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Bioecological Features Perspective Fodder Plants in Kattaqum Massive

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Abstract: *The article presents the results and analysis of experimental studies on the problem of desertification and the urgency of its artificial enrichment in natural ecosystems, in particular in the pastures of Kattakum massif in Termez and Angor districts of Surkhandarya region, climatic conditions of the region. Relevance of the topic. At the global level, as a result of climate change, rising temperatures, and increasing desertification, it is important to enrich areas through phytomelioration in sparsely vegetated pasture ecosystems.*

Keywords: Salsola orientalis, Kochia prostrata, Ceratoides eversmanniana hyperxerophyte, halophyte, eukserophyte.

I. INTRODUCTION

The current increase in the number of degraded pastures in the country can be attributed to the increasing impact of anthropogenic factors on nature, irrational livestock grazing, expansion of the technosphere, soil erosion and other reasons. No. 409 of September 21, 2016 of the Republic of Uzbekistan “PlantIn the Law "On protection and use of the world" [1] natural in our country in order to carry out the assigned tasks increase the productivity of useful plants and pastures and from them issues of assisting farms in their rational use are great important.Because it is only now to achieve sustainable development in order to pass on natural resources to future generations but also for the future optimizing them is a topical issue.

The scientific and methodological basis for the creation of artificial pastures in areas with reduced vegetation and desertification has been developed and studied by scientists from around the world and in our country, based on biological, ecological, biochemical, genetic and structural physiological characteristics of plants [2].

II. METHODOLOGY

Purpose of the work: To give optimal recommendations on the biology and ecological characteristics of forage plants, especially seed germination, vegetation, and the restoration of the ecosystem of the region, adapted to growth in the Kattakum massif.

Research objects. Valuable fodder plants selected from the flora of the Kattakum massif: Salsola orientalis S. G. Gmel. , Kochia prostrata (L) Schrad, subsp. grisea Prat. Subsp. nov. , Krascheninnikovia ceratoides.

The biology and water regime of annual salinities in the area have not been studied in order to improve the ecosystem of the species we have selected.

Research methods. Study of seed germination of plants Shamsutdinov [3], phenological observations I.N. Beydeman [4], based on the methodology. The research was conducted in 2019-2020 in the territory of "Surkhandarya State Forestry", located in Termez and Angor districts.

Research results and their analysis. The growth and development of plants, the physiological processes that take place in it, depend on the amount of annual precipitation, air temperature, air humidity, soil composition and humidity, as well as other environmental factors. The following diagrams of the experimental years (Diagram 1-4) are based on the data of Termez meteorological station.

As can be seen from the 2-year climate data (diagrams), the main vegetation periods of plants in the region are June, July, August, September, with a sharp decrease in precipitation and an increase in air temperature. Plant growth and development under these conditions were analyzed.

