FRUIT TREE NURSERIES IN LITHUANIA: PROPAGATION AND CERTIFICATION SYSTEM
KOKAUDZĒTAVAS LIETUVĀ: AUDZĒŠANAS UN SERTIFIKĀCIJAS SISTĒMA

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Kopsavilkums

Sertificēta stādāmā materiāla ražošanas sistēma Lietuvā tika atjaunota 1995. gadā. Par kvalitātes kontroli un sertifikācijas sistēmu atbild Valsts sēklu un graudu serviss. 2002. - 2004. gados tika saskaņota juridiskā bāze ar ES likumdošanu. 2005. gadā bija reģistrētas 45 sertificētu stādāmo materiālu ražojošas kokaudzētavas. Ik gadus izaudzē virs 500 000 augļukoku stādu, virs 5 miljoniem upeņu un ap 700 000 zemeņu stādu. 211 kokaudzētavas reģistrētas fitosanitārajā reģistrā un saņem augu pases. 2004.gadā augstāko kategoriju stādāmā materiāla centrs tika izveidots Lietuvas Dārzkopības institūtā. Šis centrs apgādā kokaudzētavas ar vīrusbrīvu potzaru un potcelmu materiālu sertificēta stādu materiāla ražošanai.

Abstract

Certification of fruit plant propagating material in Lithuania was renewed in 1995, when a tree nursery quality program was initiated. State seed and grain service (SSGS) is responsible for the quality control of the planting material, maintenance of propagation steps and the certification system. The legal base according EC directives was harmonised during 2002-2004. 43 nurseries were registered at SSGS as suppliers of certified fruit planting material in 2005. The annual production of certified fruit trees is more than 500 thousands, currants – more than 5 million, strawberries – around 700 thousand. The state plant protection service (SPPS) is responsible for controlling of quarantine pests and diseases in all propagation steps. 211 nurseries are registered in the Phytosanitary register at SPPS and receive Plant passports for propagated material. In 2004 Elite Plant Propagation Centre (EPPC) was established at the Lithuanian Institute of Horticulture in Babtai. EPPC is equipped with a modern screenhouse, virus testing laboratory, thermotherapy and propagation facilities. EPPC is responsible for propagation and maintenance of prebasic and basic propagation material of fruit cultivars and rootstocks and is obligated to supply commercial nurseries with virus free scion and rootstock material for the propagation of certified fruit trees.

Key words: fruit plants, propagation, certification, quality

Introduction

Fruit and berry production takes an important place in the agriculture of the Lithuania. The quality and health status of planting material to a large extent determined the results in the cultivation. Virus or virus like pathogens reduces the usefulness of the propagating material. The European Community introduced rules that guarantee the quality and plant health of the fruit plant propagating material (Council Directive 92/34/EEC, 1992) the Quality of fruit planting material is checked during the official certification. Certification is carried out by competent authorities during controls and field inspections.

All suppliers of fruit planting material are responsible to fulfil certain conditions laid down in the legislation. It is very important for each member state to harmonize legislation, to insure uniform application of the standards and to insure free market for planting material across the Europe.

The aim of work is to describe and discuss the certification and propagation system of fruit and berry plants in Lithuania.

Materials and Methods

The work was performed summarizing the experience and the accumulated knowledge on propagation and certification system at the Lithuanian Institute of Horticulture, State Seed and Grain Service, State Plant Protection Service. National and European Community legislation was analysed. Analysis of fruit plant propagation was performed by an annual questionnaire of commercial nurseries.

Results and Discussion

Legislation. Legal acts describing procedures, responsibilities, quality requirements of planting material, propagation and certification of fruit plants in Lithuania are harmonised according EC directives. Implementation of EC legal requiremwnts took place during 2002-2004. Themain legal acts are following: Law on Seed cultivation (2004), Mandatory requirements for fruit and berry propagating material (2004), Law on the Protection of Plant Varieties (2001), Inspection rules for field inspection of fruit plant propagating material (2005), Law on Phytosanitary (2003), Ministry order on attestation of suppliers of plant propagating material (2002).

Harmonisation of the legislation creates a framework and the conditions for the free marketing of the plant material, meeting the requirements, inside the EU. However competition in the European market is not on legislation, which is only a precondition, but on the quality of the product. Only high quality planting material: virus free, true-to-type and produced under independent official certification could be competitive.

