

Agricultural Importance of The Water Grass *Aldrovanda Vesiculosa* L. (Droseraceae)

Eshmurodova M.Q. SAMDVMCHU senior teacher of the
Department of Biology, Ecology and Medicinal Plants, (PhD)

Sobirjanov Yaqubjon Kamiljon A student

Kazaqbayev Ghafirjon Rustam A student

Abstract: Cultivation of algae *Aldrovanda vesiculosa* L makes it possible to provide agriculture with organically saturated and purified water, as well as effective organic fertilizer, and the purification of reservoirs with the help of this plant is one of the urgent tasks of our time. environmentally friendly food products are highlighted, which are one of them.

Key words: organic matter, slimy substance, therapeutic mud, microelements, peat ponds, dystrophic waters, algae, environmentally friendly.

Nowadays, the importance of algae science is increasing in water treatment, soil fertility improvement, fisheries, animal husbandry, poultry farming, food industry, medicine, medicine and even space travel.

There are about 4,000 species of algae in the waters of Central Asia, and it was found that today there are about 85 species of aquatic animals in the waters of our republic. That's just 0.3% of the amphibians in the entire world and 2.0% of the amphibians in Central Asia. These figures show that the study of amphibians in our country requires further development of this science. In the economic development of other countries and in the development of agriculture, this science has proven to be an impetus for opening up enormous opportunities. In Uzbekistan the level of study and use of Suvots is very low, nevertheless studies and experiments continue.

The importance of aquatic plants in the national economy is extremely incomparable. Organic matter in water comes primarily from algae, 80 percent of the organic matter on Earth is produced by algae and other aquatic plants. Algae are food for all aquatic animals. Algae are involved in the production of healing mud. Some seaweeds are used primarily as food, such as algae, porphyrias and algae, and in many other countries seaweed is grown for livestock feed and the food industry. Agar-agar, agar-like substances, carrageenan, alginates, feed (flour) containing trace elements and iodine are obtained from algae.

Today, due to changing environmental conditions, pollution of the waters in which they live, and reductions in water bodies, many aquatic species are in decline, and some species are at risk of extinction. Nevertheless, the life of water horses and their use is one of the areas that are poorly organized by science and medicine. [4]

Over the last 150 years, this plant has spread to 50 countries. It is found in Ukraine, Poland, Romania and western Russia. The flowering process accelerates when the temperature is moderately warm. This plant reproduces mainly vegetatively. The seeds are spread mainly by waterfowl.



Aldrovanda vesiculosa L. (flowers)

Aldrovanda vesiculosa L. (Droseraceae) is a rare and critically endangered aquatic carnivorous plant that grows in shallow, stagnant, dystrophic waters such as lakes, dams, peat fish ponds, peat ponds and bogs is one of them. Today, researchers are conducting scientific research to propagate this plant.[2]

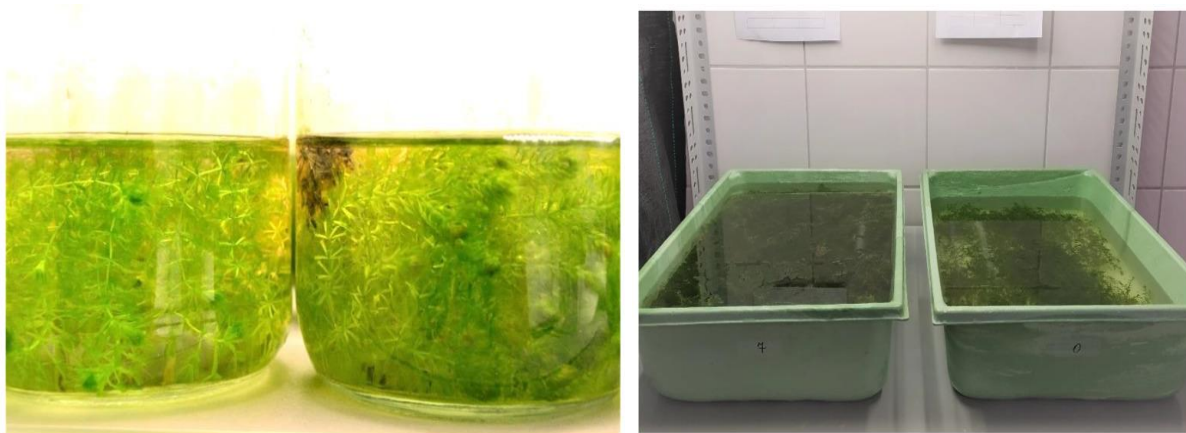
Today, efforts are underway in Switzerland, Poland, the Czech Republic, the Netherlands, Australia and Japan to preserve *Aldrovanda* as an endangered species by translocating declining populations to potentially suitable waters.[5]

