

Annex II F: Country Report Estonia

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Estonia has got a strict legislative basis concerning environmental law. It developed a Code of Good Agricultural Practice in the process of implementing the EU Council Directive 91/676/EEC (Nitrates Directive). The Code shall be voluntarily observed by agricultural producers, except those requirements which are included as part of the Action Programme in the Nitrate Vulnerable Zones (NVZs).

In the SAPARD Programme for Estonia for the period 2000-2006, 1.4% of the budget is allocated to the agri-environment measure "Agricultural production methods designed to protect the environment and maintain the countryside". The Programme contains a draft for Good Agricultural Practice Guidelines with the categories: planning in agriculture, manure handling, plant production, plant protection, wastewater management and biodiversity and is derived from the Code of Good Agricultural Practice.

Code of Good Agricultural Practice

Use (storage) of fertilisers, slurry and manure:

The main goal for using fertilisers is to keep soil fertility and plant nutrients content in balance with crop demands and follow restrictions on amounts and application timing set by legislative acts.

Nitrate (+ general rules of fertilisation)

- The number of animals per hectare of cultivated land must not exceed 1,5 livestock units. In NVZs the limit is 1 livestock.
- The exact procedure for storage of manure and fertilising with manure shall be established by the Regulation of the Government of the Republic on water protection with requirements for fertiliser and manure storage and silage storage depots, and requirements for the use and storage of mineral fertilisers, manure and silage juice.
- All farm buildings for livestock where more than 10 livestock units of animals are kept must have a manure storage facility and a urine depot. The minimum capacity for the manure storage facility must correspond to the amount of cattle, horse or sheep manure produced within 8 months and the amount of pig or poultry manure produced in 10 months. The minimum capacity for the urine depot must correspond to the amount of urine produced in 10 months. In case of keeping animals on deep litter and in case the capacity of the shed is one year, there is no need for a manure storage or urine storage depot (*Water Act*).

- A manure storage facility must be designed, built and maintained to avoid pollution of surface water or groundwater, influx of precipitation and surface water into the storage and to prevent the leakage of manure.
- For decreasing the emission of ammonia the storage depots for slurry and urine must be covered.
- Only solid manure may be stored outside the depots, in the form of manure heaps until 1 January 2005 and in the amount not exceeding the vegetation period need. The ground under the heap must be even and manure heaps must not be situated on an area, which may be flooded in spring.
- For decreasing the emissions of gases the manure heap must be covered with a foil or with a layer of peat, straw or soil at least 20 cm thick. Every year the manure heap must be made in a new place.
- It is prohibited to make manure heaps on a shore or bank of a water body, in a sanitary protection zone of a water intake or in an area where groundwater is not protected.
- Silage must not be stored on shores and banks of water bodies or in sanitary protection zones of water intake. Silage effluent must be collected into a waterproof tank or directed into a urine depot. The capacity of a silage effluent tank must be at least 10 litres of silage effluent per each m³ of the silage depot.
- The silage depot must be designed, built and maintained in such a manner that it will not cause pollution of surface or ground water. It must be waterproof.
- In case of crop rotation the permissible average annual amount of nitrogen per hectare of arable land applied as manure must not exceed 170 kg, and in the form of mineral fertilisers and such amount of nitrogen, which is necessary for the growth of field crops (*Water Act*).
- In the NSZ, it is allowed, on the basis of the protection rules, to restrict the average annual amount of nitrogen when applied in the form of mineral fertilisers up to 120 kg per hectare of arable land.
- In NVZs on limestone and karst areas with unprotected groundwater, and where the thickness of the surface layer is up to 2 m, it is allowed, on the basis of the protection rules, to restrict the average annual amount of nitrogen applied with mineral fertilisers up to 80 kg per hectare of arable land. (*Water Act*)
- The maximum permitted amount of nitrogen per hectare of arable land applied by manure is 170 kg per year. (*Water Act*)
- Silage effluent has to be diluted before spreading in the proportion 1:1. The rate of application of this mixture per hectare shall be up to 30 tones. (*Regulation of the Government of the Republic "Water Protection Requirements for the Storage of Fertilizers and Manure and the Silage Storage Sites, and Requirements for the Use and Storage of Mineral Fertilizers, Manure and Silage Effluent"*).
- The time and method of using fertilisers shall determine the depth of application of fertilizer, the fixation of nutrients in the soil, the extent to which the nutrients are absorbed by plants and the amount of losses of fertilisers from the soil.
- Manure, silage effluent and mineral fertilisers must not be spread on snow or on frozen soil (November 1st - March 31st) and mineral fertilisers must not be spread from aero-

planes (*Governmental Regulation "Requirements for Storage of Manure and Silage, Water Protection Requirements for Silage Storage Sites and Requirements for the Use and Storage of Mineral Fertilizers, Manure and Silage Effluent"*).

- Manure, silage effluent and mineral fertilisers must not be spread in the sanitary protection zone of water intake, in the water protection zone of a water body and on periodically flooded land. (*Governmental Regulation "Requirements for Storage of Manure and Silage, Water Protection Requirements for Silage Storage Sites and Requirements for the Use and Storage of Mineral Fertilizers, Manure and Silage Effluent"*).

