

USING THE ALTERNATION METHOD IN CREATING A PLANTATION OF COREANDRA SOWING(*CORIANDRUM SATIVUM* L.)

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Abstract. The article provides information on the possibility of using intermediate crops when creating a plantation of *Coriandrum sativum* L. Experiments have shown that the alternation of the area in the cultivation of coriander (*Coriandrum sativum* L.) gives positive results. In particular, when alternating the plantation area for 1 year, the yield of *Coriandrum sativum* L. increases to 6%, and in the case of constant alternation, these figures reach up to 12-14%.

Keywords: *Coriandrum sativum* L., catch crops, plantation, yield, *Hordeum bulbosum*, *Zéa máys* L., *Sorghum bicolor* (L.) Moench, monoculture, agroforestry, biodiversity and etc.

Introduction. According to scientists, in the process of land development in agriculture, the use of intermediate crops before planting the main crops is considered effective, which, in turn, has a positive effect on the improvement of soil reclamation (weed removal, soil softening, physical and water permeability properties of the soil, and then its chemical composition) [2 -4].

According to A.E. Nerozin [2], in the fields planted with rice, the underground water of the soil approaches, its upper layers become denser, and as a result, the water permeability of the soil decreases and its physical properties are disturbed. In the opinion of the author, the use of winter barley (*Hordeumbulbosum*), corn (*Zéamáys* L.), water grass (*Sorghum bicolor* (L.) Moench) and other agricultural crops as intermediate crops in such lands is a basis for reducing groundwater and efficient use of water. creates [3].

In other literature, the use of maize as a catch crop in the development of saline land has positive results. According to the author, due to the rapid growth of corn, the surface layer of the soil is completely covered and shadow is formed, as a result of which the germination of weed seeds is delayed [5].

In the scientific research of foreign (Spain) scientists, sowing of the agricultural crops Barley-*Hordeumvulgare* L. and Hairy wicki-*Viciavillosa* Roth between rows of Cherry (*Prunusdulcis* Mill. [D.A.Webb]) plantations gives effective results. It is noted that plants planted in row spacings (common barley - *Hordeumvulgare* L. and Hairy vetch - *Viciavillosa* Roth) soften the surface layer of the soil, help to retain nitrogen and, in addition, increase soil fertility [6,10].

According to the information of Chinese scientists, it is better to grow a wheat plant in the row spacing of ordinary almond plantations than to grow it by monoculture method. The authors acknowledge that such a method is important not only in the efficient use of land in the agroforestry system, but also in improving the economic efficiency of farmers and other farms, as well as the preservation of biodiversity [7,11].

Based on the above-mentioned information, we also preferred to introduce alternate planting methods in the cultivation of coriander (*Coriandrum sativum* L.) plant in plantations.

Research object and methods. *Coriandrum sativum* L. plant was selected as the scientific object of the study. *Coriandrum sativum* L. is an annual herb belonging to the *Apiaceae* family. It is widely used as a spice and medicinal plant in various sectors of the economy [1].

Scientific research on planting, cultivation and use of intermediate crops in planted plantations of coriander plant was carried out in the "Chodak" department of the specialized state forestry named after Abu Ali IbnSina.

Field experiments were conducted in 3 different variants; 1) Coriander seedlings were planted continuously (for 1-4 years) in experimental fields (control). 2) Experimental fields were planted with sown coriander for 2 years, white beans (*Phaseolus* L.) and replanted coriander in the 3rd year. 3) The experimental

field was alternately planted with different plants (Coriandrum sativum L. in the 1st year, Phaseolus L. in the 2nd year, Zéamáys L. in the 3rd year, and Coriandrum sativum L. in the 4th year).

The obtained results and their analysis. The conducted scientific research showed that it is possible to use alternating planting (as an intermediate crop - white beans) in the creation of industrial plantations of medicinal plants. In particular, when studying the information on seed fertility of plants, it was noted that these indicators are close to each other in all variants, and the amount of fertility was recorded around 81-93%. In our opinion, the planted coriander plant has high fertility, which is mainly due to three factors (that is, firstly, the soil moisture exceeds 70%, secondly, the soil temperature is higher than 10-12°C, and thirdly, the soil density is around 6-8 grams per 1 cm³ area). explained.

