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PODILLYA BOTANICAL GARDEN AND BIOSTATIONARY OF VINNYTSIA NATIONAL AGRARIAN UNIVERSITY AS AN EDUCATIONAL, SCIENTIFIC AND PRODUCTION BASE IN THE PRACTICAL TRAINING OF FORESTRY AND HORTICULTURE SPECIALISTS

Summary

The main problems of practical training of students in Ukraine, which would form the professional competencies of future professionals, are outlined. Peculiarities of students' internship are determined. The conditions necessary for achievement of the set purposes and the decision of important tasks of practical preparation are investigated. It is stated that practical training is the basic value orientation of future professionals. The issues of formation and use of the biostationary as a training, scientific and production base in the training of specialists in the specialties "Forestry" and "Horticulture" in teaching subjects of professionally oriented disciplines are considered. The importance of the biostationary in the study of the prospects of using ornamental plant species for landscaping of various objects is substantiated. The species composition of the collections of ornamental plants of the biostationary of the Podillya Botanical Garden of Vinnytsia National Agar University has been systematized.
Key words: biostationary, collection, species, decorative forms, practical training

Introduction

The process of training forestry and horticulture specialists in VNAU is carried out both by highly professional scientific and pedagogical staff and in the presence of appropriate

educational and practical base for students - laboratories, garden centers, botanical garden, which together form a single educational complex. In the training of specialists in this field, contact with phytodiversity - plant groups is of great importance, which allows not only to know the theory, but also to obtain the necessary practical skills [8]. The Botanical Garden is a scientific and methodological base for conducting applied research by students and scientists of the university in the fields of floriculture, ornamental horticulture, forestry, forest reclamation, plant physiology, ecology, etc. In addition, the Botanical Garden is a base for the development of regional regional programs for landscaping, study of the eco-landscapes of Podillya, monitoring of endangered rare plants [5, 7]. The presence of such a facility in the structure of the university allows to maintain close ties with protected areas of Vinnytsia region and Botanical Gardens of Ukraine, to carry out scientific and practical cooperation with the regional horticultural station, the Institute of Horticulture NAAS and other institutions. The botanical garden, which includes an arboretum, greenhouse, exhibition area and biostationary, is the nearest floristic object of the university, and acts as a kind of "living green laboratory" for a number of disciplines, such as floriculture, decorative dendrology, forestry, topiary art, decorative art. with the basics of seed production, etc. [1, 2]. At our university, a biostationary, which is located directly on its territory, serves this purpose.

The biostationary was established in March 2015 on the basis of the Botanical Garden "Podillya" of Vinnytsia National Agrarian University in order to create collections of ornamental plants, conduct practical classes in professional disciplines, scientific work and for students to undergo training and industrial practices.

With the assistance of the university administration, as well as with the participation of teachers of the Department of Forestry, Horticulture, Horticulture and Viticulture, the biostationary is constantly replenished with new plant species through cooperation with a number of research institutions and garden centers.

Purpose, subject and research methods

The species composition of the biostation today is about 100 species, located on an area of 0.35 hectares. The systematic principle of selection and placement of species in collections has played a significant role in the taxonomy of plants not only for research but also for educational work. The nursery presents a large number of families that are found in the flora of Ukraine. In turn, each family is represented by species composition.

In the educational process, the nursery is the main object during the training practice and

practical classes. Completing the lecture course on plant taxonomy, students are introduced to the diversity of life forms, the quantitative composition of representatives of different angiosperm families in natural and directly growing form. They have the opportunity to visually study the morphological features of plants, as well as the characteristic morphological features of families, which are presented in the collection [3, 6].

In addition, students are introduced to plants that can be introduced into the culture (medicinal, ornamental), as well as wild useful plants mentioned in the lecture course, and other species that deserve attention [4].

The nursery also gives the opportunity to get acquainted with the plants of other regions of our country and other countries and continents, and to study the possibilities of introduction of some of them. During excursions through the nursery, students get acquainted with an interesting and rich collection of rare and relict species. That part of the biostationary, where tree-like and bush forms of plants are located (the so-called park-forest zone), makes it possible to study the ecological conditions of growth and mutual influence of different species on each other, their general development in the collection (Table 1).