Diagram 1

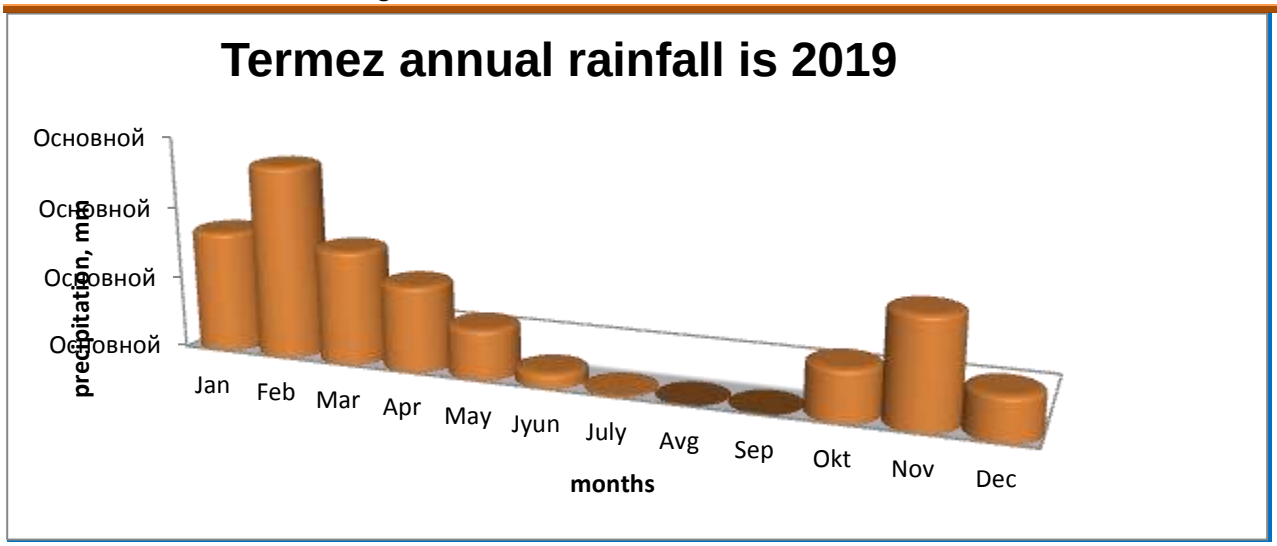


Diagram 2

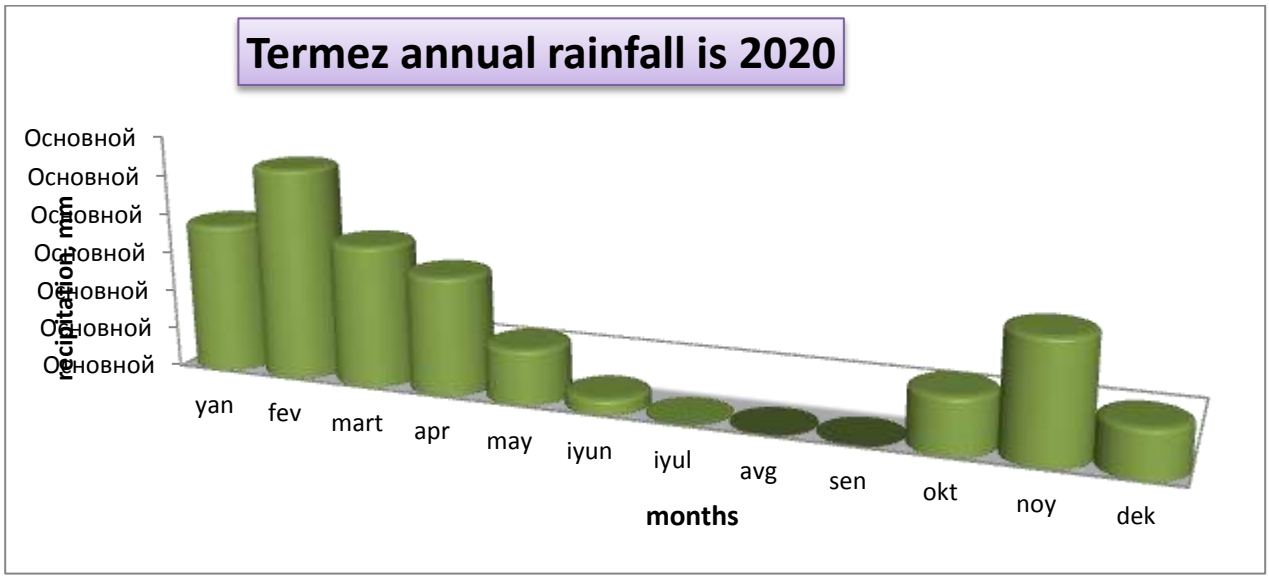


