

# PROSPECTS OF THE APPLICATION OF MOLYBDENE IN THE COMPOSITION OF INORGANIC SALTS AND DUNG IN THE FOOD OF ARTICHOKE (CACTUS HAMATIS)

A.Abzalov, D.Kadirova, A.Turakulov

Tashkent Pharmaceutical Institute

E-mail akmal.38@ yandex.ru

It was found that regardless of the options, the content of molybdenum in the organs of the artichoke prickly varies widely, depending on the agrotechnical backgrounds. Most of the molybdenum in the organs of the prickly artichoke is found when it is cultivated in the old papaver than in the alfalfa layer, especially when the inorganic salts of molybdenum and manure are added together. The results of research have shown that the addition of inorganic salts of molybdenum together with nitrogen fertilizers or as part of manure is an important condition for increasing the beneficial effect of nitrogen on plants. Molybdenum, being an integral part of the enzyme nitrate reductase, accelerates the conversion of nitrates and other mineral forms of nitrogen into more complex organic compounds, increases the consumption and outflow of nitrogen from vegetative organs into generative ones. The effectiveness of molybdenum in the composition of manure is longer than with its separate introduction. The best effect is achieved when using molybdenum on the background of plowed alfalfa than on the old –arable soil.

**Introduction.** It is known that the physiological role of molybdenum is large and is not limited only to the biological fixation of nitrogen and the reduction of nitrates, it is also necessary for the normal growth and development of non-leguminous plants. The issue of the value of molybdenum in the nutrition of cotton is the subject of numerous studies. In the works of T. Pirakhunov, A. Kariev (1974), A. Kariev (1991), the influence of molybdenum on the nitrate reductase activity of cotton fabrics was studied on a large scale. It is established that this element enhances the nitrate reductase activity of cotton leaves, especially on the nitrate background of nutrition than on ammonia. It has been shown that with the increase of nitrates in the substrate, the nitrate reductase activity of the leaves increases. There was a direct correlation of the activity of the enzyme nitrate reductase with the amount of nitrates in the substrate. Studies on the effectiveness of molybdenum on oasis-irrigated soil, depending on the agrotechnical backgrounds (monoculture and plowed alfalfa) are limited. It should be noted that the lack of raw materials for the production of molybdenum fertilizers does not allow their widespread use in crop production. In this regard, the search for ways to compensate the deficiency in molybdenum for prickly artichoke plants is important in increasing the efficiency of nitrogen fertilizers and reducing environmental pollution (water sources, ponds and food) with harmful residues of mineral fertilizers.

**Research methods.** Of the many problems that have arisen, the task of our research was to study the possibility of meeting the need of a prickly artichoke in molybdenum with separate and joint application in the composition of manure and in the composition of its inorganic salts on various agrotechnical backgrounds. This issue is of scientific and practical importance for agriculture of the Republic of Uzbekistan, but unfortunately it remains poorly lit.

**The results of the study.** In field experiments, molybdenum was found to be highly effective when applied as salts in the composition of the fertilizer on plowed alfalfa than on cotton old women. At the same time, high rates were obtained with the joint application of molybdenum salts in the composition of organic fertilizers. It was found that regardless of the options, the content of molybdenum in the organs of the artichoke prickly varies widely, depending on the agrotechnical backgrounds. Most of the molybdenum in the organs of the prickly artichoke is found when it is cultivated using the old plow than on the alfalfa stratum, especially when the inorganic salts of molybdenum and manure are added together. In relation to monoculture in the organs of artichoke

prickly, the content of molybdenum in the alfalfa formation is noticeably lower. As was to be expected, the addition of molybdenum, especially with the joint introduction of its inorganic salts and manure, increases its content in the organs of the prickly artichoke, rather than adding them separately. The utilization rates of nitrogen for the spiny artichoke, with joint and separate application depending on the agrotechnical backgrounds, were determined by the difference method.

It was established that the total nitrogen consumption of the studied plants grown during monoculture is significantly less (from 166.6 to 206.0 kg / ha) than this plant grown on alfalfa paste (from 248.4 to 319.2 kg / ha). With deduction of nitrogen removal at the control (without manure and molybdenum), nitrogen consumption by artichokes in monoculture, depending on the options, is from 86.9 to 119.2 and the background of plowed alfalfa from 97.4 to 168.2 kg / ha, i.e. the same pattern is maintained as with the total nitrogen intake of the artichoke. A more effective option providing a high yield (biomass) turned out to be where molybdenum was introduced together in the form of inorganic salt and manure. As in the lysimetric experiments, the enhanced growth of the stem, the greater accumulation of the crop of artichoke cultivated in monoculture, was noted with the joint introduction of molybdenum as part of inorganic salt and manure. High efficiency of molybdenum introduction in various variations was observed over the alfalfa stratum. With separate introduction of inorganic salt of molybdenum and manure, additional yield was obtained (biomass), respectively, 3.0–3.2 q / ha, and with joint application of manure and molybdenum salt, –5.4 metric centner / ha.

**Conclusion.** The results of research have shown that the addition of inorganic salts of molybdenum together with nitrogen fertilizers or as part of manure is an important condition for increasing the beneficial effect of nitrogen on plants. Molybdenum, being an integral part of the enzyme nitrate reductase, accelerates the conversion of nitrates and other mineral forms of nitrogen into more complex organic compounds, increases the consumption and outflow of nitrogen from vegetative organs into generative ones. The effectiveness of molybdenum in the composition of manure is longer than with its separate introduction. The best effect is achieved when using molybdenum on the background of plowed alfalfa than on the old –arable soil.