

Maize (*Zea mays*)

Varieties:

Varieties	Duration (days)	Special features	Potential yield (q/ha)
Hybrid:			
Ganga 5	110-120	-	48
Vivek Maize Hybrid 47	80-90	Cob yellow with white cap, Semi flint and moderately resistant to MLB and C. rust	69
Vivek Maize Hybrid 53	70-80	Yellow , semi flint	69
Bio 9544	90-110	Orange yellow , semi dent	73
Composite:			
Dhawal	110-120	-	48
Navjot	90-100	-	48

Note:

- a) Seed from hybrid maize should not be kept as the crop deteriorates due to segregation. The seeds from composite can be used for three to four years without much deterioration in yield.
- b) All the above varieties are drought tolerant and resistant to most of the diseases to a fair degree.
- c) Excepting Diara, all other varieties/hybrids are suitable for all the zones except Barak Valley Zone.

Selection of Site and Land Preparation:

Any well drained soil is suitable for maize. Sandy and sandy loam fertile soils are preferable. It requires a deep fine and firm tilth.

Manures and Fertilizers:

A combination of organic and inorganic fertilizer gives better results than inorganic fertilizer alone. Compost or FYM @ 5 t/ha should be applied

Nutrient	Requirement (kg/ha)	Form	Fertilizer requirement	
			kg/ha	kg/bigha
N	60	Urea	134	18
P ₂ O ₅	40	SSP	250	33
K ₂ O	40	MOP	67	9

For Hills Zone, a dose of 90 : 40 : 40 kg/NPK per hectare is recommended under rainfed condition.

Method of Fertilizer Application:

FYM or compost should be applied during land preparation. The entire quantity of SSP and MOP and half of the total urea is to be applied in furrows (8-10 cm deep) and covered with 4-5cm of soil. Sowing of seed should be done atleast 2 days after fertilizer application.

There remaining half of urea should be top dressed in two equal doses followed by earthing up; in each case. The first ¼ at 35 days after germination or when the plants are at knee high stage and the second ¼ at the tasselinitiast age of the crop i.e. 45- 60 days after germination or at the time of elongation of the flag leaf which ever is earlier. The fertilizer should be applied on both sides of row and weeds should also be removed from the field during this operation. However, before application of the fertilizer a light hoeing is to be given between the lines 2-3days ahead.

Seed Rate:

Depending upon the seed size about 18-22.5 kg of seeds/ha (2.5-3 kg/ bigha) are required.

Seed Treatment:

Seeds should be dressed with Carboxin @ 2 g/kg of seed

Sowing Time:

*Agro-climatic zone	L	U	C	N	B	H
Sowing time	Feb-Apr	Mar-Apr	Mar-May	Feb-Apr	Mar-May	**Apr-May

* Refer to page iii for full forms of agro-climatic zones

**July and August for late planting in hills.

Method of Sowing:

Seeds should be dibbled at a depth of 3-4 cm in rows 65-75 cm apart and at a distance of 20-25 cm from seed to seed within the rows. Two seeds per hill are to be sown followed by thinning10 days after germination retaining one seedling/ hill. Depending upon the fertility status of the soil, a wider spacing can be used. Varieties like Diara can be sown at closer spacing because of their short stature and shorter duration.

Weeding and Inter-culture:

Light hoeing and earthing up should be done as and when necessary. For further and adequate control of weed, simazine should be applied @ 0.5 – 1.0 kg a.i/ha in 1000 lit of water a pre-emergence spray.

Irrigation and Drainage:

Maize is primarily grown as rainfed crop; but application of irrigation at the time of soil moisture deficit ensures optimum yield. Silking stages and grain filling period are the

two critical stage of the maize crop.

Excess rain water can be drained out through surface drainage channel of 25 cm width, 15 cm deep spaced at 6 m distance.

Water Management

Maize should be sown in paired rows of 50 cm between pair and 70 cm gap is to be given between two pairs. Two rows of black gram should be sown in between two pairs of maize

Plant Protection:

When infestation of stem borer is noticed, fipronil 5 SC @ 1.0 kg/ha in 200-250 lit of water should be sprayed with power sprayer or in 700-800 lit of water with hand sprayer.

In areas where banded sclerotial disease (*Rhizoctonia solani*) is noticed, the plants should be sprayed with hexaconazole 5EC @ 2ml/lit of water at an interval of 12-15 days. Matured cobs can be protected from bird damage by tying cobs with leaves of the same plant.

Harvesting:

Harvesting should be done as soon as the husk covers turn brown and the silks are completely dry. Harvesting immediately after a shower should be avoided. Ears (cobs) should be thoroughly dried in the sun before shelling or storing unshelled.