Diagram 3

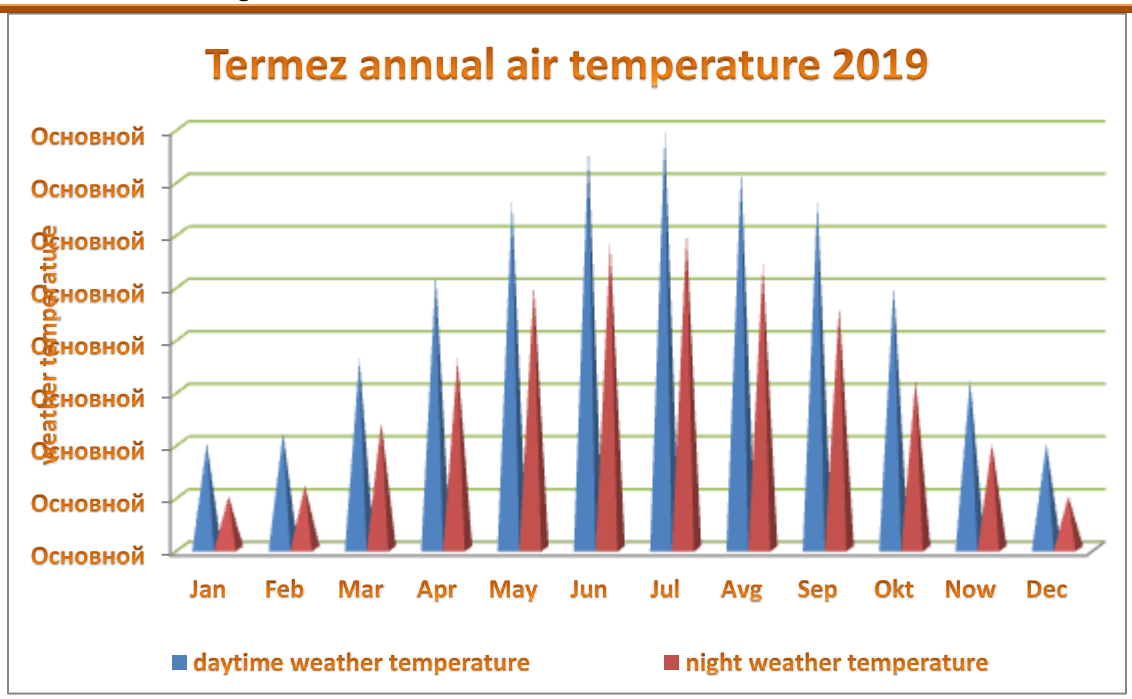
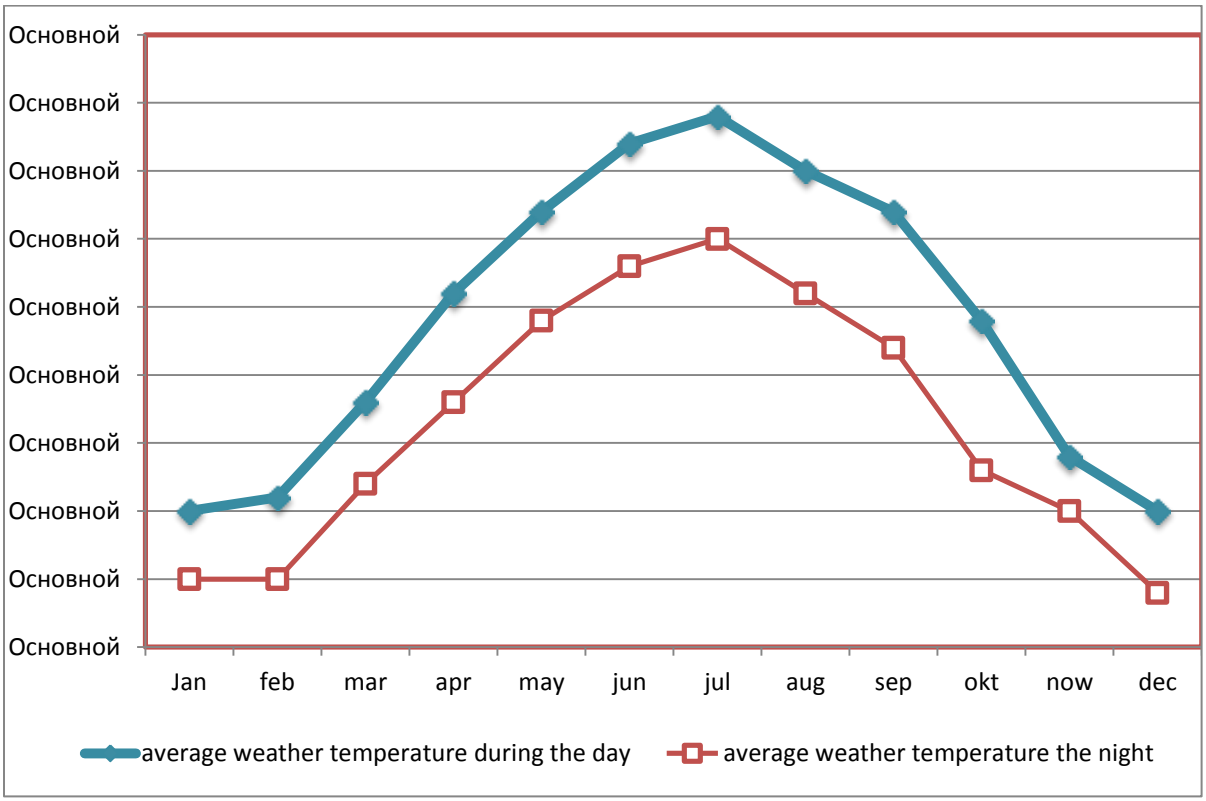


