

PLANTATIONS ON THE PREMISES OF PUBLIC BUILDINGS OF THE VYSHGOROD TOWN, KYIV OBLAST

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The results of green spaces research at the territories located in front of the public buildings at the Vyshgorod town, Kyiv region are given. The assortment of tree species were researched, and their occurrence and ornamental state were evaluated.

Key words: public buildings, green spaces, occurrence, condition, ornamental state.

Systems of green spaces for both - small towns and cities have common purpose, tools and methods to achieve that purpose. By the definition of M. Luse [2] a distinctive feature of the green spaces of small towns is that plantations for public use are underdeveloped, and do not correspond to the standards implemented by urban development science in terms of size, location, and possibility of functional use.

In the small towns meaning of green spaces in terms of its role is shifting compared to the large cities: fulfillment of the hygienic requirements during the creation of a system of landscape gardening becomes more of a prophylactic measure, whereas other more specific tasks, such as – noise and dust suppression in the places proximate to the source of their appearance and esthetic functions, become of higher interest.

Public buildings are included into one of the groups of civil buildings, which, by their functional purpose, are supposed to serve common everyday household needs, communal and social needs of population. Dominantly, establishments and enterprises that are situated in the public building are intended for use of social, household, or cultural purposes – health care, education,

construction, financing, managing etc. Usually these are frequently visited buildings, adjoined territories of which must be organized in both – utilitarian and esthetical senses, that's why an adequate amount of attention should be paid to it's exterior decoration.

Objective of the research was to find out the assortment and current state of tree species at the certain range of territories of public buildings of Vyshgorod town, Kyiv Oblast.

Materials and methods of the research. Areas of landscape gardening in front of 5 important public buildings were studied in 2012, including the military enlistment office, borough internal affairs department, district state administration, exchequer chamber, public procession office, located on the Kurguzova street, and in the beginning of the Shevchenka avenue in the town of Vyshgorod. A complete tree by tree enumeration was accomplished, on the territories mentioned above, including such activities as species identification, present condition determination, evaluation of ornamental state. Assessment of present condition was made via a five-grade visual evaluation scale for outdoor plants of S.I. Kuznetsov [1], ornamental state – by a four-grade scale of E.I. Yakushina [5]. Analysis of the obtained data included assessment of the species occurrence percentage of it's participation [4] on the grounds subjected to this research, evaluated by classification of M.A. Miheyeva [3]. For the determination of species' biodiversity Shannon-Winner index was calculated.

Results of the research are shown in the tables 1-3, and at the figures 1-3. Kurguzova street, where a considerable number of the important public structures are situated is located on the upstanding terrain, hills. Among the studied objects (Table 1) such species are present - *Picea excelsa* and *P.pungens F. glauca*, - at all 5 objects, *Biota Orientalis* – at four objects, *Betula pendula* (occurrence respectively – 100 %, 80 % and 60 %), the rest 10 species are only present at one of the studied object (occurance – 20 %).

A distinctive characteristic for the researched territories - presence of slanting lawns, that are sustained in satisfying condition, and tree, mostly coniferous

plantations. The last one transgressed from the USSR, like a tradition of landscape gardening of a regional offices of Communist Party and other governmental

1. Occurrence of the tree species on the research grounds

Specie name	Amount	Occurrence, %
<i>Picea excelsa</i> Link.	5	100
<i>Picea pungens</i> F. <i>glauca</i>	5	100
<i>Biota orientalis</i> Endl.	4	80
<i>Betula pendula</i> Roth.	3	60
<i>Prunus armeniaca</i> L.	1	20
<i>Aesculus hyppocastanum</i> L.	1	20
<i>Sorbus aucuparia</i> L.	1	20
<i>Juglans regia</i> L.	1	20
<i>Pyrus communis</i> L.	1	20
<i>Acer platanoides</i> F. <i>globosum</i>	1	20
<i>Acer pseudoplatanus</i> L.	1	20
<i>Acer negundo</i> L.	1	20
<i>Tilia cordata</i> Mill.	1	20
<i>Tilia platyphyllos</i> Scop.	1	20

structures. At the present time the plantation look pretty chaotic, their distinctive symmetry is dislocated. In some places specimens of *Picea pugens* F. *glauca* are replaced by *Picea excelsa*. In a more recent plantations, *Biota orientalis* is preferred. Trees are about 30-40 years old, and mostly block the view of the front of the buildings, overall plantations look misbegotten and quite unattended. However some festive feeling is still inspired by the presence of coniferous. Territory in front of the building of regional office of ministry of internal affairs (object 1) is decorated by a row unshaped dense hedge made of *Physocarpus opulifolia*, 1.2 m high, and two rows of marigolds. The highest percentage of presence among plantations on the study area (Table 2) is *Picea pungens* F. *glauca* (30,5 %) variating at some particular study objects from 10,3 to 60 %). Second to highest percentage belongs to *Betula pendula* (20,6 %) alternating between 23,7 and 43,1 %, although it is not present at all at two of the studied objects. On the

third place – *Picea excelsa* (14,5 %) depending on the object, ranging from 5 to 21 %. The fourth – *Acer platanoides F. globosum* (10,7 %) due to high occurrence at the central square, in front of district state administration building (56,0 %,

