



PACKAGE OF PRACTICES FOR COTTON CULTIVATION

Crop: Cotton
Variety/Hybrid: All Types of Cotton Hybrids / Varieties
Sponsoring Organization: Archana Agrigenetic, Hyderabad.

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Crop Introduction:

Cotton is an important commercial fibre crop popularly known as “White Gold.” It is grown for lint used in the textile industry and for cottonseed used in oil extraction and feed. Cotton requires warm weather, bright sunshine, and a frost-free growing period for optimum growth

Cotton is a warm-season crop and performs best under:

- Temperature: 20°C to 30°C
- Rainfall: 50–100 cm, well distributed
- Bright sunshine during flowering and boll development is desirable
- Excess rainfall/waterlogging adversely affects crop growth and yield

Sowing Time: Kharif- May & June

Seed rate: 1.0–1.5 kg/(Hybrid Cotton) acre **Varietal Cotton:** 4–5 kg/acre

Suitable Soil

- Deep black cotton soils, medium black soils, and well-drained loamy soils are ideal
- Soil should be fertile and rich in organic matter
- Avoid waterlogged / poorly drained fields
- Ideal soil pH: 6.0 to 8.0

Sowing method: Treat the seeds with carbendazim @ 1.5g/kg and soak in water for 12 hours. Then incubate it for 36-48 hours or till it sprouts properly. Broadcast sprouted seed uniformly in the seed bed and maintain 2-3 cm water level till sprouted seeds are established.

Spacing

Type	Spacing
Hybrid Cotton	120 cm × 60 cm
Varieties	90 cm × 45 cm

Main Field Preparation: The aim of proper land preparation in cotton is to create a fine tilth for good seed germination, proper root development, and better aeration in the soil. Plough the field deeply once with mould board plough followed by 2–3 harrowings/cultivator operations to bring the soil to a fine tilth. Each ploughing should be followed by clod breaking and leveling operation. Incorporate 5–6 t/acre well decomposed organic manure (FYM) into the soil during final land preparation. Ensure proper leveling of the field and provide adequate drainage channels to avoid waterlogging, as cotton is highly sensitive to excess moisture.

Nutrient Management (kg/acre):

Time of Application	Urea	DAP	MOP	Zinc sulphate
Basal dose	20	50	20	--
Square Formation	25	--	--	--
Flowering Stage	25	--	15	--

Weed management: Weeds can be effectively controlled in cotton by timely intercultivation and proper herbicide application. Keep the crop weed-free during the initial 45–60 days after sowing, as this is the critical period of crop-weed competition. Apply Pendimethalin 30% EC @ 1.0 litre/acre as pre-emergence herbicide within 1–2 days after sowing followed by light irrigation for effective weed control. Intercultivation/hand weeding should be carried out at 20–25 DAS and 40–45 DAS to manage subsequent weed flushes and maintain proper soil aeration.

Water management: Cotton is sensitive to both moisture stress and waterlogging; therefore, proper irrigation scheduling is essential. Provide pre-sowing irrigation if soil moisture is inadequate for germination. Subsequent irrigations should be given at critical growth stages such as square formation, flowering, and boll development. Irrigation interval may vary from 10–15 days depending upon soil type and climatic conditions. Avoid excess irrigation and ensure proper drainage during heavy rainfall, as water stagnation adversely affects root growth and increases disease incidence. Irrigation should be stopped 15–20 days before final picking/harvest to facilitate boll opening and improve kapas quality.

Disease & Pest management:

Disease/Pest	Management
Jassid	Spray Imidacloprid 17.8 SL @ 50 ml/acre or Thiamethoxam 25 WG @ 40 g/acre.
Whitefly	Spray Acetamiprid 20 SP @ 40 g/acre or Diafenthiuron 50 WP @ 250 g/acre
Thrips	Spray Fipronil 5 SC @ 400 ml/acre or Spinetoram @ recommended dose.
Aphid	Spray Imidacloprid 17.8 SL @ 50 ml/acre or Thiamethoxam 25 WG @ 40 g/acre.
Pink Bollworm	Spray Emamectin Benzoate 5 SG @ 80 g/acre or Chlorantraniliprole 18.5 SC @ 60 ml/acre at ETL.
Spodoptera / Tobacco Caterpillar	Spray Chlorantraniliprole 18.5 SC @ 60 ml/acre or Emamectin Benzoate @ 80 g/acre.
Leaf Spot / Alternaria	Spray Mancozeb 75 WP @ 500 g/acre or Copper Oxychloride @ 500 g/acre
Wilt / Root Rot	Seed treatment with Carbendazim @ 2 g/kg seed and drenching with Carbendazim @ 1 g/litre water near root zone.

Harvesting : Harvest the cotton crop when approximately 50–60% of the bolls are fully opened and mature, indicating readiness for picking. Picking should be done only during dry weather conditions, and only clean, fully opened, and dry kapas should be harvested to maintain fibre quality and reduce moisture content. Wet or immature kapas should not be picked, as it adversely affects lint quality and market value. Since boll opening in cotton is not uniform, multiple pickings should be carried out at intervals of 15–20 days to ensure collection of fully matured kapas in each round. After picking, kapas should be dried properly if required and stored in a clean, dry, and well-ventilated place to prevent contamination, discoloration, and quality deterioration before marketing or ginning.

Above given contents are based on results of research centres and advisories of central & state agricultural research institutes. The result may defer based on geographical and climatical conditions.