Diagram 4



Salsolaorientalis.Halophyte species belonging to the ecological group of plant hyperxerophytes. Resistant to adverse environmental conditions (high temperature, salt, drought) compared to other species, 20 - 30 yearslives in [5**].**

Forgetfulness in the laboratory was maintained at different time intervalsthe seeds averaged 34%, of which the highest rate was maintained after 1 month followed by 63%. And forgetfulness in the field 20.8%, yielding a relatively high result in variants planted in late autumn formed.

III. ANALYSIS AND RESULTS

The growth and development of plants, the physiological processes that take place in it, depend on the amount of annual precipitation, air temperature, air humidity, soil composition and humidity, and other environmental factors.The optimum seed germination temperature is 24 - 25^0S. Year of seed germination will remain throughout. Seeds sown in the last decade of November It germinated in the first decades of March, but the humidity is high and germinates in mid-March in cold years. After germination 10-15 days later formed true leaves, but the growth was extremely slow, The plant height of 2.5 - 3 cm in late April and early May, but it is deciduous At the same time in a bush plant formed 10 - 12 leaves, roots 25 - 30 cm, stemsgrew almost 10 times faster than.In May, the growth rate increased, side by side branches were also formed. In late June, the height of the plant is 30 cm, side and the branches were 15 cm.The plant forms a spherical appearance did. During this period of active growth, the root system grows even faster, from 75 to 80 in Junesm. It produced buds in late June, but produced flowers in August due to rising temperatures. TwoThe formation of buds and flowers at the age of annuals and older is from mid-Maylasted 80 days from mid-August. Seeds of October was made in the third decade.

Salsola orientalis.

Kochia prostrata. It is a eukserophyte species found in deserts, hills and mountains [5] and lives for 7-12 years.

O' Pratov distinguished two forms of this plant in Central Asia, they Kochia prostrata (L) Schrad, subsp. grisea Prat. Subsp. nov.and Kochia prostrata (L) Schrad, subsp. verescens (Fenzl) Prat. Comb. nov [6]. In terms of drought tolerance of these forms Kochia prostrata (L) Schrad, subsp. grisea Prat. Subsp. nov.is relatively stable and is recommended in phytomelioration.

In two-year observations, seed germination was 0.5 cm when planted in late autumn in the depth variant was 30 - 33%. In the laboratory in freshly harvested seeds at a relatively low temperature of 10 - 15^0S 20 - 25%, 3 - 4 monthsreached a maximum level of 80 - 83% after the break period. From 10 to 11 monthsthen seed germination to 55 - 60% at the optimum temperature of the plant (24^0S)fell.

In mid-March observations, 85 - 90% of the plants were found to have started the juvenile phase. They are produced true leaves, 0.5 cm in height from the ground. At this stage The plant grows relatively slowly. The height of the plants in late March Reaching 1 - 1.5 cm, formed 4 - 5 true leaves. But the seeds are preserved. At this time the root system has the ability to grow

extremely fast. Aprilat the ends it was 5-10 cm. At this time the soil moisture of the soil in the upper part (0 - 10 cm) was observed around 6 - 6.5%.

In the third decade of May, the plant formed 2 - 3 side branches. June In the first decades of the month the growth of the plant accelerated considerably. This monthat the end the average height of the plants reached 30 cm. They have 4 to 13 sidesbranches were formed. The length of these stems was around 5 - 20 cm. June The increase in air temperature in late July and July, soil moisture The growth slowed relatively due to the decline, but took root in July The length of the system ranged from 80 to 85 cm. In the second year the root of the Kochia prostrataeven 1.5 to 2 meters. The juvenile phase of the plant lasted from 65 to 70 days. In the second year the plant reached a height of 60-65 cm during this period.