Certification. Certification of fruit planting material in Lithuania was renewed in 1995 by mutual initiative of the Lithuanian Institute of Horticulture (LIH), the Lithuanian Association of Commercial Orchards 'Fruit and berries' (ACON) and State Seed and Grain Service under the Ministry of Agriculture (SSGS). At this time state financed tree nursery quality program was initiated. Main nurseries of ACON received high quality (mainly basic) rootstock material for the establishment of rootstock propagation plantations and basic scion material for the establishment of scion shoot orchards from Netherlands, Germany, Poland and Russia. Rootstocks were distributed to nine nurseries all over the Lithuania and scion shoot orchards were planted in three nurseries. At this moment the main idea of certification was to distinguish planting material propagated in certified nurseries and support growers who use certified planting material for the establishment of commercial orchards and berry plantations (Ministry order on aid for certified planting material, 2005). Certification of planting material was performed by SSGS and scientists from LIH. Experts from LIH were involved in the certification of fruit planting material until 2002.

Nowadays SSGS controls propagating material supplied to consumers in the domestic market and its conformity with requirements established by legal acts, implements State quality control of propagating material, implements management of aid for users of certified plant propagating material, controls the preparation of business entities to supply plant propagating material to the internal market, controls conformity of plant propagating material with established requirements, is responsible for the maintenance of propagation steps and the certification system and the issue of quality certificates (http://www.vsgt.lt).

SSGS is a government institution that was established in the middle of the year 2000 after the re-organization of the State Seed Inspection and the State Grain Inspection. SSGS has a main office in Vilnius and four branch offices in regions and employs 114 persons. 10 inspectors are specialised in quality control and certification of fruit propagating material. Qualification of SSGS inspectors especially rose during 2002-2004 when the Lithuanian – Netherlands project PSO01/LT/9/3 'The creation and implementation of a monitoring system for the quality of fruit propagating material in Lithuania according to EU requirements' was implemented. From Lithuanian side partners of the project were SSGS, LIH and ACON, from Netherlands side – Naktuinbouw and Vermeederingstuinen Netherland. During the project not only legal basis was harmonised, but also training courses and practice for specialists and inspectors were organised both in Lithuania and Netherlands. At the same time the improvement of laboratory of SSGS was performed. The laboratory was equipped by modern virus testing PSR equipment.

Only registered nurseries at SSGS can certify propagated planting material. In order to be included into the register nurseries have to fulfil special requirements for nursery management, persons responsible for propagation and documentation, facilities, document keeping, origin of propagating material, registration of all activities, detailed plan or production and etc.

Certification of planting material is performed in few steps:

- nursery information on the amount of propagating material, its category, field plans and planting schemes;
- documentation control;
- one or two field inspection according to the type of planting material;
- labelling;

- batch control;
- issue of certificates.

Planting material is certified if it derives from motherstocks that are thoroughly checked for their identity and virusstatus, is true-to-type and fulfils all phytosanitary requirements. Therefore certified nurseries must be registered at State Plant Protection Service (SPPS) too (Law on Phytosanitary, 2003; Rules for plant passport and protected zones, 2003). Certification of SSGS is not performed if SPPS did not performed inspection on quarantine pests and diseases and soil nematodes. There are attempts to unite the information necessary for plant passport and certification in one label. The SSGS controls all steps of propagation and maintenance of necessary procedures and issues quality certificates not only for certified planting material produced in commercial nurseries but also for basic propagating material that is propagated at the Elite Plant Propagation Centre (Centre).

Propagation system. Certified planting material must arrive from known sources, to be tracebile and controlled at all propagation steps. Therefore Lithuania has started to create the infrastructure necessary for the production of high quality fruit planting material. The elite Plant Propagation Centre is established at the Lithuanian Institute of Horticulture and is responsible for propagation and maintenance of highest quality propagating material and its supply for commercial nurseries for further propagation of certified planting material. At this moment the EPPC is supported by State (at propagation stages: candidate Plant, prebasic material, basic material) and partly by nursery growers (at propagation stages: rootstocks basic material and scion wood orchard). The coordinating committee of the Elite Plant Propagation Centre rules the activities of Centre. There are seven members of Coordinating committee: 2 representatives from commercial nurseries, 2 representatives from commercial orchards, 2 representative from LIH and one from the Ministry of Agriculture. The coordinating committee establishes species and varieties for propagation, determines quantities of material to be propagated, settles the price for scions and rootstocks needed for propagation of certified plants in commercial nurseries, decides distribution of propagating material in the case of shortages. During the project 'The creation and implementation of a monitoring system for the quality of fruit propagating material in Lithuania according to EU requirements' implementation a modern screen house for the maintenance of prebasic material was build at the Lithuanian Institute of Horticulture. The Centre uses the virus testing laboratory, thermoterapy chambers and propagation facilities of LIH.

In order to speed the implementation of the propagation and certification system Centre had the oportunity to receive prebasic planting material of apple, cherry, plum and pear from Vermeederingstuinen Netherland. Scion shoot orchard established with certified mother trees from the same source supply all Lithuanian nurseries with scions needed for propagation of certified planting material (Table 1).

