

An Agricultural Extension Initiative
of Dangote Fertiliser Limited

GOOD AGRONOMIC PRACTICES FOR TOMATO




DANGOTE
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Power to Farmers



Tomato is one of the most important and popular vegetable crops in Nigeria. Tomato is a common ingredient in the preparation of multiple meals in Nigeria. It is grown in both wet and dry season cropping systems but the bulk of production is from dry season cropping especially under irrigation in the Northern states and near perennial river banks in the Southern states of Nigeria. Total land area covered annually is over one million hectares with most of the production from the Northern Guinea and Sudan Savannas.

CLIMATIC AND SOIL REQUIREMENTS

Tomato requires a temperature of 20°C – 25°C, rainfall of 500 -1250 mm, high level of sunshine and a well-drained loamy soil with rich organic matter. It is sensitive to cool night temperature below 13°C.

SITE SELECTION AND LAND PREPARATION

Tomato grows well in fertile, clay loam to sandy soils rich in humus and well-drained soils.

Nursery bed: Bed of 1m wide at a convenient length usually 10m long can be used. Keep about 1m path between beds for intercultural operations. Bed surface should be leveled for uniform water application.

Solarization: This is done by exposing the soil to enough sunlight or by treating the soil with heat to kill pests. To moisten the soil, irrigate the raised nursery bed to a depth of 15 cm. Soil should be covered with an UV protected transparent plastic sheet for 4-6 weeks, which increases soil temperature to 10-12 °C higher than normal soil temperature. Soil solarization kills weeds, insects and soil pathogens. For effective result, solarization should be done in summer months. In the absence of solarization, apply heat treatment by burning trash on the beds and removing the ash.

Land Preparation: Two to three ploughing and harrowing will be enough for good land preparation. The field should be ready a week before transplanting. Apply 5 - 10 ton FYM per hectare and mix well at the time of land preparation to maintain soil fertility status. At the time of transplant, broadcast the basal dose of fertiliser and mix well by harrowing followed by ridging for transplanting.

SELECTION OF VARIETIES

The most popular tomato varieties are Roma VF, UC-82 B, Ronita VFN, Chibli and Kelele. The tomato seed rate required is about 150 - 300 g per hectare.

NURSERY PRACTICES

Raised seed beds or nursery trays are used for nursery. Seeds are sown in drills, 5cm apart and 2.5cm deep in nursery bed and covered with a mixture of top soil with well decompose compost. To protect seedling from temperature and birds, use a shady place and mulch with crop stalks. Care should be taken by regular irrigation and proper care with pest management. Seedlings are ready for transplanting after 3 to 4 weeks of planting or at the three to four leaf stage in the nursery.



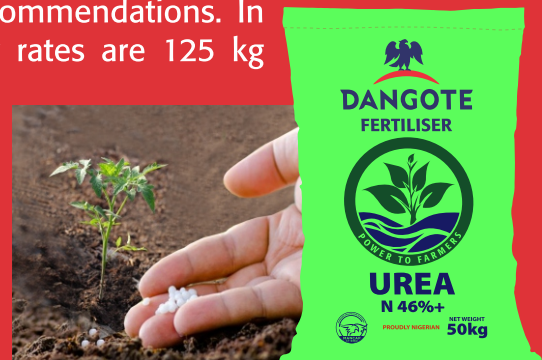
TRANSPLANTING

Transplanting should be done in the evening or early morning. Main field should be pre-irrigated one hour before transplanting. Seedlings are transplanted on ridges. Recommended spacing is 75 cm x 45 cm at 5 cm planting depth.



FERTILISER APPLICATION

Fertilisers should be applied based on soil test recommendations. In absence of soil test report, recommended fertiliser rates are 125 kg Nitrogen (270 Kg Dangote Urea), 50 kg Phosphorous (P_2O_5) and 50 kg Potash (K_2O) per hectare for optimum yield. Nitrogen fertiliser should be applied in three split doses. Apply 1/3 dose of nitrogen (90 kg Dangote Urea), total phosphorous and potash at transplanting time and remaining nitrogen in two equal split doses at 30 and 50 days after transplanting.



WEED CONTROL

Two to three hand weeding at 3rd, 6th and 9th weeks after transplanting or use pre emergence herbicide Metalaclor 96% WP at 1.5 - 2 kg per hectare or Metribuzin 70% WP @ 1.5 kg per hectare after transplanting.

PEST AND DISEASE CONTROL

Leaf miner and sucking pests like aphids, jassids, and white flies can be controlled by spraying Dimethoate 20% + Lambda Cyhalothrin 0.5% EC @ 1.5 litre per hectare at 15 days interval. Regular spray of pesticides to control sucking pests can also control the vector of Leaf curl virus. For best control of tomato fruit borers and stem borers, apply Prophenofos 40% + Cypermethrin 4% EC @ 1 litre per hectare or Ampligo 150 ZC @ 150 ml per hectare. Blight, mildew and alternaria leaf spot are the common fungal disease in tomato: Apply low volume fungicide Mancozeb 80% WP at of 2 kg / hectare for the control of blight, mildew and leaf spot diseases during wet season.



WATER MANAGEMENT

Tomato requires a constant supply of moisture during the growing season. Moisture stress in tomato causes flower and fruit drop. The most critical stages for watering are at transplanting, flowering and fruit development.

STAKING

Staking should be done either at vegetative stage or before flowering. Stakes are used to support plants and enable them to stand erect and thereby preventing lodging. The stems are tied to the stakes. This process allows for good fruiting and keeps fruits away from disease attack and direct soil contact. If staking is expensive, mulching is good alternative to avoid fruit contact with soil.



HARVESTING

Matured or ripe fruits are harvested by hand picking and stored in a cool, dry place. Harvesting starts two months after transplanting.



YIELD EXPECTANCY

The yield depends on crop management practices, variety, soil fertility and climatic conditions. Under best crop management practices, yield of 45-50 tons/hectare are obtainable while 12-15 tons/ hectare is produced under normal field conditions.

