Agronomy Practices for Corn

Land Preparation: One deep ploughing should be given, followed by two or three harrowing to bring the soil to a fine tilth. Add 10-15 tons of FYM or compost before last harrowing and mix thoroughly with harrow.

Climate: Tropical as well temperate regions, from sea levels up to altitudes of 2500m.

Soil: Well drained loamy sand to clay loam with organic matter.

Sowing time: Kharif : June-July

Rabi : Nov-December

Spring : Last week of January till First week of March

Sr. No.	Purpose	Seed rate (kg ha-1)	Plant geometry (plant x row, cm)	Plant population
1	Grain (normal)	20	60 x 20 75 x 20	83333 66666
2	Sweet corn	8	75 x 25 75 x 30	53333 44444
3	Baby corn	25	60 x 20 60 x 15	83333 111111
4	Pop corn	12	60 x 20	83333
5	Green cob (normal maize)	20	75 x 20 60 x 20	66666 83333

6	Fodder	50	30 x 10	333333

Seed treatment: Seed treatment with fungicides and insecticides before sowing is advisable/ recommended. Control- Treated seed with Bavistin @ 3g/Kg and Imidacloprid @ 4gm/Kg of seeds before sowing in the field.

Sowing method: Corn seed should be sown with dibbling or drilling method. Seed should not be sown more 5-6 cm depth of soil.

Nutrient management:

- FYM- 10 FYM ha-1, 10-15 days prior to sowing
- N:P:K 150-180 kg N, 70-80 kg P2O5, 70-80 kg K2O and 25 kg ZnSO4 ha-1

Full doses of P, K and Zn should be applied as basal preferably drilling of fertilizers in bands along the seed using seed-cum-fertilizer drills. Nitrogen should be applied in 3-splits as detailed below for higher productivity and use efficiency.

Sr. No.	*Crop stage*	*Nitrogen rate (%)*
1.	*Basal (at sowing)*	*25*
2.	*V8 (eight leaf stage)*	*50*
3.	*VT (tasseling stage)*	*25*

Water management: Depending upon the rains and moisture holding capacity of the soil, irrigation should be applied as and when required by the crop

Critical crop growth stages-

- Young seedlings,
- Knee high stage (V8)
- Flowering (VT) and
- Grain filling (GF)

Therefore irrigation should ensure at these stages.

Weed management: Pre-emergence application of Atrazine 50 WP @ of 1.5-2. kg a.i ha-1 in 600 litres water rare effective way for control of many annual and broad leaved weeds.

Intercultural Operation- While doing hoeing, the person should move backward to avoid compaction and better aeration. For areas where zero tillage is practiced, pre-plant application (10-15 days prior to seeding) of non-selective herbicides viz., Glyphosate @ 1.0 kg a.i. ha-1 in 400-600 litres of water or Paraquat @ 0.5 kg a.i. ha-1 in 600 litres water is recommended to control the weeds.

Plant Protections:

(A)Insect-Pests:

1) Stem borer: - These borers feed on leaves in the earlier stages. Later on they bore into the stem and cobs, rendering the plant unproductive.

@ 27ml in 18lts and Monocrotophos 36 WSC @275 ml/ha in 125 liters of water by starting spray 2-3 weeks after sowing. Application of Neem based pesticides like Margosa @2 ml/ltrs of water are found to be beneficial

2) Army worm and Silk cutter: These insects feed on the leaves in the Whorl and silk.

Control- Spray Sevin (Carbaryl) 50 WP@ 250g in 125 litres of water or Thiodan 35 EC @ 27ml in 18 litres**)**

3) Termites: These pests attack young seedlings as well as mature plants

Control-Thiodan 4 % Dust @ 12-15 kg per hectare is applied and mixed well with the soil.

(B) Diseases:

1) Leaf Blight: Manifestation of oval to round, yellowish-purple spots on leaves. The affected leaves dry up and appear as if burnt. In severe cases, the plants may become stunted, resulting in poorly-formed ears.

Control- Crop can be sprayed with Dithane M-45 or Indofil @ 35-40 gms or Blue Copper @55 -60 gms in 18 litres water, 2 -3 sprays at 15 days interval, will effectively control the disease.

Harvesting:

Cobs which are to be utilized as grain should be harvested when the grains are almost dry or containing roughly 20 % moisture. For sweet corn -Harvesting, harvest when tassels begin to turn brown and cobs start to swell. Kernels should be full and milky. Pull ears downward and twist to take off stalk.

Note-All of recommendation for chemicals usage for insect –pest and weed control has to be based on local State Agricultural University recommendations