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KEYS TO PROFITABLE PRODUCTION

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KEYS TO PROFITABLE MUNGBEAN PRODUCTION

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The mungbean is a summer annual legume which can be used for seed production, forage or soil improvement. It is adapted to the Southwestern part of the United States as are cowpeas. Mungbeans have long been used for human food in southern Asia and Africa. For many years they have been grown in the United States primarily for use in Chinese-type foods.

Mungbeans are adapted to most Texas areas. Some 10 to 12 thousand acres are grown in the northern Rolling Plains around Vernon primarily because of a processing plant and local market situation. Because of its adaptation, short growing season and favorable prices, however, production is spreading to other areas of the state.

Uses

Mungbeans are grown mainly for commercial sprouting and canning. The sprouts are used in Chinese restaurants for making chop suey, chow mein and other food products. The sprouters prefer mungbeans of medium to large size with a shiny, smooth coat and high germination.

Mungbeans also are used for silage or hay. The soil-improving value of this legume is slightly less than that of cowpeas. While the crop is grown mainly for seed, plant residues are commonly used for soil improvement. Ground mungbeans are used as a protein supplement in rations for poultry, swine, sheep and dairy cows.

Soil Requirements

Mungbeans grow well in a wide range of soil types but are best adapted to fertile, medium-textured and sandy loam soils with good structure and well drained subsoils.

Moisture requirements are similar to other bean crops. Mungbeans do best with adequate moisture throughout the growing season. However, they are somewhat drought-tolerant because plants will survive under short, dry periods while in the vegetative stage. Moisture stress during flowering and seed production drastically reduces yields.

Rotation

Mungbeans fit well into a crop rotation program with cotton, grain sorghum, small grains and vegetables. Because of their relative short growing season of 90 to 105 days, they also are used as a catch crop following disaster-ruined crops such as hailed out cotton or grain sorghum.

Since mungbeans are a legume and have the ability to fix atmospheric nitrogen, increased soil fertility can be obtained. Crops following well inoculated mungbeans usually have increased yields at lower costs because of reduced fertilizer inputs.

Cultural Practices

Seedbed preparation for mungbeans is the same as for other crops such as cotton or grain sorghum. The bed should be firm and weed free.

Use good quality seed of recommended varieties. Planting seed should be high germinating, plump, true to variety and free of other crop and weed seeds.

Inoculation of mungbean seeds is a must if the plants are going to fix nitrogen. Inoculate seed with cowpea inoculant (Group "E") just before planting. Sunlight, heat and excessive drying destroy the inoculant's effectiveness. Inoculate only enough seed at one time to allow for ½ day's planting.

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Plant seed in moist soil about 2 inches deep after the danger of frost has passed. Preferably soil temperature should be around 70° F.

Planting patterns range from the standard 40-inch rows down to 8- to 10-inch rows using grain drills. Some prefer to plant on 16- to 20-inch centers by stopping up every other hole in the grain drills. Planting rates should correspond to the planting pattern. Wide row planting rates should be 8 to 10 pounds, 16- to 20-inch rows should have 12 to 14 pounds and solid plantings should have 18 to 20 pounds of seed per acre.

Carry out weed control practices. Mungbeans planted in standard row widths should receive one or two shallow cultivations. Narrow-row plantings do not allow mechanical weed control so chemical weed control becomes important. Several preplant incorporated herbicides have labeled clearance. For information on chemical control materials and methods, see MP-1059 or MP-1061 which are available from your county Extension agent.

Fertilize mungbeans according to soil tests. Properly inoculated plants do not need fertilizer nitrogen. Mungbeans, like other legumes, have a high phosphorous requirement. In the absence of a soil test, apply 20 to 30 pounds of phosphorous. Unused phosphorous will be available for following crops.

Harvesting and Storing

Mungbeans are commonly harvested with a combine. The pods are mature and ready for harvest before the leaves and stems are dry. For high sprouting quality, harvest mungbeans as soon as the pods mature. Harvested beans contain pieces of green stems, leaves and other plant material which must be separated from the beans immediately after harvesting to avoid heating; this causes germination injury and makes the beans unsuitable for sprouting.

Mungbeans are cracked easily if the cylinder speed of the combine is too high and the machine is not properly adjusted. Reduce cylinder speeds from one-third to three-fourths the speeds used for harvesting small grains to avoid cracking the beans. More cylinder clearance also is needed.

It is very important that mungbeans are dry before sacking or storing in bins. After separating all green material, spread the beans in thin layers and turn frequently until dry and ready for storage.

Insects, such as the pea weevil, may cause severe damage to mungbeans in storage unless adequately protected. Store in clean bins and frequently inspect and treat seeds if weevils appear.

Yield Potential

Mungbean yields vary, depending on rainfall or irrigation. Dryland yields from variety tests at Chillicothe Experiment Station show seasonal differences but respectable results. The top five varieties in 1977 yielded 629 to 689 pounds per acre. In 1978, the top five varieties yielded 915 to 1200 pounds per acre. Under adequate rainfall in season or with supplemental irrigation, yields up to 2000 pounds per acre can be expected.

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