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THE IMPORTANCE OF PHYTOMELIOR PLANTS IN IMPROVING LAND RECLAMATION

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Annotation
Drought-tolerant, salt-tolerant phyto-reclamation plants such as Maksar and White corn should be planted as secondary crops to prevent the devastation of grain-free areas and the deterioration of the reclamation status of these areas. We think these are good results. For example, white corn can be harvested as a minor crop while maintaining good soil moisture until the fall months and reducing soil salinity.

Key words: phytomeliorants, replanting, salt, salinization, harvest, crop rotation, reclamation.
The following measures will need to be taken to improve land reclamation and increase soil fertility in order to obtain high yields from existing and newly developed agricultural lands.
1. Introduction of a system of repeated sowing of cereals (phytomeliorant) - cotton - in the cotton complex, with the introduction of crop rotation on a scientific basis on irrigated lands;
2. To prevent leaving the field after grain crops and to create a guaranteed supply of fodder for livestock, as well as to reduce the rates of salinization in the autumn-winter period of salt washout.
Numerous scientific studies, the experience of advanced farms show that one of the main factors for obtaining sustainable high and high-quality agricultural crops on irrigated lands is the use of scientifically based methods for improving soil reclamation and increasing their fertility.

Maksar. Significance in the national economy. The seeds contain 17-37% semi-dry white-yellow oil. Oil from refined seeds is not inferior in taste to sunflower. Also, oil is used in the preparation of margarine for food, it is used in the manufacture of alphabet, linoleum, soap and other products. This is very painful. Therefore, it is used as a fertilizer. It is raised on land for hay, greenery and silage, and is well eaten by camels, sheep and cattle. Arable land is a good pasture for Karakul sheep. Maksar from Afghanistan. It is grown in India, the United Arab Emirates, Iran, Central and South America. In 1998, 40.38 thousand hectares were sown in Uzbekistan. Due to its drought tolerance, it is widely used in arid lands. On rainfed lands, 3-4 c / ha of seeds and 45-60 c / ha of greenery or 16-23 c / ha of hay are harvested.

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Botanical Description: The complex flowers Maksar belong to the Asteraceae family, the genus Carthamus tinctorius D and species.
Biology. Maksar is a plant with a dry continental climate, very resistant to drought and heat.
The most common pests are mosquitoes and mosquitoes. The seeds are prickly and without thorns. Sow safflower seeds without thorns.
Varieties: Variety Milyutinsky-114 is grown in arid lands.
Growing technology. Maksar seeds are sown in legume-free areas. The plow on which the maksar is sown is plowed with a plow to a depth of 22-24 cm. In the spring it rains and before planting it is cultivated to a depth of 6-8 cm, and then it rains. Large, clean seeds are sown. Forgetfulness should be 85-95%, depending on the quality. Maksar is planted simultaneously with early spring crops. Maksar can be planted in autumn, but the yield will be lower.
Maksar is planted in wide rows with a row spacing of 60 cm. 6-8 kg of seeds are sown in spring, 8-10 kg / ha in autumn. Planting depth is 4-6 cm in spring and 5-7 cm in autumn. To obtain greens, maksar are planted with a width of 30-45 cm, at the rate of 12-15 kg of seeds per hectare.
Maksar is grown mechanically. Grain machines are also used. Early maturing weeds, spring and ordinary weeds are destroyed by storms. Safflower sown in autumn is plowed horizontally in early spring and processed 2-3 times between rows during the growing season. In the mountainous and foothill lands of Maksar, they sow in rows of 25 kilograms of seeds.
Harvesting. When ripe, it does not wake up, and the seeds are harvested when they are fully ripe using combine harvesters. The crushed seeds are cleaned in grain cleaning machines and stored in covered warehouses. The moisture content of stored seeds should not exceed 13%. Harvesting machines are used to harvest livestock feed.

