

MEDICINAL VALUE OF PLANTS *THERMOPSIS ALTERNIFLORA* *REGEL & SCMALSH*

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Abstract: The article discusses the medicinal value of the plant *Thermopsis alterniflora*, gives distribution, stocks of raw materials, chemical composition, general botanical characteristics of the plant, its use in folk medicine.

Key words: natural medicinal plants, life forms, fruits, harvesting and quality of raw materials, chemical composition, habitats, distribution medicine.

Introduction. *Thermopsis* is a perennial herbaceous plant of the legume family - Fabaceae, with cord-like branching roots reaching a length of 2.5-3.5 m, with a powerful multi-headed rhizome and a system of rhizomes giving rise to new above-ground shoots. Stems numerous, 30-100 cm high, straight, branched, furrowed, covered with sparse, slightly matted hairs. The leaves are alternate, trifoliate, with large lanceolate stipules 4-7 cm long. The inflorescence is an apical raceme up to 35 cm long, bearing from 5 to 25 flowers. Flowers yellow, large. The fruits are oblong-elliptical beans, covered with short, appressed hairs. Blooms from April to May. The fruits ripen by the beginning of August and by the end of this month they are almost completely crumbled. Medicinal raw material is the aerial part (grass) of the *thermopsis* of the orderly flower, from which the drug cytiton is obtained[5].

Habitats. Spreading. *Thermopsis alternately* flowering is an endemic of the Western Tien Shan. It grows on the southern and northern slopes of the Karzhantau ridge, in the southwestern spurs of the Ugam, Koksus, Pskem, western part of the Chatkal ridges and along the slopes of the left bank of the Akhangaran River (Kuraminsky ridge). *Thermopsis alternate-flowered* is common in the upper step of the foothills (800-900 m above sea level), in the middle and lower belt of mountains (1000-2200 m above sea level) and sometimes rises to the upper belt of mountains (up to 3600 m above sea level). It grows on slopes of various exposures[5].

MATERIALS AND METHODS

Thermopsis alterniflora Regel & Scmalsh S.K. Cherepanov(1995) in determining the name of the family, genus, and species of the plant, as well as information such as <https://planta-medica.uz> [5] and www.plantarium.ru, [2], [3], [4] were used in the study of the distribution areas and medicinal properties of the plant.

RESULTS AND DISCUSSION

Procurement and quality of raw materials. The collection of plants is carried out in April - May, during the period of budding and the beginning of flowering. Raw materials are harvested by hand. At the same time, the above-ground part of the plants is cut with a sickle (urak) at a height of 3-5 cm above the soil level, without damaging the renewal buds. It is necessary to remember the poisonous properties of the *thermopsis* of the alternate flower and observe the usual precautions: during work, do not smoke, do not drink, wash your hands thoroughly before eating, protect the respiratory organs with a gauze bandage from dust when grinding dry raw materials.

Raw materials can be harvested again in the same area, but subject to a one-year break. Freshly harvested grass is laid out in a thin layer as quickly as possible on prepared, even, clean areas. After the plant has lost more than half of its mass, and when broken, the juice does not flow out of the stems, they are crushed with a straw cutter or silage cutter into pieces 2-6 cm long and again laid out in a thin

layer on platforms or on a tarpaulin for drying. At the same time, a significant loss of the active substance (cytisine) with juice during grinding of freshly harvested raw materials is excluded. During the period of collection and drying, it is impossible to allow moistening of raw materials with atmospheric precipitation, as this leads to a sharp decrease in its quality. Air-dry raw materials are packed in fabric bags weighing up to 20 or 40 kg. Stored in dry ventilated rooms on racks; shelf life 2 years[5].

According to the requirements, the raw material must consist of dried whole or cut grass. The smell of raw materials is weak, peculiar. Raw materials must contain at least 1% cytisine; moisture not more than 12%; total ash no more than 9%; stems with brown leaves and unseparated roots no more than 3%; organic impurity not more than 2%; mineral impurity no more than 1% [2],[3].

Chemical composition. Alkaloids have been isolated from the aerial part of *thermopsis altiflora*; cytisine, pachycarpine, p-methylcytisine, thermopsin, alteramine, dimethamine, anagirin, argentine, argentamine. The seeds contain the alkaloids cytisine, pachycarpine, thermopsin. A method for obtaining pachycarpine from grass meal after the isolation of cytisine is being introduced into production. Flavonoids have also been isolated from the aerial part of *thermopsis altiflorum*[2].
Application in medicine. Cytiton is used as a strong agent that reflexively excites the respiratory center, in case of respiratory arrest during operations, injuries, infectious diseases, shock, various intoxications, asphyxia of newborns, and also as a means of enhancing cardiac activity[3].

Agrotechnical measures. In our country, it grows well on all types of soil. Does not tolerate only saline soils and wetlands. During autumn plowing, 40 tons of manure are applied per hectare. The field is plowed to a depth of 25-30 cm. The seeds of the plant are sown in early spring (March) and late autumn. Germination is best when planted in autumn. For spring planting, the seeds are soaked in warm water for 2-3 hours at a temperature of 20-25°C and rubbed into thin slices, stirring occasionally for quick drying. the seed is planted. The seed depth is about 1 cm, the distance between the rows is 60-70 cm, 10-12 kg of seeds are used per hectare.

After 3-5 true leaves are formed in the lawns, they are singled and 5-7 leafy seedlings are planted per meter of land. Thinning of shoots at this level ensures that the plant will be stagnant.

In the first year, in May-June season, the area where thermopsis is planted is softened 2 times, cleaned of weeds, irrigated 6-7 times (March-September-1). In the second and subsequent years, it is watered 3-4 times. It is transplanted 2-3 times (May, June) until the branches of Asfonak thermopsis bushes are connected to each other. In the first growing year, the height of the plant is 30-40 cm. In the first growing year, there is no general flowering in plants. From the second and subsequent years, the above-ground part is harvested at the beginning of budding and flowering.

The productivity of the surface part of the land is 20-30 centners per hectare. In the first year of vegetation, there is no general flowering in plants. From the second and subsequent years, the aerial part is removed at the beginning of budding and flowering.

The productivity of the above-ground part of the earth is 20-30 q/ha [1].

Conclusion. In conclusion, it is necessary to grow and conduct research on such an important medicinal plant in a greenhouse and laboratory conditions.

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