

## The state of the Hungarian ornamental horticulture industry, recommendations for development

LÁSZLÓ ORLÓCI

Hungarian Ornamental Horticultural Association, Budapest, Hungary

orloci@yahoo.com

### Summary

R&D and innovative technologies are required in the EU for being competitive on the world market. Education and professional co-ordination is vitally important, as well as maintenance and development of our genetic bases.

**Keywords:** Hungarian ornamental horticulture, breeding, innovative technologies, research and development

### Scientific development features of the Industry

Research, development and breeding are part of the economic competition.

A huge innovation pressure is on the European ornamental horticulture industry, as with the technological development more and more products are easily transported and stored at a lower price, thus the production of cut flowers or pot plants in the long run can be relocated outside Europe (*Table 1*).

Table 1. Overall data of the industry – production data 2016

	Producer's territory (ha)	Sold amount (pcs/year)	Sales net income (1,000 HUF)
Nursery	4 700	25 400 000	9 650 000
Nursery, in farmland	1 300	8 000 000	4 000 000
Nursery, in containers	120	3 000 000	1 800 000
Rose (scion+rootstock)	170	6 000 000	820 000
Perennials	30	6 000 000	800 000
Christmas tree	3 000	1 500 000	1 750 000
Other	80	900 000	480 000
Cut flower	103	39 030 000	4 081 200
Rose	10	1 500 000	120 000
Gerbera	10	12 000 000	540 000
Gladiolus	8	450 000	85 000
Chrysanthemum	50	15 000 000	1 590 000
Lily	4	2 500 000	510 000
Orchid	2	180 000	540 000
Cut green plant	4	1 200 000	31 200
Other	15	6 200 000	665 000

*The rest of Table 1 is on the next page ...*

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	Producer's territory (ha)	Sold amount (pcs/year)	Sales net income (1,000 HUF)
Plants for pots, bedding and balcony use , plants with bulbs and rhizomes	189	43 360 000	12 491 750
Pelargonium	30	8 000 000	1 850 000
Primula	5	1 400 000	190 000
Cyclamen	3	410 000	180 000
Poinsettia	3	600 000	210 000
Chrysanthemum	10	2 000 000	1 200 000
Orchid	0	0	0
Annuals, biannuals and balcony plants	130	29 000 000	8 500 000
Plants with bulbs and rhizomes	4	350 000	36 750
Other (including leafy plants)	4	1 600 000	325 000
Sum total of Ornamental plants	4 992	107 790 000	26 222 950

### New species, varieties and technologies

Regarding plant producing EU countries, the only solution for keeping their current position is innovation i.e. constant development.

Practically speaking, research activity needed for technological development has been gradually terminated; actual breeding work is done only in case of few species. As a result, we have some internationally successful annual varieties (Celosia, Gailardia, Tagetes), climate and disease resistant rose varieties and other tree and shrub varieties.

We still lag behind in education and training professionals.

Research and development activity are being done at universities and institutes under the Ministry of Agriculture.

Practical and maintainable research, development and adaptation work are needed regarding industrial R&D and innovation fields.

Professional coordination is required to be enhanced.

Innovation and R&D tasks should be worked out.

Our technical equipment and resources are fairly different at our institutes and companies. In nurseries, for instance, this level is generally medium or better, in greenhouses it is weak.

Clear prioritizing shall be done for research and development of the most competitive areas, which should be abundantly financed for gaining real and useful results.

Capital requirement of a nursery development (investment, machinery, buildings) 2–4 million HUF per ha. In case of a greenhouse this is 200–400 million HUF or above, depending on the level of the technical equipment.

### **Maintenance and development of genetic bases for production purposes**

*FVM – Ministry of Agriculture – regulation No 95/2003. (VIII. 14.) about the maintenance of genetic materials of plants*

One of the drivers of ornamental plant consumption is new varieties, a great way to increase demand. A breeding base of the industry shall be created. New plants shall be established for testing and comparing the new varieties.

Breeding activity abroad is done connecting to propagation plants or at individual organizations, or in family companies, mostly without outer financing. Studying this practice for naturalization is crucial, taking the Hungarian systems and characteristics in account.

The economical breeding shall be connected to the work of propagation companies.

The researchable fields with great prospects and plant varieties worth of breeding and maintenance shall be detected and measured with help of state subsidy. The protection of genetic bases (Law LII, year 2003.) needs to be up-dated, as well as the organization structure of the maintenance of biological bases of the production.

#### **Highlighted aims of the industry**

- Improvement of the energy issue.
- Up-dating the irrigation system (including green surfaces).
- Adaptation of modern, efficient and cost-cutting technologies, digitalization of agriculture.
- Product preparation, packaging, shipping.
- Maintenance of genes, breeding, variety testing, handling domestic varieties, financing display gardens.
- Improving the standard of education, training, and practical training; registration should be required for professionals, after gaining relevant degrees or diplomas.