White corn (Sorghum). Significance in the national economy. White corn is one of the most widely used cereals. Its grain is a valuable raw material for the production of feed and animal feed, starch and alcohol industries. Cereals are also obtained from it. In Africa, India and East Asia, white corn is the main crop. In the republics of Central Asia, white corn is used for food.
White corn is the third largest food crop in the world after wheat and rice. Green stalks of white corn are fed to livestock or pressed silage. Its silage is similar in composition to corn silage. White corn stalks are good hay if harvested before chopping. White corn sprouts again. In 100 kilograms of white corn - 119 grains, green mass - 23.5, silage - 22.0, hay - 49.2 fodder units. Grains contain 15 percent protein. Sweet white corn stalks contain 10-15% sugar and are used for juice production. White corn can be grown as a cover crop to keep out snow and heat.
Biological properties, heat demand. White corn is the driest plant with a transpiration coefficient of around 200, making it one of the most heat-resistant cereals. White corn seeds germinate well at soil temperatures of 120–140 ° C. Young and mature plants are absolutely cold-resistant. The temperature can reach 350-400 C. From sowing to ripening, a useful temperature of 22500 ° C-25000 ° C is required. Photophilous, short-day plant. Productivity is high in sunny areas with low clouds.

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Moisture Requirements: White corn has a lower transpiration coefficient than other grains. Since the roots penetrate deeply into the soil, they use the moisture available in the soil and are not demanding on moisture.
The role of crop rotation. White corn is grown on land freed from cotton, winter wheat, legumes, maize and other crops. By itself, white corn is the best predecessor for spring and autumn crops.

In conclusion, based on the analysis of the results of studies carried out in the Bukhara region to reduce water consumption for leaching saline soils through the use of phytomeliorative measures, the following conclusions can be drawn:
1. In the variants of phytomeliorants of the experimental field, a decrease in salts was observed in comparison with the control (plowed) variant. At the end of the growing season, the dry residue content in the groundwater in the variant with the sowing of white corn was 1043–1021 grams, while in the control variant the dry residue content was 1403–1388 grams. Planting phyto-ameliorants instead of plowing the land after the wheat harvest will reduce the amount of salt in the soil, improve the graininess of the soil and create opportunities for animal husbandry.
2. The groundwater level in the experimental field increased by an average of 30 cm during the growing season compared to the spring, and the groundwater salinity increased from 1043–1021 to 1403–1388 g / l in terms of dry residue.
3. According to laboratory analysis of observations of water supply in a ditch flowing from the border of the farm on which the experimental site is located, one liter of water contains an average of 2241 grams of dry residue. The harmful salts were washed off the soil and thrown into a ditch.
4. After planting and harvesting the phytomeliorant, the weight of the soil decreased, the soil became granular, the amount of humus increased, the amount of salt decreased, i.e. at the beginning of the growing season in the 0-30 cm layer was 1.41 g / cm^3, at the end of the growing season - 1.37 g / cm^3.
5. In the meadow soils of the Bukhara region under conditions of a groundwater level of 1.5-2.0 meters, with a boundary field soil moisture of 70-80%, under conditions of irrigation of white phytomeliorants, it was observed that the width of the root system, an abundance of green nutrient mass, an improved structure soil, and the absorption of harmful salts in the soil and better use of groundwater. Due to natural and climatic conditions, depending on moisture deficit, when using the method of invasive irrigation, high yields were achieved using 2780 m^3 / ha of water for white corn during the growing season.
6. When applying the rate of mineral fertilizers under phytomeliorants N 200, R140 kg / ha and with a total seasonal irrigation rate of 2780 m^3 / ha in 70-80% of the maximum moisture capacity of the field the highest yield of white oats - 390.2 c / ha of blue stalks.
7. Data of laboratory analysis of field experiments during the year: According to the results of agrophysical, agrochemical analyzes, one of the most effective ways to reduce harmful salts accumulated in the soil due to the evaporation of groundwater is the re-planting of phytomeliorant plants. a way to get high yields from them and to reduce the amount of water used for brine rinsing.

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Basic production guidelines. The meadows of the Bukhara region in the conditions of alluvial medium-sandy soils in the fields devoid of wheat, salt-absorbing and drought-resistant, repeat the plants "Maksar" and "White corn". During the growing season, the intensity of salt accumulation in the active layer decreases by 29%, salinity by 33%, an additional 74.6 c / ha Maxsar, 390 c / ha from white corn can be obtained blue mass.

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