Table 1. Fruit plant propagation system in Lithuania, activities and institution involved

Propagation steps	Activities	Place	Control
Candidate plant	Full testing, testreports of individual plants	Centre	Annual auditing of the laboratory by SSGS
Prebasic material	Maintenance and propagation	Centre	Auditing system, facility check, random viruschecks of motherplants by SSGS
Basic material	Maintenance, propagation, pomological control	Centre	Inspection, random viruschecks by SSGS and SPPS, issue of certificates
Certified scion wood material	Propagation	Centre	Field inspection, random viruschecks by SSGS and SPPS, issue of certificates
Certified rootstock material	Propagation	Centre and commercial nurseries	Field inspection, random viruschecks by SSGS and SPPS, issue of certificates
Certified plants	Propagation	Commercial nurseries	Field inspection, random viruschecks by SSGS and SPPS, issue of certificates

Basic rootstocks for the establishment of rootstocks of propagation fields are distributed to commercial nurseries, that propagate certified rootstocks. Rootstock nurseries propagate rootstocks not only for their own needs but also supply other nurseries with certified rootstocks for the production of certified trees.

Suppliers of uncertified fruit and berry planting material do not follow this propagation system but there are attempts to involve them to a larger extent. Already suppliers of uncertified fruit and berry planting material must be registered at the SPPS in order to receive a plant passport. The marketing of fruit planting material without a plant passport is restricted. In 2005 211 fruit and berry nurseries were registered at Phytosanitary register (Rules for plant passport and protected zones, 2003; http://www.vaat.lt). From 2005 they have also to be registered at SSGS and fulfil minimum requirements for CAC quality material (Ministry order on attestation of suppliers of plant propagating material, 2002).

Propagation. During 1995 – 2005 the number of certified nurseries increased from 9 up to 43. 10 nurseries propagate all species of fruit and berry plants, 33 nurseries are specialised in propagation of currants and/or strawberries. The main fruit crops in Lithuania are apples, black currants and strawberries. Certified nurseries in most cases fulfil the demand of fruit planting material.

Total production of apple planting material have tendency to annual increase (Fig 1).

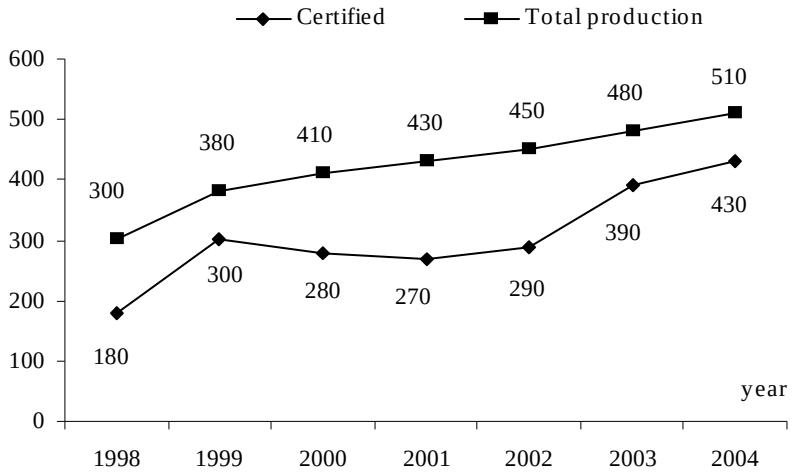

Figure 1. Total production and production of certified apple planting material in Lithuania, thousands

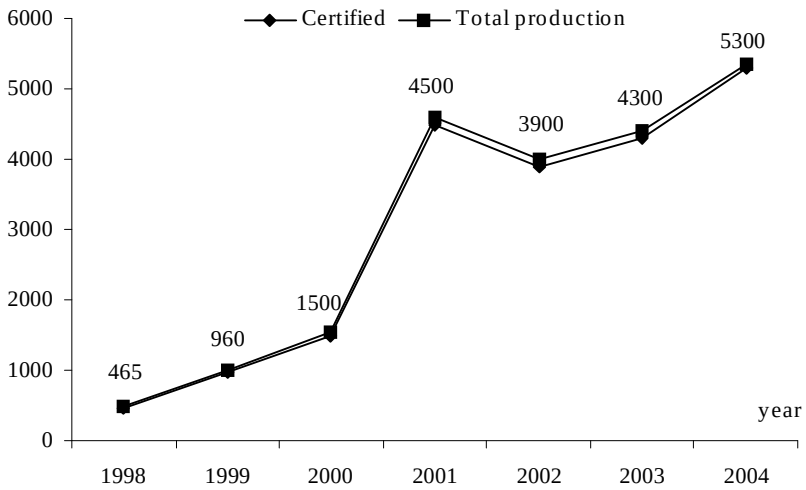

Figure 2. Total production and production of certified black currant planting material in Lithuania, thousands

Production of certified apple planting material was rather stable during the period of 1999-2002 – around 300 thousands trees were produced annually. A big rise in production was recorded in the last two years. The situation was unclear because State aid paid was paid commercial orchards that use certified planting material for the establishment of new plantations. At the same time production of uncertified apple planting material declined due to loss of demand from for amateurs gardeners.

