

## 1. INTRODUCTION

Boundless intensification of agriculture in 1970s had a strong negative effect on the environment. Because of that the European Union reformed its agricultural policy in 1992 and defined the following objectives for good farming:

- To reduce dependence on fossils (oil, coal and mineral raw materials), degradation of soil and environment, further maintain growth of productivity of agricultural production per capita;
- To encourage conventional farming supplementing it with new ideas that help to apply environmental friendly and sustainable systems of agricultural production;
- To improve farm management, make better use of production means and equipment, decrease energy use and improve living conditions of agricultural community;
- To evoke ethnic and humane values related to agricultural production and food quality, keep animals in environment that is similar to their natural environment, endeavour that as much as possible lower amount of artificial substances would be present in fodder;
- The good farming encompasses also the responsibility obligating to augment biological diversity and to enrich landscape.

Every state willing to enter the EU has to prepare and to confirm CODE OF GOOD AGRICULTURAL PRACTICES (CGAP) – RULES AND RECOMMENDATIONS ON GOOD FARMING (RRGF). The main objective of the RRGF according to the EU Nitrate directive is *to reduce pollution by nitrates and ensure that for each farm the amount of livestock manure applied to the agricultural land each year, including the animals themselves, shall not exceed the amount of manure containing 170 kg/ha of nitrogen.*

The main rules and recommendations on good farming given in this publication are attempting that a farmer who follows them would not only improve the environment, but also would achieve a profit that grants sufficiently good living conditions. The RRGF discuss:

1. Periods when application of certain fertilisers is prohibited.
2. Animal density corresponding to maximal manure application - 170 kg of nitrogen per year per hectare of agricultural area;
3. The capacity of storage vessels for livestock manure for the storage period no less than 6 months;
4. Limitation of fertiliser application, that is consistent with good farming and is determined taking into account the following:
  - a) soil conditions, soil type and slope;
  - b) climatic conditions and precipitation;
  - c) land use and agricultural practices, including crop rotation and a balance between:
    - (i) the foreseeable nitrogen requirements of the crops, and
    - (ii) the nitrogen supply to the crops from the soil and from fertilization corresponding to:
      - the amount of nitrogen present in the mould plough layer at the moment when the crop starts to use it to a significant degree (at the beginning of plant vegetation),
      - the supply of nitrogen through the net mineralisation of the reserves of organic nitrogen in the mould plough layer,
      - additions of nitrogen compounds from livestock manure,
      - additions of nitrogen compounds from mineral fertilizers.
5. Ratio between perennial and annual crops;
6. Increase of vegetation cover during periods when soil is most vulnerable to nitrate leaching; ecologically and economically balanced fertilisation norms, terms and technologies, fertilisation limitations in the zones vulnerable to nitrates.
7. Measures that do not allow agricultural effluents to pollute surface and ground water;

8. Land reclamation, biological diversity and landscape.

*The RRGF is a complex of legal and recommendation measures implementation of which guarantee economic and ecological optimum.*

Head and co-ordinator of the RRGF was A. S. Sileika (LIWM). Six groups elaborated the RRGF (three groups from the sector of plant protection, two from animal husbandry and one from land reclamation and biological diversity). These working groups involved scientists, who were in charge of the groups, and representatives of all interested organisations (Ministries of Agriculture and Environment, University of Agriculture, Farmers Union, Association of Agricultural Companies, Chamber of Agriculture, and The Lithuanian Agricultural Advisory Service).

The main sections of the Code and chairmen of the respective work groups are the following:

- Agriculture and environmental protection (G. Kutra, LIWM)
- Fertilisation and liming (V. Masauskas, LIA)
- Plant protection and use of pesticides (J. Surkus, LIA)
- Animal husbandry (G. Vaicionis, LIAS, and V. Minkevicius, LAAS)
- Land reclamation, biological diversity and landscape (R. Tumas, LUA)

The RRGF is the first document of this type in Lithuania. The biggest attention is paid to crop production, but questions about animal production are also illuminated as the crop fertilisation is inherently related to manure storage and use. Rules of two different levels are incorporated in the RRGF:

1. Laws of the Republic of Lithuania, resolutions of the Government and other legal documents related to good farming. Implementation of these rules is mandatory for farmers who want to get national and SAPARD financial support.
2. Proposed new rules those are prepared on the background of the directives and regulations of the EU, the HELCOM and Lithuanian scientists' recommendations. They are not binding yet but part of them will be legitimated in the near future.

The rules of the first level are bordered and green shaded. The rules of the second level are bordered too and yellow shaded.

Consultants from Denmark induced this work and systematically guided the responsible persons. The chairmen of the work groups gained the main methodical knowledge and practical experience during studies at the Danish Agricultural Advisory Centre and visiting Danish farmers. Research data from the main Lithuanian science and study institutions and Lithuanian farmers' experience of many years were used for preparation of the RRGF. Besides main regulations of the Codes of Good Agriculture for Poland, Finland, Latvia, Ireland and Wales, as well as agro environmental programmes of Sweden and Denmark were analysed and used for working out of these rules and recommendations.