the monitoring programme as well as control the quality of the measures specified in the Action Programme. The control of the drinking water quality shall be carried out by the Environmental Health Centres subordinated to the Ministry of Health.

Within the framework of the cooperation agreement concluded the Latvian Agricultural Advisory and Training Support Centre (hereinafter – the LAAC) shall organise measures aimed at training of the employees of the institutions subordinated to the Ministry of Agriculture as well as of farmers, improvement of their professional qualifications; the LAAC shall improve the training programmes and prepare textbooks and methodical literature. The following themes of the measures aimed at improvement of professional qualification are included in the agreement concluded by and between the Ministry of Agriculture and the LAAC: “Environment-friendly agriculture”, “Rural development”, “Veterinary and food issues” etc. The themes include discussion on issues relating to pollution caused by agricultural sources and information on the measures to be taken by the Ministries and the Government for reduction of the pollution. Agricultural Advisory Bureaus of the LAAC are opened in 26 districts.

<b>Responsible Institutions</b>	
<b>Vulnerable Zone Management Advisory Council</b>	<ul style="list-style-type: none"> <li>- Coordinates development, performance and renewal of the Action Programme for reduction and prevention of pollution by nitrates.</li> <li>- Gives recommendations to governmental institutions as to formation of state policy in the field of prevention of pollution by nitrates caused from agricultural sources.</li> </ul>
<b>Ministry of Agriculture</b>	<ul style="list-style-type: none"> <li>- Develops the Action Programme, evaluates efficiency of implementation thereof and reports to the European Commission on performance of the Action Programme.</li> <li>- Develops a training programme and carries out training of the land owners and users who are carrying out agricultural activity in accordance with the provisions of good agricultural practice.</li> <li>- By a decree of the Minister approves the provisions of good agricultural practice.</li> <li>- Informs the European Commission on the approved provisions of good agricultural practice.</li> <li>- Within the limits of its competence, provides necessary information on performance of the Programme for preparation of the report of the Latvian Environment Agency to the European Commission.</li> <li>- Presents proposals to the Cabinet of Ministers on amendments to the Action Programme required, or a new draft action programme.</li> </ul>
<b>Agricultural Chemistry Research Centre</b>	<ul style="list-style-type: none"> <li>- Carries out agro-chemical research of soil and maintains the data base of soil agro-chemical properties.</li> <li>- Carries out monitoring of soil mineral nitrogen; accumulates freely available</li> </ul>

	<p>monitoring data in electronic format.</p> <ul style="list-style-type: none"> <li>- Carries out testing of livestock manure samples and improves livestock manure norms.</li> </ul>
<b>Rural Support Service</b>	<p>Administers state support and support of the European Union to the agriculture; accepts and evaluates applications (projects) for receipt of support; carries out registration of support utilized and utilization control (land owners and users are obliged to provide information required by the Rural Support Service).</p>
<b>Ministry of Environment and institutions subordinated thereto</b>	<ul style="list-style-type: none"> <li>- Forwards a report to the European Commission on the vulnerable zones established (once in four years).</li> <li>- Revises the boundaries of the vulnerable zones (at least once in four years).</li> <li>- Forwards a report to the European Commission on the alterations of the boundary of the vulnerable zone (within six months as of the date of approval of the boundary alteration).</li> <li>- Reports to the European Commission on influence of the cross-border pollution by nitrates on the vulnerable zones.</li> <li>- Approves the programme of monitoring of surface water, groundwater and agricultural runoffs in the vulnerable zones.</li> <li>- Controls, within the limits of its competence, meeting of the requirements and realization of the monitoring set out in the Action Programme.</li> <li>- In collaboration with the Ministry of Agriculture and in accordance with the Law “On Pollution”, develops the Regulation of the Cabinet of Ministers on environmental requirements to establishing and operation of animal holdings.</li> </ul>
<b>Latvian Environment Agency</b>	<ul style="list-style-type: none"> <li>- Develops and maintains a register of vulnerable zones.</li> <li>- Coordinates and organises performance of the programme of monitoring of surface water, groundwater and agricultural runoffs in the vulnerable zones.</li> <li>- Develops and publishes a report on protection of water and soil against pollution by nitrates caused from agricultural sources indicating meeting of all requirements set out in the Regulation of the Cabinet of Ministers No. 531 of December 18, 2001.</li> <li>- Forwards a report to the European Commission on performance of the programme.</li> </ul>
<b>Public Health Agency</b>	<ul style="list-style-type: none"> <li>- Carries out control of quality of drinking water and bathing waters.</li> </ul>

