Package of Practices for Chickpea Cultivation

**Land and its Preparation**- Land preparation for sowing chickpea is based on the soil type and cropping system. In the case of a heavy soil, a rough seedbed is prepared to avoid packing of the cloddy surface due to winter rains and to facilitate soil aeration and easy seedling emergence. When chickpea is cultivated as a mixed crop with linseed or mustard, the land is prepared to a fine tilth. It is necessary to deep-plow the field at the beginning of the rainy season. This opens the soil deep and ensures efficient moisture conservation. Deep plowing also reduces wilting of chickpea that tends to develop due to the presence of hardpans in the root zone.

**Sowing Time**- In India, mid October to mid November is the ideal period for sowing chickpea. Any deviation from this period causes a conspicuous reduction in yield. However, in rice-based cropping systems, chickpea sowing is delayed beyond the optimum date due to the late harvest of rice.

**Seed rate (Kg/ha.)**- Seed rate of 75-100 kg per hectare depending upon seed size may be sufficient for one hectare. The seed should be placed 8-10 cm. Deep.

**Nutrient Management**- Chick pea being a leguminous crop fulfills the major part of its nitrogen requirement (about 75%) through the process of symbolic nitrogen fixation which works effectively from three to four weeks after sowing. However, soils with low organic matter and poor nitrogen supply may require 20-25 kg per hectare of nitrogen as starter does which can meet plant requirement before the formation of nodules. Besides nitrogen, pulses respond very favourably to phosphorous application if the soils are deficient in phosphorous supply. If both nitrogen and phosphorous are required to be supplied then diammonium phosphate (18-46-0) at the rate of 100 to 150 kg per hectare should be applied uniformly before the last discing ploughing.

**Water Management**- Chick pea is mostly sown as a rainfed crop. However, where irrigation facilities are available, give a pre-sowing irrigation. It will ensure proper germination and smooth crop growth. If winter rains fail, give one irrigation at pre-flowering stage and one at pod development stage. In no case first irrigation should be given at flowering time of gram crop. A light irrigation should be given because heavy irrigation is always harmful to gram crop. Excess of irrigation enhances vegetative growth and depresses chick pea yield.

**Weed Management**- Chick pea being a stature crop suffers severely by infestation of weeds. One hand weeding or inter culture with hand hoe or wheel hoe after 25-30 days and second if needed after 60 days of sowing may take care of weeds. Fluchloralin (Basalin) 1 kg per hectare in 800-1000 liters of water as pre-planting spray may be used as an effective herbicide. It should be well incorporated in the soil before sowing. In case Basalin is not available use Metribuzin or Prometrynen at the rate of 1.0-1.5 kg active ingredient in 800-1000 liters of water per hectare as pre-emergence spray. Hand weeding or inter culture with the help of hoe is always better than herbicides because inter culture operations improve aeration in the soil.
DISEASES

**Wilt** (*Fusarium orthocerus*) - Treat the seed with Benlate T or a mixture of Benlate of Thiram (1:1) at the rate of 2.5 g per kg of seed.

**Sclerotinia Blight** (*Scleritinia sclerotiorum*) - Use only healthy seeds free from sclerotia. After harvest, the diseased plants should not be allowed to stand in the field but should be destroyed by burning. Treat the soil with a mixture of fungicides like Brassicol and Captan at the rate of 10 kg per hectare.

**Rust** (*Uromyces ciceris arietini*) - With the appearance of first symptoms, spray the crop with 0.2% Mancozeb 75 WP followed by two more sprays at 10 days interval.

INSECT PESTS

- **Gram Pod Borer** (*Helicoverpa armigera*) - Spraying of Spinosad 45SC @ 0.1ml/lit or Indoxacarb 14.5SC @ 0.3ml/lit or Flubendiamide 48SC 0.1ml/lit or Novacuron 10EC 1ml/lit of water.
  
  Crop becomes ready for harvest when leaves turn reddish-brown and start shedding. Plants are either plucked out by hand or cut with sickle. The crop is allowed to dry in sun on threshing floor for about five to six days. Thereafter, threshing is done either by beating the plants with sticks or by trampling under the feet of bullocks.