Table 1. Species composition of tree-shrub and herbaceous plants of the biostationary of the Department of Horticulture, Horticulture and Viticulture
Source: own research

№	Name of plants	Botanical family	Quantity, items.
1	Picea abies	Pinaceae	3
2	Picea pungens		3
3	Picea pungens f. Glauca		6
4	Pinus strobus		3
5	Pinus sylvestris		1
6	Picea glauca		5
7	Pinus mugo		5
Total pieces			26
1	Taxus baccata L.	Taxaceae	6
2	Taxus media		5
Total pieces			11
1	Juniperus virginiana	Cupressaceae	7
2	Juniperus communis		5
3	Chamaecyparis Lawsoniana		10
4	Chamaecyparis pisifera		4

5	Juniperus horizontalis		5
6	Juniperus chinensis		2
7	Juniperus sabina		9
8	Juniperus excelsa		5
9	Thuja occidentalis f. Smaragd		9
10	Thuja occidentalis f. Pyramidalis		8
11	Platycladus orientalis		7
12	Thuja occidentalis L. f. globosa Gord.		4
13	Thuja occidentalis f. Teddy		1
14	Juniperus scopulorum		1
15	Thuja occidentalis Europe Gold		1
16	Thuja occidentalis f. Wagneri		1
17	Thuja plicata		1
Total pieces			80
1	Syringa vulgaris	Oleaceae	5
2	Syringa josikaea		5
3	Ligustrum vulgare		5
4	Forsythia suspensa		5
5	Forsythia europaea		5
Total pieces			25
1	Hydrangea arborescens	Hydrangea	5
2	Philadelphus coronarius		5
3	Deutzia scabra		5
Total pieces			15
1	Ginkgo biloba	Ginkgoales	6
1	Magnolia kobus	Magnoliaceae	2
2	Magnolia soulangeana		2
3	Magnolia acuminata		2
4	Magnolia tripetala		3
Total pieces			9
1	Berberis vulgaris	Berberidaceae	6

2	Berberis thunbergii		3
3	Berberis ottawensis		1
Total pieces			10

At present, 411 collectibles of tree and shrub flora are placed at the biostationary facility. Life forms of plants include: trees (21%) - 89 individuals, shrubs (79%) - 322 individuals. According to taxonomic affiliation, collection plants are classified into 70 species and intraspecific taxa, 36 genera, 18 families. Among them, 117 individuals are conifers (gymnosperms), 6 are deciduous (gymnosperms), and 288 are deciduous (angiosperms). The gymnosperm division is represented by the following families: *Cupressaceae* - 80, *Pinaceae* - 26, *Ginkgoales* - 6 and *Taxaceae* - 11 individuals. The angiosperms in the collection include the following families: *Rosaceae*– 62 individuals, *Buxales* - 30 individuals, *Fagaceae* - 5, *Hydrangea* - 15, *Oleaceae* - 25, *Celastraceae* - 9, *Caprifoliaceae* - 5, *Fabaceae* - 1, *Berberidaceae* - 10, *Rhamnaceae* - 5, *Aceraceae* - 6, *Magnoliaceae* - 9, *Bignoniaceae* - 3, and *Betulaceae* - 103 individuals.

The maximum number of individuals is represented by such taxa as *Córylus colúrna* - 103 individuals, *Buxus sempervirens* - 30, *Chamaecyparis Lawsoniana* - 10, *Spiraea japonica* - 15, *Chaenoméles japónica* 15 individuals. The vast majority of collectible tree and shrub plants are introducers. Among them are interesting representatives of the flora of China, Japan, the Caucasus, North America, the Middle East. In particular - *Ginkgo biloba, Prunus serrulata, Magnolia kobus, Magnolia soulangeana, Magnolia acuminata, Magnolia tripetala, Catalpa speciosa.* The collection of the arboretum includes Red Book trees and shrubs (2 species) - *Taxus baccata L, Syringa josikaea*.

Activities at the biostationary are not limited to the work associated with the formation of the collection. Phenological observations of woody and shrubby plants have been carried out since the beginning of the establishment of the biostationary, and active work is underway in the direction of cooperation with domestic botanical institutions, garden centers, in particular on the exchange of seeds and planting material. In addition, there are tours for a wide range of visitors.

On the basis of the biostationary research is conducted to study the basics of conservation, reproduction and use of plant resources. Under the guidance of teachers, students study ornamental plants, the technology of their cultivation and the care and use of various objects in landscaping. The collected results form the basis of graduation theses.

Conlusions

Living botanical collections of the biostationary play a cognitive role, broaden the horizons and are a supplement to nature excursions, which helps to create in students a broader idea of the richness of living forms of flora, which is especially important for future forestry and horticulture.

Biostationary is a reliable scientific basis for research on biological and morphological characteristics of plants, reproductive reproduction and the establishment of certain patterns of interspecific interaction of different species of ornamental plants. The practical significance of the biostationary in the study of the prospects of using ornamental plant species for landscaping of various objects.

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