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ABOUT RESEARCH OF DEVELOPMENT OF EXOTIC ORNAMENTAL WOOD AND SHRUBBY SPECIES IN GANJA

Abstract: In this paper were researched the basic skills of development of exotic ornamental wood and shrubby species in Ganja.

Key words: Azerbaijan, ecology, ornamental plants, development.

Language: English

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Important method of decision of ecological problems is greening of city by trees and shrubs. Now in Ganja are planting different types of ornamental plants. We studied biological and ecological features of ornamental plants in local condition of Ganja. During evolution process, plants have got different defense mechanisms against unfavorable factors of environment. Unfortunately, they have no one defense mechanism against environment pollution [4, 6].

The growth of shoots was studied at the end of the vegetation period using ten shoots, where it was measured the length and diameter of the shoots, and counted the number of leaves. For the study the biological and ecological characteristics of introduced plants we have conducted research on one species from each genus of plants. The results of our research were shown in table 1. As can be seen from the table, plants grown at four hospitals in two districts of the city of Ganja differed in different levels of growth and development.

It was found that, in Central Park, conifers, such as pine Eldar, Himalayan cedar, juniper Cossack and

other similar plants had normal growth and development. Medium growing and development observed in these plants like the prickly spruce, berry yew and Japanese cedars. The weakest growth was recorded in Spanish fir. So in all six instances of Spanish fir were observed weak growth.

All plants growing in Kapaz district of the city of Ganja not had any noticeable increasing in height. Instead, however, plants grown in the distance from the source of industrial pollution have normal (8,9-11,7 sm) growth. In areas with anthropogenic pollution of an increase in the height of the plants was 6,4-7,2 cm. It was noticeable also that the plants had a different number of leaves and had different width of year branches. On the other hand, the increase rose bushes in these areas was the same as other plants. It was also found that conifers ratio of leaves compared to broad-leaved plants is much (1:7,72) higher. On the other hand, in the different trial plots, the leaves ratio level also vary in all types of plants.

Table 1

The annual growth of shoots.

No	The name of the genera and species of plants	The average length of shoots, sm M±m	The average diameter of shoots, sm M±m	The number of leaves on shoots, number M±m	The leaves ratio of shoots, number/sm
1	2	3	4	5	6

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Nizami district of Ganja City – Trial plot 1 (The park Khan garden)					
Conifers					
1	<i>Pinus eldarica</i>	12,8±0,13	0,21±0,007	74,0±2,10	5,8
2	<i>Picea pungens</i>	9,5±0,2	0,22±0,005	91,3±1,05	9,6
3	<i>Cedrus deodara</i>	11,4±0,14	0,18±0,0088	64,0±1,86	5,6
4	<i>Juniperus sabina</i>	13,8±0,14	0,27±0,021	61,6±1,48	4,5
5	<i>Abies concolor</i>	2,2±0,07	0,13±0,008	22,0±1,03	10,0
6	<i>Taxus baccata</i>	7,3±0,17	0,22±0,007	37,0±0,35	5,1
7	<i>Cupressus sempervirens</i>	12,2±0,13	0,17±0,007	72,1±1,76	5,9
8	<i>Chamaecyparis lawsoniana</i>	15,8±0,009	0,16±0,007	79,4±2,12	5,0
9	<i>Criptameria japonica</i>	8,2±0,14	0,14±0,01	38,6±1,08	4,7
10	<i>Thuja orientalis</i>	13,8±0,075	0,12±0,006	82,9±1,60	6,0
Middle		10,7	0,18	62,3	5,8
deciduous plants					
1	<i>Magnolia grandiflora</i>	9,6±0,11	0,21±0,011	3,7±0,40	0,38
2	<i>Ilex crenata</i>	12,5±0,11	0,16±0,008	15,6±0,96	1,25
3	<i>Camellia japonica</i>	8,2±0,16	0,18±0,008	7,8±0,27	0,95
4	<i>Euonymus japonicus</i>	12,6±0,15	0,23±0,009	9,3±0,73	0,74
5	<i>Cotoneaster microphyllus</i>	11,5±0,086	0,12±0,007	12,9±0,64	1,12
6	<i>Mahonia aquifolium</i>	16,3±0,14	0,14±0,01	4,2±0,56	0,26
7	<i>Photinia serrulata</i>	15,5±0,12	0,19±0,03	17,5±0,96	1,13
8	<i>Daphne cneorum</i>	18,8±0,11	0,12±0,006	10,2±0,21	0,54
9	<i>Skimmia repens</i>	12,7±0,18	0,10±0,01	14,9±0,77	1,17
10	<i>Symphoricarpus orbiculatus</i>	7,3±0,12	0,12±0,006	6,2±0,24	0,85
Middle		12,5	0,16	10,2	0,82
Nizami district of Ganja city – Trial plot 2 (The park named by Heydar Aliyev)					
Conifers					
1	<i>Pinus eldarica</i>	14,1±0,12	0,23±0,009	68,9±1,8	4,9
2	<i>Cupressus sempervirens</i>	12,8±0,11	0,16±0,008	76,2±2,2	5,9
3	<i>Picea pungens</i>	12,2±0,012	0,21±0,011	104,4±1,3	8,6
4	<i>Chamaecyparis lawsoniana</i>	16,6±0,013	0,17±0,008	76,7±1,2	4,6
5	<i>Thuja orientalis</i>	15,2±0,15	0,14±0,0095	94,3±1,05	6,2
Middle		14,2	0,18	84,1	5,9
deciduous plants					
1	<i>Eucalyptus viminalis</i>	21,2±0,13	0,26±0,007	12,2±0,96	0,6
2	<i>Magnoliya soulangina</i>	14,4±0,13	0,24±0,011	7,3±0,51	0,5
3	<i>Euonymus japonica</i>	13,9±0,11	0,22±0,007	11,1±1,04	0,8
Middle		16,5	0,24	10,2	0,62
Kapaz district of Ganja city – Trial plot 1 (Territory of tomb of Nizami district)					
Conifers					