2. Presence of species at the objects of study percentagewise

Specie name	Percentage of presence, % per object					
	1	2	3	4	5	overall
<i>Picea pungens F. glauca</i>	10,3	36,8	10,5	60,0	36,0	30,5
<i>Betula pendula</i>	41,4	23,7	31,6	-	-	20,6
<i>Picea excelsa</i>	20,7	21,1	10,5	5,0	8,0	14,5
<i>Acer platanoides F. globosum</i>	-	-	-	-	56,0	10,7
<i>Biota orientalis</i>	6,9	10,5	15,8	15,0	-	9,2
<i>Sorbus aucuparia</i>	17,2	-	-	-	-	3,9
<i>Prunus armeniaca</i>	-	-	21,1	5,0	-	3,8
<i>Juglans regia</i>	-	-	-	15,0	-	2,3
<i>Pyrus communis</i>	-	-	5,3	-	-	0,8
<i>Tilia platyphyllos</i>	-	-	5,3	-	-	0,8
<i>Acer pseudoplatanus</i>	3,4	-	-	-	-	0,8
<i>Aesculus hyppocastanum</i>	-	2,6	-	-	-	0,8
<i>Acer negundo</i>	-	2,6	-	-	-	0,8
<i>Tilia cordata</i>	-	2,6	-	-	-	0,8

object 5).The fifth place – *Biota orientalis* (9,2 %) which is absent at the fifth object only. Other species are represented exclusively at a certain objects. Altogether, coniferous species account for more than half – 54,2 % of all present woody plants.

Species with very high presence rate are as follows: *Picea pungens F. Glauca*, *P. excelsa*, *Betula pendula* and *Acer platanoides F. Globosom*; with high presence rate – *Biota orientalis*, average – *Sorbus aucuparia*, *Prunus armeniaca* and *Juglans regia*, rest of the species have low presence rate.

Shannon-Wiener index exceeds typical range of values (from 1,5 to 3,5 [3]) only at one of the objects, and is equal to 4,0 – here the correlation of alien and native species is 75 and 25 %.

Table 3 shows quite high average values by specie, ranging respectively from 3,4 to 4,2 and from 1,4 to 2,2 points, whilst higher values are shown by coniferous, and the highest by *Biota orientalis*.

3. Condition and ornamental state of tree species at the studied objects

Species	Quantity, psc.	Condition (M±m), points	Ornamental state (M±m), points
<i>Betula pendula</i>	23	3,7±0,23	1,8±0,23
<i>P. pungens f. glauca</i>	32	3,8±0,23	1,9±0,23
<i>Picea excelsa</i>	19	3,8±0,28	1,9±0,25
<i>Biota orientalis</i>	10	4,2±0,32	2,2±0,32
<i>Sorbus aucuparia</i>	6	3,5	1,8
<i>Prunus armeniaca</i>	5	3,4±0,4	1,8±0,2
<i>Acer platanoides f. globosum</i>	14	3,4±0,17	1,4±0,17

Maximal values of ornamental state and present condition both assigned to the *Roza cania* L. shrubs, which grow at the central square, in front of the district state administration building, *Spirea media* Fr. Schmidt. – respectively 3,5 and 1,5 points and also *Picea excelsa* (4,5 points).

Average height of the trees did not exceed 8 m, but the difference in the trunk diameter was significant, which is common for small towns plantations.

CONCLUSION

The study of the planting on the premises of public buildings in the town of Vyshgorod has shown, that their assortment accounts for 14 tree species, among which nine – alien species. Dominant species are *Picea pungens F. Glauca*, *P. excelsa* and *Betula pendula*, which in total compose 65,6 % of the inspected plantations. Averagely, for all of the object, Shannon-Wiener index equals to 1,9 meaning that quantity of alien species outnumbered native species almost twice. In terms of ornamental state and present condition of the trees, average mark are quite high, and range from 3,4 to 4,2 and from 1,4 to 2,2 points, where coniferous species were evaluated higher, and the highest evaluation was assigned to *Biota orientalis*. Average weighted tree condition mark was evaluate at 3,7 points, ornamental state – 1,8 points.

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НАСАДЖЕННЯ НА ТЕРИТОРІЇ ГРОМАДСЬКИХ БУДІВЕЛЬ

М. ВИШГОРОДА КИЇВСЬКОЇ ОБЛ.

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Наведено результати вивчення деревних насаджень на територіях перед громадськими будівлями м. Вишгорода Київської обл. Досліджено асортимент деревних рослин, зроблена оцінка їх зустрічання, стану та декоративності.

Ключові слова: громадські будівлі, зелені насадження, зустрічання, стан, декоративність

НАСАЖДЕНИЯ НА ТЕРРИТОРИИ ОБЩЕСТВЕННЫХ СООРУЖЕНИЙ Г. ВЫШГОРОДА КИЕВСКОЙ ОБЛ.

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Представлены результаты изучения древесных насаждений на территории перед общественными строениями г. Вышгорода Киевской обл. Исследован ассортимент древесных растений, оценена их встречаемость, состояние и декоративность.

***Ключевые слова:** общественные строения, зеленые насаждения, встречаемость, состояние, декоративность*