The generative period in the plant depends on the annual weather. At the end of June, relatively humid weather, when the weather is relatively drybuds appear 10 to 20 days later. In the plants we observed In August, 80% of the plants bloomed. It bore fruit in September. Seed ripening is in the third decade of October and the first decade of Novemberwas right.

The generative period in two- and three-year plants is from June to July corresponds to. The ripening of the seeds is also relative to that of an annual plantIt took place 10-15 days ago.

By the end of the first year, the main root length has grown to 1.5 - 2 meters. In the second year, active growth of lateral roots was observed, a maximum of 130 – 140cm, by the end of this year the main root has penetrated up to 3 m.

In the fall, the air temperature is relatively warm after the rains in November The growth of leaves and stems with a length of 3 - 5 cm from the root collar afterobserved. This part of the body is eaten by small horned animals.

Kochia prostrata.

Krascheninnikoviaceratoides. The plant belongs to the group of eukserophytes and lives for 20-30 years [5]. According to experts, this plant is consumed by livestock by annual twigs and leaves [5].

In the 2020 experiment, the plant germinated in the second decade of Marchcame out. During this period no true leaves are produced, this stage lasts 7 - 8 days did. Vegetation of biennials and older is in mid-March begins.

In the juvenile phase, a real leaf is formed in the third decade of March did. Its size is 1 - 1.5 cm, but a relatively slow growth was observed in the stem,The root system grew relatively rapidly. The total height of the plant is April 3 - 3.5 cm per month, roots 10-15 cm, 6-7 cm at the end of May, and the root system 25-30 cm.

IV. DISCUSSIONS

In late May, the growth rate increased, but the humidity was relatively high active growth has been observed since mid-April. June In the middle, the height of the plant was 45-50 cm. Virginil period lasted an average of 110 to 130 days. The third of July and the first of Augustdecades of budding flowers.When forming buds, they drop their buds if the soil and air humidity drop sharply. If the humidity is normal

The flowers open in 5–7 days after budding. The mass flowering of the plant occurs in late August. The flowers are unisexual, unisexual. The body is simple and formed complex stems, pollinated at the top and bottom There are seeded flowers in the parts. Seeds were sown in mid-October. If the annual weather is dry, tereskenwill not produce fruit or ripen spills.

In the second year, forming 7 - 8 erect vegetative stems on a single plant,on the basis of which generative stems grow. Root at the end of the first year The total length of the system is 110 - 120 cm. The second and more in subsequent years 2.5 - 3 meters, and the lateral roots also grow to 2 - 3 metersdetected.

Krascheninnikovia ceratoides.

V. CONCLUSIONS AND RECOMMENDATIONS.

Compared to plant vegetation, Salsolaorientalis lasted 200 - 210 days, Krascheninnikoviaceratoides 190 - 200 days, and Kochia prostrate 220 - 240 days.

Yields of salsolaorientalis in the first year were 8-9 t / ha, and in seeds 1 - 1.3 t / ha. Yields of the three-year plant were higher at the beginning of July due to fruits, reaching 20 ts / ha and 15 ts / gani in September. In Kochia prostrate, the yield in the first year was 3 - 4 ts / ha, seed yield was 0.6 ts / ha, and in the second year the yield was 10 - 12 and 1.2 ts / g. In the hills, this figure was relatively high in the first year 4.2 - 6.4 and 1 ts / ha, in the second and subsequent years 32.5 - 42.2 and 2.3 ts / ha.

This is explained by the relative differences in climate and soil of the regions. In the relatively warm winter months in Krascheninnikoviaceratoides, it was found that plants aged two and older began to grow in late February. The average yield of green mass of annual plants was 5 ts / ha, in the second and third years 10 - 17ts / gani and seeds 1.7 ts / ha.

Although Salsolaorientalis is relatively resistant to both climatic conditions, given the vegetation and yield of Kochia prostrata and Krascheninnikoviaceratoides, the perennial nature of the plants, and the good consumption of small ruminants, reproduction is recommended.

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