## 10. Reporting and evaluation procedure

The Regulation of the Cabinet of Ministers No. 531 of December 18, 2001 “Regulation on the protection of waters and soil against pollution caused by nitrates from agricultural sources” lays down that the Ministry of Agriculture and the Ministry of Environment shall, at least once in four years, evaluate the efficiency of the Action Programme taking into account the compliance of the data obtained in the course of implementation of the measures of the monitoring and the action programme specified in this Regulation with the criteria for designation of vulnerable zones specified in Paragraph 5 of this Regulation. If the pollution by nitrates has exceeded the criteria for designation of vulnerable zones specified in Paragraph 5 of this Regulation, the Ministry of Agriculture and the Ministry of Environment shall develop amendments to the Action Programme including additional measures in the Action Programme taking into account the costs and efficiency of implementation thereof.

The Ministry of Agriculture shall forward a report to the European Commission on performance of the compulsory measures laid down in the Action Programme.

The Latvian Environment Agency shall prepare a review of the monitoring results, which must include the following information: influence of agricultural activity on the environment; evaluation of long-term changes of water quality as well as evaluation of eutrophical condition of surface freshwaters, estuaries and coastal waters; influence and load of the pollution caused to the waters located within the vulnerable zones.

The Ministry of Environment shall forward a report to the European Commission on the vulnerable zones established – once in four years; a report on alterations of the boundary of the vulnerable zone - within six months as of the date of approval of the boundary alteration; a report on influence of the cross-border pollution by nitrates on the vulnerable zones – once in four years.

**(Decree No. 163 of the  
Cabinet of Ministers of  
March 18, 2004)**

**Summary of the  
Action Programme for  
vulnerable zones subject to special requirements for protection of waters and soil  
against pollution caused by nitrates from agricultural sources**

The objective of the European Union Directive of December 12, 1991 (91/676/EEC) "On the Protection of Waters Against Pollution Caused By Nitrates from Agricultural Sources" is to reduce pollution of the waters of the European Union by nitrates caused from agricultural sources and prevent any further pollution of those waters. The Directive has laid down the requirement to the Member States to designate vulnerable zones from which the pollution by nitrates enters vulnerable waters as well as to develop an Action programme and implement measures included therein and aimed at limitation of application of nitrogen fertilizers of any kind and at putting in order of storage of organic fertilizers.

Requirements for designation of vulnerable zones and necessity of an action programme are included in the Law "On Pollution". The criteria for designation of vulnerable zones, the boundaries of the vulnerable zones and the procedure of management of the vulnerable zones are laid down in the Regulation of the Cabinet of Ministers No. 531 of December 18, 2001 "Regulation on the protection of waters and soil against pollution caused by nitrates from agricultural sources". The boundaries of the vulnerable zones are the boundaries of the administrative area of Dobele, Bauska, Jelgava and Riga Districts except the boundary of the administrative area of Riga and Jūrmala Cities.

The Action Programme lays down measures and tasks to be performed in order to ensure collection and storage of livestock manure as well as working of fertilizers into the ground.

The financing required for implementation of the compulsory measures included in the Programme is envisaged in the Development Plan (within the framework of the total financing earmarked for the Priority "Investment in Agricultural Enterprises") and in the Rural Development Plan (within the framework of the total financing earmarked for the Priority "Support to Agricultural Enterprises for Attainment of the EU standards").

To implement the measures specified in the Action Programme, the specific requirements, conditions and restrictions are set out in the Regulation of the Cabinet of Ministers No. 134 of March 16, 2004 "Amendments to the Regulation of the Cabinet of Ministers No. 531 of December 18, 2001 "Regulation on the protection of waters and soil against pollution caused by nitrates from agricultural sources"".

The measures laid down in the Action Programme shall be implemented within four years as of the adoption of the Action Programme.

**Minister of Agriculture  
Republic of Latvia**

**M. Roze**