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TOMATO

Tomato (*Lycopersicon esculentum* L.) belongs to family Solanaceae. It is an important and popular vegetable grown in many parts of the country because of its nutritive value and versatility.

Tomato grows anytime of the year. However, for processing type tomato, the best planting months are from September to January in hilly areas and from November to February in lowland areas. Off-season type is usually planted from May to September.



SITE SELECTION AND SOIL TYPE

Choose an area with good irrigation and drainage. The soil texture should be clay loam or sandy loam and the pH should range from 5.5 to 6.8.

SEEDLING PRODUCTION

There are two methods that can be used to produce seedlings, the seedbed method and seedling tray method. In both methods, use a rain shelter to protect the seedlings.

A. Seedbed Method

1. Remove weeds and cultivate the proposed area for seedling production using a hoe or shovel.
2. Make 5 plots where beds are 6 inches high and 10 meters long. Thoroughly mix compost, humus and carbonized rice hull ash at a ratio of 1:1:1. Level the beds to prevent oversoaking of seeds during watering.
3. Sow 200-300 grams/ha of seeds in a horizontal rows with a distance of 5 centimeters apart. Cover the seeds with a thin layer of soil.
4. Water the seedbeds after sowing until seeds emerge. Drench the seedbeds with Vitigran blue at 1 tablespoon/gallon of water once damping-off is observed.
5. Regulate watering as soon as the seed germinates. Apply Urea (46-0-0) at a rate of 1 tablespoon/gallon of water at 7 days after emergence. Sprinkle water on the seedlings immediately after applying the fertilizer to avoid burning of leaves.
6. Harden the seedling by watering the seedbeds only when plants show temporary wilting. This should be done regularly at 14 days after emergence until the seedlings are ready for transplanting. Water the seedbeds thoroughly before pulling the seedlings.
7. Seedlings are ready for transplanting at 20-25 days after seed sowing.

B. Seedling Tray Method

1. Using this method, a hectare needs 150 grams of seeds and 200-250 pieces of plastic seedling tray with 100-104 cells or holes.
2. Prepare the soil medium by mixing garden soil, organic fertilizer and rice hull ash at a ratio of 1:1:1, then fill the holes of tray with the prepared soil medium.
3. Sow 2-3 seeds per hole and cover them with the prepared soil medium. Water the seeds to trigger germination.
4. Five days after emergence, drench the seedlings with Urea at a rate of 1tablespoon/ gallon of water then sprinkle water on the seedling immediately after applying fertilizer. Apply fungicide when damping off is observed.
5. Seven days after seed emergence, prick the extra seedlings from a hole into another tray. Maintain only one seedling per hole.
6. Reduce watering and gradually expose to direct sunlight one week before transplanting to harden the seedlings.
7. Seedlings are ready for transplanting at 20 days after emergence.
8. Using this method, transplanting shock is avoided.

LAND PREPARATION

Plow the field once and harrow twice before furrowing. Set the furrows with a distance of 1 meter.

TRANSPLANTING

Transplant 21 days old seedlings with a space of 50 centimeters between hills and 1 meter between furrows right after irrigating the furrows. In transplanting, hold the roots with the thumb and forefinger then push towards the soil at 1-2 centimeters deep depending on the length of the stem. Transplant early in the morning or late afternoon. Replant missing hills 5-7 days after transplanting.



IRRIGATION

The first irrigation should be done at planting. Depending on the soil type, irrigate once a week. However, during fruiting, you must irrigate twice a week.

FERTILIZER APPLICATION

| Type of Application | Rate of Application | Time of Application | Method of Application |
|---------------------|---|---|-----------------------|
| Organic Fertilizer | 50 bags | Before transplanting | Basal |
| 14-14-14 | 4 bags | During transplanting | Basal |
| 46-0-0 +0-0-60 | 2 bags + 2 bags | 21 days after planting | Side dressing |
| 46-0-0 + 0-0-60 | 2 bags + 2 bags | 40 days after planting | Sidedressing |
| 46-0-0 + 0-0-60 | 2 bags + 2 bags | 60 days after planting | Side dressing |
| Foliar Fertilizer | Follow the manufacturer' s recommendation | Follow the manufacturer' s recommendation | Foliar spraying |

WEEDING AND CULTIVATION

Remove the weeds near the base of the plants before the first side dressing. Cultivate and hill-up the soil just after side dressing to cover the fertilizer and to control weeds.

Mulch with rice straw during dry season. For large plantation, mulch with black plastic. Mulching also conserves soil moisture aside from controlling the growth of weeds.

INSECT PESTS AND DISEASE CONTROL

| Pest | Control |
|-----------------------------|---|
| Aphids, Leaf Beetle, Thrips | Methomyl/Carbaryl |
| Fruitworm | Methomyl, Cypermethrin, Deltamethrin, Lamdacyhlothrin, Carbaryl |
| Whiteflies | Thiamethoxan/Triazopos |
| Disease | Control |
| Powdery mildew | Chlorathalonil |
| Early and late blight | Mancozeb |
| Leaf spot | Metalaxyl |
| Bacterial spot | Copper oxychloride |

If the disease is caused by virus, pull out and burn the whole plant to prevent spread of the disease.

Farmers are encouraged to use botanical pesticides such as garlic bulb extract, neem leaf extract and hot pepper extract, to control pests in the field. Some traps like yellow sticky trap can also be used to control insect pests like whiteflies, beetles, etc.

HARVESTING

When intended for future use, harvest fruits at matured green stage. Matured green fruits ripen after one month at room temperature.

For immediate use, harvest at breaker pink stage. This will fully ripen within three days at room temperature but slower under refrigerated condition.



For more information, write, visit, or call:
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