

Influence of various forms of nitrogen fertilizers on the growth and development rates of *Artemisia leucodes schrenk*

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The results of the research conducted by the authors indicate that over the period from the beginning of budding to flowering, the leaf surface of plants increased by the variants of the experiment 4-5 times. The most intensive growth of Artemisia leucodes Schrenk plants occurred during the period from budding to flowering and during this period the leaf surface size increased by 5-6 times. Such a high growth rate in the periods from the onset of budding to flowering was promoted by the optimal nutrient medium with intensive aeration of the root system. In the variant with ammonium sulfate, the highest leaf surface size was obtained per 45 cm² plant. It should be noted that an increase in the area of the leaf surface leads to an increase in the dimensions of the dry mass of this plant organism. Thus, when nitrogen fertilizers are used in the form of ammonium sulfate and urea, there is a greater increase in growth processes, leaf area and dry weight of Artemisia leucodes schrenk than ammonium nitrate.

Keywords. Ammonium sulphate, urea, ammonium nitrate, growth, development, leaf surface, aeration, budding, flowering, biomass.

Purpose of the study. Development of cultivation technologies Artemisia leucodes Schrenk producing biologically active terpenoids, used in medical practice.

Methods of research. For this purpose, both vegetative and field experiments in the Farish region of the Jizzakh region of the Republic of Uzbekistan were carried out at low (24 mg / kg) and medium-level (42 mg / kg) soil with mobile phosphorus. Annually, phosphorus fertilizers were applied in vegetation and field crops, respectively, 4 g / vessel and 140 kg / ha P₂O₅ on medium-cost, 3 g / vessel and 105 kg / ha P₂O₅ on low-phosphorus soil. In the vegetation experiments, the annual norm of nitrogen and potassium fertilizers was 5.0, respectively; 3.0 and 1.5 g / vessel respectively, 100; 75; 50 kg / ha in field experiments. Ammonium sulfate, urea, ammonium nitrate, superphosphate and potassium chloride were used in the experiments. Vegetational and field experiments were carried out according to the methods of the Scientific Research Institute of cotton growing (M.A. Belousov, 1977).

Results of the study. Research has established that the best development of Artemisia leucodes schrenk was in the variant where a nitrogen fertilizer in the form of urea and ammonium nitrate was used. In the initial phases of development, up to the formation of 3-4 true leaves from all the variants of the experiment, a noticeable lag was observed in the variant without fertilizers and with a nitrate form of nitrogen, where the plant had fewer leaves and low growth. By the beginning of July, fewer branches and buds had formed on the control version, and then when using ammonium chloride and ammonium nitrate, compared to other forms of nitrogen salts. The main indicator of the effectiveness of the forms of nitrogen compounds studied is the accumulation of the number of formed fruiting organisms. In August and early September, decreasing in the accumulation of fruit organs was noted in

variants where ammonium nitrate, urea and ammonium sulfate were used. When forming the fruit bodies, nitrogen in the form (NH_2), apparently, unlike other forms, was not sufficiently accessible. On the basis of the experimental data of I.V. Mosolov (1979) obtained under the conditions of water and soil cultures, it was shown that when high doses of urea are introduced into the nutrient solution, it is supplied from the roots to the above-ground organs unchanged. Studying the influence of plant density, the conditions of mineral nutrition and the air regime on the formation and geometric structure of the leaf surface, it was established that the leaf surface area of 40-50 m² per hectare is optimal under conditions of irrigated cotton growing in Central Asia (Nasyrov, 1977, etc.). It is also established that there is a close relationship between the net productivity of cotton photosynthesis and the size of its leaf surface. An increase in the leaf area above the optimum index worsens the light regime of sowing and, as a result of self-shadowing, leads to decreasing in the assimilation activity of plants. The growth of the *Artemisia leucodes* chrenk leaf surface was carried out at the following times: in phases of 3-4 present leaves, budding, flowering and at the end of vegetation.

Conclusions. When nitrogen fertilizers are used in the form of ammonium sulfate and urea, there is greater increase in growth processes, leaf surface area and dry wormwood mass whitish than ammonium.