PACKAGE OF PRACTICES

GREEN MOONG (*Vigna radiata* L. Wildzek)

Family: Leguminosae
Origin: India and Central Asia

Area and Distribution

Green gram is cultivated in the countries of India, Burma, Sri Lanka, Pakistan, China, Fiji, Queens land and Africa.

India is the major producer of green gram in the world and grown in almost all the States. It is grown in about 36 lakh hectares with the total production of about 17 lakh tonnes of grain with a productivity of about 500 kg/ha. The important green gram growing States in the country are Orissa, Maharashtra, Andhra Pradesh, Madhya Pradesh, Gujarat, Rajasthan and Bihar.

In Gujarat, it is cultivated in an area of about 1.73 lakh hectares with the production of 0.72 lakh tonnes with an average yield of 414 kg/ha (Average of 2004-05). It is mainly cultivated in the districts of Kutch, Banas kantha, Saba kantha, Mehsana, Surendra Nagar and Ahmedabad, however, almost all districts are growing green gram in the State.

Economic importance

Green gram is an excellent source of high-quality protein (25%) having high digestibility. It is consumed as whole grains as well as "Dal" in a variety of ways in our food. Sprouted green gram is used in the preparation of curry or a savory dish (South India). It is supposed to be easily digestible and hence the patients prefer it. It is also a good source of Riboflavin, Thiamine and Vitamin C (Ascorbic acid). When green gram is sprouted, seeds synthesized remarkable quantity of ascorbic acid (Vitamin C). Green gram is also used as green manure crop. It being a leguminous crop has capacity to fix the atmospheric nitrogen (30-40 kg N/ha). It also helps in preventing soil erosion. Being a short duration crop, it fits well in many intensive crop rotations. Green gram can be used as feed for cattle. After harvesting the pods, green plants are uprooted or cut from the ground level and chopped into small pieces and fed to the cattle. The husk of the seed can be soaked in water and used as cattle feed. It is self-pollinated crop. In North India, it is cultivated in both *kharif* and summer seasons and in South. India, it is cultivated in *rabi* season.

Field preparation

Field is prepared by one or two ploughing followed by two or three cross harrowing and planking. The field should be well leveled and free from weeds and stubbles.

For summer season crop, pre-sowing irrigation should be given immediately after harvesting of the previous crop. Field is prepared at Vapsa conditions by giving two or three ploughing by local plough or harrow. Each ploughing/harrowing should be followed by planking to make the field levelled and to minimize the loss of moisture by evaporation from the soil. Planking operation is important in summer season to prevent the losses of moisture from the soil.

Spacing:

45 cm x 10 cm (*kharif*)

30 cm x 10 cm (*rabi* and summer)

Seed rate:

12 to 16 kg/ha (*kharif* season)

20-25 kg/ha (*rabi* and summer seasons) Seeds should be sown at a depth of 5-7 cm.

Seed treatment

Before sowing, seeds should be treated with Thiram or Captan @ 2 to 3 g/kg of seeds. It is also desirable to treat seeds with suitable rhizobium strain if crop is taken in the field first time.

Time of sowing

Sowing is done on onset of the monsoon in *kharif* season and during second fortnight of February to first fortnight of March in summer season.

Method of sowing

Sowing should be done behind the local plough or with the help of seed drill.

Irrigation

For rainfed crop, irrigation is not needed but drainage is very important because this crop is very much sensitive to water logging.

For summer season crop, five to six irrigations may be given. First irrigation should be given at 20-25 DAS and subsequent irrigations should be given at an interval of 12-15 days. Irrigation should not be given at full bloom stage of the crop. Late flowering and early pod filling stages are critical stages for irrigation.

Weeding and Interculturing

One or two interculturing and one to two weeding should be carried out at 20 and 45 days after sowing. Fluchloralin or Pendimethalin @ 0.5 kg/ha or oxadiazon @ 0.25 kg/ha as pre-emergence should be applied when hand weeding is not possible due to continuous rains during *kharif* season under middle Gujarat conditions. In wheat-moong cropping sequence, apply Fluchloralin @ 0.9 kg/ha as pre-emergence and carry out hand weeding at 30-35 days under South Saurashtra zone in summer green gram. In South Gujarat conditions, keep the crop weed free up to 30 days during summer season.

Manures and fertilizers

10 to 15 CL/ha well decomposed FYM should be incorporated into soil at the time of preparation of the land.

N kg/ha	P2O5 kg/ha	K2O kg/ha	Remarks
20	40	0	As basal application

In clayey soils of South Gujarat, a doze of 10 kg N/ha is sufficient when seeds are treated with rhizobium culture and also apply 40 kg P2O5/ha.

Plant protection

Pests: Aphids, Jassids, White flies and Pod borer

Diseases

Yellow mosaic, Mosaic mottle, Leaf crinkle, Leaf curl, Seed and Seedling rot, Cercospora leaf spot. Mosaic is transmitted by whiteflies (Vector) and hence, it should be controlled by spraying of systemic insecticides.

Micro nutrient management

Application of Sulphur @ 20 kg/ha is found beneficial if the soils are deficient in Sulphur.

Harvesting

When pods are turned into black colour, two to three pickings are done. Pickings should be carried out only during morning hours. Threshing should be done in threshing yard and seeds are separated and cleaned.