

COUNCIL DIRECTIVE 93/85/EEC FOR POTATO RING ROT
IMPLEMENTATION RESEARCH
REPORT SUMMARY

Potato ring rot – one of the main potato diseases, for which control is paid great attention in many European and American countries. *Clavibacter michiganensis* subsp. *sepedonicus* (Spieckerman et Kotthoff) Davis et al. bacteria (later in the text – Cms bacteria) generate potato (*Solanum tuberosum* L.) bacterial ring rot disease. They are one of the most harmful for potato diseases generators. Potato plants have no tolerance to these pathogens. When even one plant or tuber is infected disease can spread very fast in the all potato field. Yield losses can reach 60-70 % of the total potato yield. Pathogen has latent period when disease can't be found on the plant, but Cms bacteria multiplies via potato tubers. When disease symptoms are typical, not always it's possible to identify disease generator. Due to such conditions Cms bacteria are in the most harmful organisms list (directive 2000/29/EC).

Cms bacteria always cause injuries to potato yield. Such microorganisms have to be controlled not only in one country, but in the all EC countries, because potatoes growing takes important role in all countries agriculture. Special potato ring rot control directive 93/85/EEC was accepted in 1993 October 4th. The main options how countries have to fight against the potato ring rot are presented in this directive.

The main aim of this research was to find out positive and negative Council directive 93/85/EEC control results and give the suggestions how it can be used in the most suitable way.

The main research tasks were:

1. To identify the main Council directive 93/85/EEC aims and tasks.
2. To gather and summarize all data gathered exploring potato ring rot prevalence .
3. To evaluate potato ring rot risk degree.
4. To estimate all possible costs for potato ring rot control in Lithuania.
5. To make potato growers and marketers opinion poll about Council directive 93/85/EEC requirements implementation.

After the research work there was collected and summarized such material:

1. Information about potato growing in Lithuania.
2. Information about ring rot disease spread in Lithuania.
3. Potato ring rot spread monitoring data.
4. Council directive 93/85/EEC implementation research.
5. Economic Council directive 93/85/EEC implementation expenses.
6. Potato growers and marketers groups opinion poll about Council directive 93/85/EEC requirements implementation.

After ring rot monitoring research performance it was determined that from 229 explored farms in 39 farms was found disease. It was tested 8339,51 t (526 test examples) ware potatoes, from which 1250,55 t (52 test examples) were infected by Cms bacteria. It was found in 17 % farms and 15 % explored potatoes. Adapting these research data to the total potato yield produced in Lithuania there are possibilities that about 240 thous.t of infected potato tubers are harvested in Lithuania. They are the high infection source, because no any restrictions for potato realization and use are used.

State Plant Protection Service (later in the text – VAAT) controls seed potatoes farms and performs imported-exported potatoes phytosanitary control. Tests results show that control have

to be done not only in the seed potatoes but also in ware potatoes. There were no systemic ware potatoes phytosanitary tests for potato ring rot.

For preventing ring rot expanding in potato growing areas additional expenses will be needed for new requirements adaptation to potato storages, machinery, buildings and etc. It'll increase potato growing, storage and transportation expenses. It'll decrease benefits got from potato sector. Part of potato growers mainly potato seed producers will stop their business. In the report presented data give the prognosis that minimal requirements can fulfil less than 10 % potato farms.

Potatoes are one of the main agriculture crops in Lithuania, but their growing level is low. Potato farms don't have modern specialized for potatoes machinery and other agricultural equipment. Using such machinery potato planting and potato field managing, later harvesting operations are done not properly, great number of tubers are injured.

Cooperation in potato growing sector is not widely developed. Potatoes are grown in the small farms. Their cooperation can better use material and financial resources, get financing from governmental cooperation programs for technologic equipment buying, storages modernization and building.

For hygienic and technical requirements measured in the ring rot control directive implementation it's very important to perform properly disinfections, land protection against weeds and wild growing potatoes. For this purpose used expenses for disinfection, chemicals buying and spraying have to be compensated partly from government side.

Potato ring rot monitoring and control done by VAAT needs financial and material expenses: for personal salaries, taxes, studies and qualification growth, laboratory equipment and materials buying, special places for quarantine plants utilization building.

Practical studies, consultancy and information spread have to be used more effectively. For this purpose it's useful to start special program for farmers and organize potato growers further education. Special prospects and editions about potato ring rot have to be prepared for different users: seed potato growers, ware potato growers, sales managers, people which grow potatoes for their family purposes only.

Governmental attention and financial support decreased greatly during last ten years for potato science not only in growing technologies but also in storing technologies for potatoes, manufacturing and economics fields.

There is a great need for replacing infected by ring rot potatoes with healthy, brought from foreign countries or produced locally. Seed potato import to Lithuania can be increased 2-2,5 times.

But it can cover only about 10 – 15 % of the total seed potatoes needs. To plant in the all potato plots certified seed potatoes will cost about 1 mlrd. Lt. To plant only seed potatoes plots costs will reach 234 mln. Lt. If seed potatoes will be used in the places where potato ring rot was found, costs for buying seed potatoes will cover 39,7 mln. Lt.

For changing potato growing activities average costs amount will cover up till 1 mln. Lt. It depends to the farm size, business plans, crops grown in the farm. Every concrete case can be

very individual and depends from the farmer's choices and specific features: land area, land location, possibilities for renting, soil type and quality.