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THE INTRODUCENTS IN LANDSCAPE SYSTEM OF THE CAPITAL'S PARK IN ASTANA

Mukanova S., master student

*Sarsekova D.N., doctor of Agricultural Sciences, Associate Professor
S.Seifullin Kazakh agrotechnical university, Astana city*

Astana is a modern city, the capital of the Republic of Kazakhstan. Every year our capital is getting better and better. It literally grew and blossomed like a flower in the steppe. But it is still so young, and has already become a symbol of the progress of our country. Today, Astana attracts many tourists with capital's beauty and sights. The architecture of the capital combines the refinement of the East, the originality of Asia and the grandeur of Europe.

The Capital's park is located on the embankment of the Yesil River. In the modernized park, the natural landscape and modern attractions are in a perfect harmony. Among the latest innovations that will help to brighten up leisure are: a trampoline park, an outdoor swimming pool and a cable car. The park can please not only noisy and fun attractions for children, but also picturesque meadows with trees, comfortable benches and paved paths.

In 2016, The Capital's park modernized completely. So, there are many introducents, which added in that year.

Introducents are species, which accidentally or intentionally successfully implemented in the local natural or anthropogenic community. By definition, species are species, which are introduced when it was moved out of its natural range into new territory as a result of human activity. Introduction can be either intentional or accidental. The deliberate introduction of new types was motivated by the fact that these species will be useful to man in a new place and will enhance their well-being. Further spread of introduced species on a new area can take place both with the help of a man and independently.

Landscaping is increasingly recognized as an important component of urban ecosystems, as it provides a range of ecosystem services for the environment and human well-being [1]. So, many types of introducents are useful for landscape system. In addition, in the Capital's park are introducents which used for greenery system. The list of these introducents is shown on the table 1.

Table 1 –The list of these introducents in landscape system of the capital’s park in astana

№	The name of introducent
1	<i>Sálixacutifólia</i>
2	<i>Sálixfragílis</i>
3	<i>Ácertatáricum</i>
4	<i>Prúnuspádu</i>
5	<i>Spiraeasalicifolia</i>
6	<i>Cornusalba</i> (<i>Swiden alba</i>)
7	<i>Aróniamelanocárpa</i>

Purpose of research is researching of the growth, condition, decoration and chronological changing of introducents of the Capital’s park in Astana city. To attain to the purpose there are objectives, which done:

1. analyze the current state of introducents in the study area
2. research the ecological and biological characteristics of species introductions conditions: seasonal rhythms, winter hardiness, drought tolerance, a degree of damage by pests and diseases.
3. Research of the individual, chronological variability of introducents on a biometric indicators, the dimensional characteristics.
4. Research of adaptive abilities of introducents.

For doing objectives I used a lot of methods for my research. They are:

1. “Gradual” method of A. Gumbold. Investigated the distribution of plants and vegetation realized that there is a link between the climatic conditions. Their average temperature during the period vegetation not only to take into account the sum of °C high temperatures. To succeed plants must not be less than the temperature of the home. Vegetative development of climatic factors: the average temperature, humidity, air pressure and purity, A.Gumbold paying close attention to these factors, consider the spread of the plants have a huge impact. In this regard, he spoke to the vertical and horizontal plants. A.Gumbold plants climatic second climate change gradually from the first method, called back a step-by-step method [2].

2. Climatic method by Alfons de Kandol, A.P. Bogdanov, E.Regel and famous Russian botanic A.N. Beketov. They did without attention to the current situation in the spread of vegetation, as well as the importance of studying the past geological epochs said. The main obstacle to a spreading its range of plants limit the climate factors: low temperatures, spring and autumn cold, consider the lack of heat [3].

3. Method of determination of ecological genetically group by M.V. Kultiasov, N.A. Bazilev and S.J. Sokolov

4. Comparative method by R.R. Silen. In the early-middle and late flowering *Pseudotsugataxifolia* (Poir.) Britt. the period of the change spread in the soil compared clone in the form of various soils showed that 94-95% of the genetic

control. It is distributed in the early spring evening, there will be no change from the cold-resistant clones [4].

5. Method of consistency by R.K. Campbell. Sweden professor, depending on the difficulty of different types of forest zones pine crops resistant to the cold areal developed a mathematical model of the origin of pine seeds [5].

So, at the end, want to add, that researching introducing depends on methods. They are suitable to landscaping system of Capital's park. It means by decoration and acclimatization. There are detected a little bit chronological changing, but completely changing will shown in the summer of 2018 year.

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