The amateur market for black currants is less than apples therefore mostly certified planting material is produced (Fig.2). A big expansion of black currants production lasted until 2001 when it reached four and half million bushes but even until now it remained stable despiterm low prices of black currants berries. In the near future a decrease in propagation of black currants is expected.

A different situation exists in propagation of certified strawberry planting material (Fig. 3). Since State aid is relatively low for strawberries planting material there was no stimulation to use certified material. In such a situation most of strawberry nurseries are trying to avoid certification and the control of official institutions. Almost 3 millions strawberries were propagated in 2004, but only 690 thousands were certified. At the same time large imports of strawberry planting material exists from Poland. Propagation of uncertified planting material will decrease only whan growers will be aware of the quality and health status of planting material.

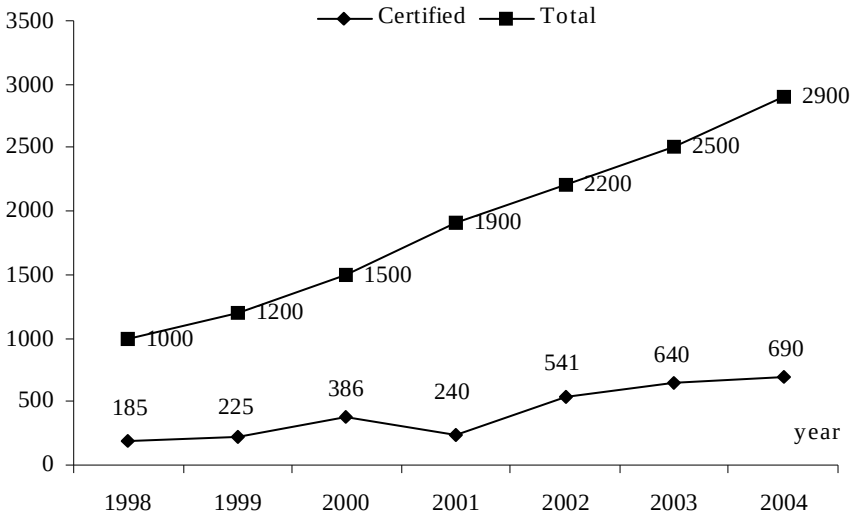

Figure 3. Total production and production of certified strawberry planting material in Lithuania, thousands

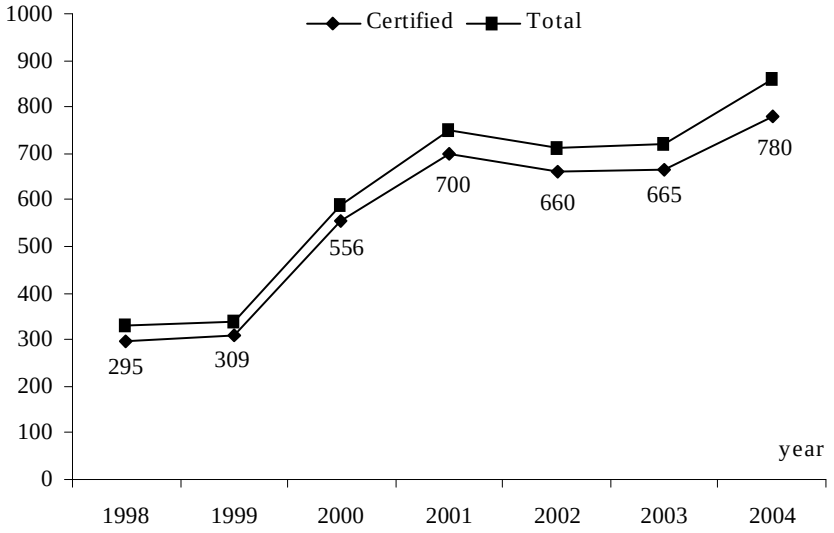

Figure 4. Total production and production of certified apple vegetative rootstocks in Lithuania, thousands

Conclusions

Legislation on the certification of fruit and berry planting material according EC directives has been created in Lithuania. State seed and grain service under the Ministry of Agriculture is responsible for the maintenance of propagation steps and the certification system.

43 certified nurseries produce annually 500 thousand certified fruit trees, 5 million currants and 700 thousand strawberries and meet demand of commercial orchards.

The elite Plant Propagation Centre is established at the Lithuanian Institute of Horticulture and is responsible for the propagation and maintenance of prebasic and basic propagation material and supplying the commercial nurseries of Lithuania with virus free propagating material.

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