Aldrovanda vesiculosa L. Waterhorse can grow between 5 and 10 centimeters up to 10 meters high. On the body there are leaves 3–5 mm long, the tips of which end with hairs. The inflorescences are located between the leaves and a flower is attached to them. This rootless water horse lives on the surface of brackish bodies of water and blooms in June and August. According to the results of scientific research, it is possible to obtain about 4-5 tons of organic ogite by propagating this plant in a freshwater basin of 10 hectares.[3]

In temperate and subtropical regions, this plant forms winter buds and sinks to the bottom of the water. After surviving the unfavorable conditions in this way, it comes to the surface of the water and continues its life. *Aldrovanda* is a stenotopic plant, but represents a demanding plant for the optimal distribution of other ecological factors in the living environment conditions. Therefore, even small changes in the optimal combination of ecological factors in the aquatic environment in which it is grown can negatively affect the development of the plant and cause it to decrease or disappear completely. Grows well in abundant water.

The reduction of the water level in the water basin in which it is cultivated, the reduction of plankton and humus, endangers the life of this species. Due to its exciting lifestyle, the amazing speed of its movement continues to attract the attention of ecologists and many physiologists. Over the past 40 years, its rapid decline in areas of Europe and Japan has attracted the attention of many conservationists.

Making organic augite from this plant is not difficult. *Aldrovanda vesiculosa* L. Water horsetail is washed out of the water, dried in direct sunlight for several days and the dried horsetail is stored in a cool place in crushed form. Refined manure can be applied to all types of agricultural crops at the right time and with the help of equipment underground. The effectiveness of this organic humus produced from *Aldrovanda vesiculosa* L. is characterized by the fact that it contains compounds necessary for plants that are many times higher than the organic humus produced by the Californian redworm.[1]



Aldrovanda vesiculosa L.

If 5 tons of humus are used per hectare of cultivated area to achieve the desired productivity of agricultural crops, 1.6-2.0 tons of this organic humus obtained from *Aldrovanda vesiculosa* L. water horse has been proven to be sufficient. Due to the fact that the production of this organic humus is three to four times cheaper than the production of organic humus, the cost of the product grown from agricultural crops decreases and an increase in economic efficiency can be achieved. It is possible to reduce the environmental impact on the soil to reduce through chemical fertilizers.

Nowadays, the amount of water used for irrigation of agricultural crops is decreasing and the degree of contamination of existing water resources with various chemically toxic products is increasing. This creates some difficulties in growing agricultural crops and obtaining ecologically clean products from them, and endangers the properties of food for consumption.

Another main feature of the *Aldrovanda vesiculosa* L algae is the purification of secondary polluted water, it absorbs all toxic substances in the water, purifies the water and enriches the water with organic matter. In practice, it has been shown that when irrigating agricultural crops with water purified in this way, productivity increases significantly, namely by 15-20%. It was observed that 16-17% more yield was obtained when the cotton fields were irrigated with cultivated and purified *Aldrovanda vesiculosa* L water by the cotton production specialist farmers compared to the crops in the fields treated with normal irrigation water [7]. *Aldrovanda vesiculosa* L algae farming supplies agriculture with organically enriched and purified water and effective organic fertilizer. We believe that the purification of water bodies through this facility will help solve the problem of providing the population with environmentally friendly food, which is one of the most urgent tasks today.

References:

1. Nemjova, K., Kaufnerova, V. 2009. New reports of *Vaucheria* species (Vaucheriales, Xanthophyceae, Heterokontophyta) from the Czech Republic. *Fottea* 9: 53-57.
2. Necchi, O. 2004. Photosynthetic responses to temperature in tropical lotic macroalgae. *Phycological Research* 52(2): 140-148.
3. L. Adamec. Ecophysiological characteristics of turions of aquatic plants: a review Volume 148, August 2018, Pages 64-77.
4. L. Adamec. The influence of prey capture on photosynthetic rate two aquatic carnivorous plant species Volume 89, Issue 1, July 2008, Pages 66-70. . 5. Музафаров А.М. «Флора водорослей водоёмов Средней Азии». — Ташкент.: Наука, 1965. — 569 с.
5. WU M. et al. Ecological Governance of Aral Sea: Important Way to Deepen Scientific and Technological Cooperation with Central Asia // *Bulletin of Chinese Academy of Sciences (Chinese Version)*. – 2023. – Т. 38. – №. 6. – С. 917-931.
6. Eshmuradova M., Tojiyev B. INFLUENCE OF SOWING METHODS ON THE GERMINATION OF COTTON SEEDS // *Science and innovation*. – 2023. – Т. 2. – №. D2. – С. 137-139.
7. Eshmurodova M. Q. et al. SUV OSTI O 'RMONLARINING AHAMIYATI // *Science and innovation*. – 2023. – Т. 2. – №. Special Issue 11. – С. 49-52.