

Technology of planting crops along the ridges

AGROECOSYSTEM: Irrigated



ADVANTAGES

- Promotes adaptation of crop production to climate change through the use of new highly productive crop varieties;
- Creates conditions for the application of integrated plant protection methods;
- Saving seeds and irrigation water.

DISADVANTAGES

- Relatively high price for raised bed seeder for farmers;
- Powerful tractors with over 100 horsepower is required for the operation of raised bed seeder;
- Difficulty of combine harvester movement along the sliced furrows.

Definition of technology:

Crop planting in ridges is carried out by a special seeder, which simultaneously forms ridges, plants along and between the ridges, makes furrows for irrigation, stimulating a reduction in irrigation erosion and reduction of irrigation water use.

Brief summary of technology:

Ridge planting technology is applied in the CIS countries (Kazakhstan, Kyrgyzstan, Azerbaijan, Tajikistan etc.) for the cultivation of cereals, legumes, vegetables, technical and oilseed crops. Ridge sowing of the grain crops can be done on almost all gray soils, gray-brown soils with

medium and light texture. Width between ridges is 60-70 cm.

It is possible to sow 2-3 rows of crops with a distance of 15 cm on the ridge. The seed rate of grain crops is 100-150 kg/ha instead of 200-250 kg/ha with traditional method of seeding. Raised bed planting technology creates an optimal water-air and thermal regimes for agricultural crops, provides high efficiency of furrow irrigation, water saving by 25-30% and increase of the yield of winter wheat from 5 to 8.3 t/ha.

To implement this technology in Kyrgyzstan, a SBP - 2.8 seeder made in Turkey has been used, which

allows forming ridges, planting seeds and at the same time forming furrows for irrigation between ridges. Bed planting technology was tested in the Chuy Valley within the frame of the ICARDA project on “Sustainable Land Management”, where an Indian «Deshmesh» seeder was used.

Main land use issues and the main causes of land degradation:

The terrain has a flat and gently sloping landscape. In this zone, there are waterlogged and saline areas. As a result of over-irrigation, irrigation water and groundwater merge, leading to soil salinization, waterlogging.

Main technical features of technology:

Improvement of surface structure, water-air and thermal regime of soils.



Acceptance/adoption of technology:

In Kyrgyzstan, raised bed planting technology was originally implemented with the support of the «Sida» and «Support seed industry of Kyrgyzstan» projects. Further dissemination of this method has been done by the Seed Farming Association of Kyrgyzstan (SAK) under the CACILM project.

CACILM Factsheets

These factsheets are designed to promote proven and sustainable interventions to improve land management in Central Asia. The technologies and interventions highlighted are generated by the IFAD-funded project on Knowledge Management in Central Asian Countries Initiative on Land Management. The initiative's Knowledge Platform, managed by ICARDA, aims to disseminate solutions to rehabilitate and prevent the further degradation of Central Asia's natural resources.

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