

Experience of 30 years starting from searching of hardy garden plants to utilization of best material in nursery production and landscaping.

Marjatta Uosukainen, MTT Plant Production Research, Horticulture, Antinniementie 1, FI-41330 Vihtavuori.
mariatta.uosukainen@mtt.fi

Summary

Dendrological history in Finland dates back to 400 years. Nursery production started 200 years ago and it was flourishing during the first half of the 20th century. However, in late 1960's competition with imported plant material caused a wave of rationalization at our nurseries. Many enterprisers eliminated rapidly their "non profitable" own mother stock fields and started to buy small plants from abroad. These nurseries became more or less middlemen between foreign nurseries and Finnish garden centers and resellers. Finally in 1970's Finish nursery production consisted of about 20 plant species.

Survey of plant collections

At the beginning of 1980's there was an acute shortage of high quality propagation stock material. Particularly city gardeners started to claim for greater diversity, better plant material and demanded plants which were adapted to our climatic conditions. Finally, in 1984, a large scale survey of old parks, estates and gardens, arboretums, nurseries, grave and church yards etc. was started under KESKAS (=hardy plants) project, followed by POHKAS-project in northern Finland. Inventory of plant collections resulted over 1000 hardy registered plant clones through out Finland. Plant material was registered into KESKAS database and register was published as a book.

Organized working chain from research to practice

In 1990's clone selections were started by collecting and propagating KESKAS clones from different origins. Ministry of Agriculture and Forestry demanded that this activity must be organized under MTT instead of diverse projects under several organizations and institutes. A working chain was created: KESKAS research → Clone selection at MTT → Certification of mother stocks → Production of certified propagation stocks → Nursery production → Introduction of new plants as FinE plants → Marketing and sales to customers.

MTT has taken care of preservation and availability of certified propagation stock material in Finland. This material is genetically defined, disease and pest free propagation material which adaptation to our climatic condition has been tested. The Clone selection research has been done on plant families like *Diervilla*, *Forsythia*, *Hydrangea*, *Lonicera*, *Philadelphus*, *Rosa*, *Salix*, *Syringa*, *Spirea* and *Viburnum*. Also single plants have been accepted: *Rhododendron x fraserii* and *Fothergilla major* 'Velho'. The best selections are labelled to customers with FinE-registered mark. MTT Horticulture has studied plant success in the Finnish climate. It has served our nursery production, fruit and berry production and landscaping at several locations: in Piikkiö, Laukaa, Jokioinen, Rovaniemi, Ruukki, Sotkamo and Pälkäne.

After evaluation and clone selection of hardy material, the best clones have been propagated, disease indexed and eradicated and propagated as elite propagation stock for nurseries. Elite propagation material consists of over 250 plant cultivars or clones. Availability of this material has helped the Finnish nursery industry to maintain its competitiveness. In addition, about 120 clones have been propagated to nurseries in northern Finland. The Finnish national core collection of genetic resources of horticultural plants is built up on these plant materials. Also plant breeding projects on both evergreen and azalea rhododendrons and shrub roses have been going on in Finland during the past 20-30 years. There still remain numerous registered

plants that have not been under clone selection, but which would be valuable in commercial production and in landscaping.

Results into practice

Collaboration between the MTT research institute, nurseries and city park departments is active. Research results are rapidly transferred to practice through production of elite mother stock for nurseries. About 80 % of major Finnish nurseries buy propagation material from MTT Laukaa. This material is used as mother stock or to raise them from small plants to sales size plants. To-day we have about 100 full-time nurseries. They are also active in searching new hardy plant cultivars for production. The sales of the Finnish nurseries is comprised 79% of own production. It means that to-day the nurseries trust on Finnish propagation stocks.

Climatic changes increase the risk of winter damages particularly on woody plants. There is a fear that diversity of these plants will decrease. Therefore the need of breeding of woody plants increases. Investments in research and development work are needed.