

The content of total sulfur and its consumption by wormwood whitish

Abzalov A.A., Yulchieva M.T., Yusupalieva K.B.

Tashkent Pharmaceutical Institute, Tashkent city, Uzbekistan E-mail:

akmal.38@yandex.ru

According to field experiments, the total absorption of sulfur at the end of the vegetation of wormwood whitish, depending on the level of sulfur nutrition, varies from 27.5 to 39.0 kg / ha in typical gray soil and from 35.5 to 49.0 kg / ha on gravelly gray soil. With increasing in the N: S ratio, the consumption of sulfur by wormwood whitish is increased. The optimum N: S ratio for the conditions of typical gray soil 0.10: 0.20, and for gravelly gray soil - 1: 0.25. It is characteristic that sulfur is reutilized from the vegetative organs into the fruiting organisms. With increasing in the ratio of N: S from 1: 0 to 1: 0.20 -1: 0.25, the sulfur reutilization is increased. The rate of transfer of sulfur from the vegetative organs to the fruit elements is greater on gravelly gray soil than on typical gray soil.

Keywords. Gravelly gray soil, typical gray soil, sulfur, nitrogen, phosphorus, flowering, removal of sulfur, fruit elements, budding, conducting tissues.

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 research. In the phase of the onset of reproductive development of plants (budding), regardless of the level of sulfur nutrition (or the N: S ratio), the sulfur content is greater in wormwood whitish organs grown on typical gray soils relative to gravelly gray earth soil. With the onset of the flowering phase, the opposite picture is observed. Increasing in sulfur by the wormwood whitish organs on a typical greasy gray earth. Low sulfur values in the early reproductive phase are due, perhaps, to the intensity of absorption by the soils' microflora, with a high enrichment of typical gray soil with organic matter. The regularity of sulfur absorption during the flowering phase by fruit organs, depending on the soil conditions, the level of sulfur nutrition also persists in the phase of ripening of whitish wormwood seeds. It has been established that the ratio of nitrogen to sulfur tapers, the sulfur content in plant tissues increases, especially at ratio of N: S = 1: 0.20-1: 0.25 (or a sulfur dose 40-50 kg / ha), is more expressed on gravelly gray soil, than on typical gray soil. Similar data with a certain deviation were obtained under

field experiment conditions. In the vegetative experiments, the sulfur consumption by wormwood whitish was studied depending on the phase of its development, soil conditions and the level of sulfur nutrition. In the budding phase, greater consumption of sulfur is characteristic of wormwood whitish, cultivated on gravelly gray soil than in typical gray soil, which is consistent with the materials obtained by the percentage content of this element in plant tissues. The maximum absorption of sulfur by the plant was observed at a ratio of sulfur to nitrogen is 1: 0.2 and 1: 0.25 in typical and gravelly gray soil. As the phases of development pass, the total consumption of sulfur increases, reaching a maximum in the ripening of seeds in wormwood whitish. In the flowering phase, quantitative absorption of sulfur by the plant increases on gravelly gray soil than on typical gray soil. And here, as the ratio of N: S is narrowing (i.e., from 1: 0 to 1: 0.20-0.25), the sulfur consumption by wormwood whitish increases, especially on gravelly gray soil. Greater sulfur uptake, especially with N: S ratio is 1: 0.25, is characteristic of plants on gravelly gray soil than in typical gray soil. In the phase of maturation of seeds, the absorption of sulfur by wormwood whitish increases almost twofold in relation to the flowering phase. It was revealed that the greater absorption of sulfur by the plant on gravelly gray soil occurs at ratio of N: S = 1: 0.25, and on typical gray soil - N: S = 1: 0.20.

Conclusions. The sulfur content increases with the N: S ratio, and especially at a ratio of 1: 0.20-1: 0.25 with the advantage of the background of gravelly gray soil, including both vegetative and generative organs.