Water protection zones

(*Water Act; Act on the Protection of Marine and Freshwater coasts, Shores and Banks*):

Main restrictions:

- Any economical activity is not allowed in inland water protection zones (10 or 20 m) except haymaking, reed cutting and animal grazing. To graze animal in these areas, which are covered with ligneous plants, is not allowed.
- It is not allowed to apply manure or sewage sludge, in some circumstances mineral fertilisers and plant protection products too, in periodically flooded areas of the shores and banks.
- Water intake places have sanitary protection zones of 30 m or 50 m, where the only allowed agricultural activity is haymaking and taking care of forests.

Potassium and Phosphate:

- The average amount of phosphorus per hectare of arable land is up to 30 kg, as applied in the form of mineral fertilisers. (*Water Act*)

Pesticide Use:

- Plant protection products are marketed either freely or on the basis of a plant protection certificate. The plant protection certificate certifies that this person has undergone training in plant protection and may market, purchase or use all types of plant protection products. (*Plant Protection Act*).
- Establishing corresponding restrictions may prohibit the use of chemical fertilisers and plant protection products on flooded areas of shores and banks. Liquidation of outbreak sites of plant diseases and pests on the shores and banks using toxic chemicals will be carried out on the basis of a single permit issued by the Minister of Environment or an official authorized by the Minister (*Shore and Bank Protection Act*)
- It is prohibited to use plant protection products around springs and sinkholes in the radius of 10 metres from the water line or edge of the sinkhole. In a nitrate-sensitive zone the radius must be up to 50 meters, while the scope of restrictions shall be established in the protection rules. (*Water Act*)
- The user of plant protection products must keep records of the used products. (*Plant Protection Act*)

Water Use (Irrigation): -

Soil Conservation:

Soil cover, tillage and cropping patterns:

- In a NVZ during the period from November 1st until March 1st, at least 50% of arable land used by an agricultural producer must be covered with vegetation. (*Water Act*) (General recommendation: at least 20% during winter period-November 1st to April 1st).

Use (storage) of sewage sludge and compost:

- When sewage sludge, sludge mixture and sludge compost are used as fertiliser, in addition to the main analysis also the content of additional substances (heavy metals) must be determined and the use of these fertilisers on the lands where vegetables or berries are grown must be avoided.
- The fields where sewage sludge, sludge mixture or sludge compost have been spread, must not be used for growing vegetables either for human food or animal fodder during one year. Grasslands where sewage sludge, sludge mixture or sludge compost have been spread, must not be used for grazing or making fodder during the next two months (*Regulation of the Minister of Environment "Requirements for the Use of Sewage Sludge in Agriculture, Green Building and Recultivation Works."*)

Others (compaction, salinisation etc.):

- Choosing the right way of driving reduces compaction of the soil.

Animal housing/husbandry:

Landscape, Biodiversity:

- It is stressed that for saving biodiversity and landscape values farmers' support through necessary activities is strongly needed and lists several general principles.

Farm Management:

- Every agricultural producer must keep a field book where he records the data about the area of arable land, the characteristics of the soil, the volume of harvested crops, types and amounts of fertilisers used and the dates when they were used. The structure of the book and the procedure for keeping it shall be established by Regulations of the Minister of Agriculture. In modern agriculture an integral plant protection system is preferred, because it spares the environment, is economically viable and guarantees ecologically clean production. (*Water Act*)

Other:

More principles about animal welfare and waste.

Verifiable standards as baseline for agri-environment measures:

Standards have been developed by the Ministry of Agriculture for efficient supervision and with regard to their relevance for environmental protection and the respective legislation.

Water protection:

(Water Act; Act on the Protection of Marine and Freshwater coasts, Shores and Banks)

1. Farmer has to keep a field record book
2. Maximum of 1.5 LU/ha arable land (1 LU/ha in NVZs)
3. No spreading of fertiliser on snow and frozen ground
4. No discharge of wastewater in groundwater and onto frozen ground
5. Storage facilities for manure and liquid manure (with exceptions). Farms with more than 10 livestock units of animals must have a manure storage facility and a urine depot. Minimum capacity for the manure storage facility 8 months, for pig or poultry manure 10 months. The minimum capacity for the urine depot must correspond to the amount of urine produced in 10 months.

Plant protection:

(Plant Protection Act)

1. Farmer has to keep records of plant protection products used
2. Compliance with water protection requirements for storage facilities of manure and liquid manure
3. Etc.

Animal welfare:

(Animal Protection Act)

1. Farmer has to provide animals with appropriate quality of feed and drinking water, appropriate care, adequate microclimate, and space and structure which satisfies the need for movement characteristic for the species; other factors
2. Etc.

Waste handling:

(Waste Act)

1. Duty for prevention of waste production and reducing of quantity, etc.
2. Delivery of waste to approved facility or recycling or disposal

Biological Protection and Nature Conservation:

(Protected Nature Objects Act;)

1. It is prohibited to damage single natural objects.
2. The establishment of new land improvement systems, altering the level and damaging the shores of water bodies, storage of waste, and the use of fertilisers and toxic chemicals is prohibited in a "special zone".
3. Etc.

Heritage conservation

(Heritage Conservation Act)

- It is prohibited to destroy or damage monuments.

Control:

Controlling authorities:

Compliance with GFP by supervisory authorities (specified in legislation)

Compliance with Water Act by paying agencies.

References:

Lepmets, E. (2003): Presentation on workshop about GFP 7-8 April 2003 in Budapest

SAPARD Rural Development Plan of Estonia 2000-2006