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1	<i>Pinus eldarica</i>	7,2±0,13	0,17±0,008	62,4±1,4	8,7
2	<i>Cupressus sempervirens</i>	6,4±0,14	0,13±0,008	61,2±0,92	9,56
	Middle	6,8	0,15	61,8	9,09
deciduous plants					
1	<i>Roza rubrifolia</i>	9,6±0,11	0,22±0,001	5,9±0,64	0,6
Kapaz district of Ganja city – Trial plot 2					
Conifers					
1	<i>Picea pungens</i>	8,9±0,11	0,21±0,01	66,8±1,2	7,5
2	<i>Chamaecyparis lawsoniana</i>	11,7±0,11	0,14±0,01	66,8±1,2	5,7
3	<i>Cupressus sempervirens</i>	10,4±0,15	0,13±0,008	76,8±1,9	7,4
4	<i>Thuja orientalis</i>	9,9±0,13	0,11±0,0065	72,1±1,8	7,3
5	<i>Juniperus horizontalis</i>	11,1±0,1	0,14±0,01	93,6±1,22	8,4
6	<i>Cedrus deodara</i>	8,9±0,11	0,13±0,009	52,6±1,4	5,9
	Middle	10,15	0,14	71,45	7,0
deciduous plants					
1	<i>Euonymus japonicus</i>	10,2±0,12	0,19±0,009	8,6±0,9	0,8
2	<i>Buxus sempervirens</i>	11,8±0,11	0,22±0,007	26±0,09	2,2
	Middle	11,0	0,205	17,3	1,57

So in places adjacent to the mausoleum, where the level of contamination is much higher conifers leaves ratio level was a 9.09 pieces/cm, while not polluted places this ratio was equal to 7 pieces/cm. As can be seen from the above example, in places with high pollution increase the height of plants, though it was weak, but the leaves ratio level was about the same. Significant difference in the diameters of the shoots of trees between trial plots we did not observe.

The analysis of the results shows that, in areas of intense contamination, especially at the trial site 1 on all types of plants increase in height was very weak. As can be seen from the figure, in the Nizami

district of the city of Ganja, the increase in the height of the conifer plants was 10.4-14.2 cm, whereas, in Kepez district plant growth in height was a 6.8-10.5 cm.

For deciduous plants, the results were the same, increase in plant height in the Nizami district was 12.5 -16.5 cm, and Kepez district of 9.6-11.0 cm. Results show the role of environment in the life of plants. In other words, in conditions of radioactive contamination of the terrain, disturbance light and thermal conditions, violations of agronomic care may negatively affect the growth and development of plants.

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