

Cotton

Nutrients play a key role in enhancing cotton yield & quality. Compared to other crops, the nutritional requirements of cotton are different from other field crops as it undergoes vegetative & reproductive growth simultaneously. The root presence of cotton in the surface layer of the soil is low, where the availability of nutrients is high, thus making cotton very dependent on the subsoil for nutrition. Managing a nutrition schedule is key to avoiding deficiencies because of macro and micronutrients, which can lead to decreased plant growth and development, consequently impacting the cotton yield.

Cotton is a Kharif crop and is majorly grown in three regions in India – (1) parts of Punjab, Haryana, and northern Rajasthan in the north-west, (2) Gujarat and Maharashtra in the west and (3) plateaus of Telangana, Andhra Pradesh, Karnataka, and Tamil Nadu in the south. In these areas, the irrigated crop is sown from March-May and the rain-fed crop in June-July with the commencement of the monsoon.



GROW WITH KNOWLEDGE



CLIMATE & SOIL REQUIREMENT: Cotton is a tropical or sub-tropical crop grown in the semi-arid areas of the country and requires high temperature & bright sunshine for its growth. At the flowering stage, it requires a clear sky. Cotton can be grown on different varieties of the soil, however, Black soil is the preferred soil type for its growth. A well-drained soil capable of retaining moisture is ideal for the cultivation of the crop.



METHOD OF SOWING: There are two major methods of Cotton sowing, either using a seed drill or by dibbling. Hand dibbling of seeds at recommended spacing is commonly practiced in rainfed areas particularly for hybrids. This ensures proper plant stand, uniform geometry and saves seeds.

CROP SEASON:

REGION	MONTH
Punjab, Haryana, Rajasthan	May - June
Maharashtra, Gujarat	June - July
Telangana, Andhra Pradesh, Karnataka, Tamilnadu	May - June

In rain fed areas, the sowing is dependent on the commencement of monsoon.



IRRIGATION SCHEDULING: Adequate and timely supply of water is one of the basic inputs for obtaining potential cotton yield. Depending upon the climate & crop-growing period, cotton needs 700-1,200 mm rainfall to meet its maximum water requirement. The water requirement is low during the first 60-70 days after sowing & is at highest during flowering and boll development. Drip irrigation is gaining popularity in the hybrid growing areas in the central & southern zones.



REGION	No. OF IRRIGATION
Northern India	3 - 5
Southern India	4 - 13

FERTILIZER SCHEDULE OF MOSAIC PRODUCT



Sowing Stage

28 DAYS

(include all varieties)



Mosaic DAP – 50 kg/acre

Mosaic MOP-40 kg/acre

Mosaic K-MAG-25 kg/acre



Vegetative Stage

30 - 45 DAS



Flowering Stage & Boll Formation Stage

50 - 60 DAS

Liquid Boron 2 mL/L

Liquid Zinc 2 mL/L



Picking / Harvesting Stage

180 – 240 DAS

BENEFITS

Proper root development

Initial plant growth

Liquid zinc and boron help in quick corrections of deficiencies.







Improves the number of flowers and productive boll.

*DAS-Days after sowing

Note:

- Above dosages are applicable for Haryana, Punjab and Rajasthan state.
- Apply fertilizers based on soil test results.
- Along with above mentioned schedule apply Urea @ 100-120 kg/acre in 3 to 4 splits.
- Apply well decomposed Farm Yard Manure (FYM) or compost (@ 5-6 MT/acre) 2-3 weeks before sowing. Use nitrogen fertilizers judiciously, and for top dressing use only Urea as nitrogen source. Excessive use of nitrogen leads to more pest and disease infestation.
- Apply Azophos or Azospirillum and Phosphorus Solubilizing Bacteria each at 1 kg/acre along with FYM or compost for better results.
- Harvest cotton in the morning hours, dry in the shade and store the clean cotton. Do not mix stained, discolored and insect damaged cotton with good cotton, as they will spoil the good cotton and will lower the market value of the produce.

NUTRIENT DEFICIENCY

Nutrients	Deficiency Symptoms	Affected Area	Nutrition Required
Phosphorus	Dark green plants with reduced leaf size, older leaves turn purple red	Stunted root and plant growth, delay in flower initiation, boll formation and maturity	 <p>Apply Mosaic DAP 50 Kg/acre at the time of sowing</p>
Potassium	Yellowing of leaves in a margin, tips of the leaf and margins break down and curl downwards, the whole leaf becomes reddish brown, dries and premature leaf falling	Premature leaf fall, Stunted growth, bolls remain small, immature and unopened, poor yield and quality of fiber	 <p>Apply Mosaic MOP 40 Kg/acre and Mosaic K-Mag 25 Kg/acre at the time of sowing</p>
Magnesium	Purplish red leaves with green veins (Leaf reddening)	Premature leaf shedding, reduction in photosynthetic activity results in less number of branches and poor yields	 <p>Apply Mosaic K-Mag 25Kg/acre at time of sowing</p>
Sulphur	Pale green to yellow color of young leaves	Plants are small, skinny with slender stalks	 <p>Apply Mosaic K-Mag 25Kg/acre at time of sowing</p>
Boron	Terminal bud dies, shorter internodes, black discoloration at the base of bolls.	Excessive shedding of buds and young bolls	 <p>Liquid Boron @ 2ml/l</p>
Zinc	Pronounced interveinal chlorosis, interveinal portions turn golden yellow colour. Brown spots extend from leaf tips to base and later gets dry	Tips of leaves elongated and parallel	 <p>Liquid Zinc @ 2mL/L</p>