Observations have shown that the use of crop rotation in the cultivated fields of cilantro has a positive effect on their growth and development. For example, in the areas where cilantro is planted continuously, the height of the main stem is 47.9 cm on average, the number of leaves is 8-9, the number of first-order stems is 11.3, the length is 11-13 cm, the leaves are 17-18, the number of second-order stems is 15.7 pieces, 9-10 cm long, 8-9 leaves, 42-45 buds, 41-45 flowers and 40-43 seeds, yield 600-612 kg/ha. was, and in the plants in the areas planted with coriander in 2 years and white beans and replanted coriander as an intermediate crop in the 1st year, the height of the main stem is 51.7 cm on average, the number of leaves is 8.3, the number of 1st order stems is 12.1, length 12-14 cm, leaves 18-19, number of 2-order stems 17.0, length 8-9 cm, leaves 8-10, number of buds 56-57, number of flowers 51-53 and 50-52 seeds and 630-650 kg/ha yield were recorded.

Significant growth and development was noted in the 3rd option (ie, in the experimental fields where rotation methods using intercrops were constantly introduced), in which the average height of the plants in the planted fields was 51.7 cm, the number of leaves was 10.1, and the number of first-order stems was 14.6, length 14-15 cm, leaves 20-21, number of second-order stems 23.1, length 11-12 cm, leaves 10-11, number of buds 66-68, number of flowers 63-65 and 61-62 seeds, and the productivity level was recorded around 720-725 kg/ha (table).

The duration of vegetation of the white bean and corn plants planted in experimental areas as intercrops directly depends on favorable climate (temperature) and soil (moisture) conditions. In particular, when irrigation opportunities are increased (the soil is sufficiently supplied with moisture), the process of growth and development of plants and the total vegetation period extend to 110-130 days, and on the contrary, when irrigation opportunities are limited, their growth and development and the duration of vegetation are 75-85 days in the white bean plant and in corn it was 95-100 days.

In the conditions of Uzbekistan, the white bean plant can be planted as a main crop in the spring season (late April and early May) and as a secondary crop in the first month of the summer season (June) [8].

The white bean plant was planted in the experimental fields in the middle of April (15.04.2013) 3-5 cm. planted in depth and 50-60 kg/ha of seed was used. At this time, the growth and development of the vegetative organs of the planted plants mainly continues until the flowering phase, and with the beginning of the flowering period, their growth rate decreases significantly. The flowering phase of plants was observed from the second decade of May (17.05.2013) when the air temperature increased to 15-18°C, and the period of horizontal flowering was recorded when the air temperature increased to 21-25°C. Fertilization continues until the end of May and the beginning of June, and the completion of the seeds coincided with the end of June and the beginning of July. The seed yield of the plants (on 0.7 ha area) was on average 700 kg, the pods were 105 kg, and the bean stalks (stalks) were 700 kg.

In the conditions of Uzbekistan, the dates for planting corn for grain production are April 10-15 for the regions located in the Central region (Tashkent, Syrdarya, Jizzakh, Samarkand and Fergana Valley regions), 2 weeks earlier for the Southern regions (March 25-30), and 2 weeks for the Northern regions. week later (April 25-30) [9].

Maize plants were planted in experimental fields in the middle of April (12.04.2014) at a depth of 5-6 cm and 24-25 kg/ha of seed was used. Meanwhile, the temperature of the soil was 12.5°C, and the seeds germinated after 8-10 days. At this time, the growth and development of the vegetative organs of the planted plants mainly continued until the flowering phase, and the flowering phase was recorded from the second decade of May (11.05.2014). With the beginning of the flowering period, their growth rate decreases relatively. The process of fertilization in plants was observed from the last days of June, and the completion of

seeds coincided with the first days of July. The seed (grain) yield of the plant (on an area of 0.7 ha) was 1200 kg, and the bud yield was 35 kg and the stem (stalk) yield was around 1302 kg.

In general, the duration of vegetation of plants planted as an intermediate crop depends on the climate and soil conditions (2013, 2014, 2015) and is mostly 115-125 days when irrigation opportunities are increased, and 95-105 days when irrigation opportunities are limited.

Conclusion. Thus, the use of alternate planting methods in the cultivation of cultivated cilantro in large plantations gave effective results. In particular, if the yield of plants in the continuously planted (control) fields is 612 kg/ha - 100%, the yield level in the fields planted alternately using intermediate crops for 1 year (option 2) is 47 kg/ha, i.e. 106% formed. During the researches, it was found that in the experimental fields, which are continuously planted in rotation using intermediate crops (option 3), these indicators increase to 11-14% and even (18-20%).

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