

Introduction

Tomato (*Lycopersicon lycopersicum*) belongs to the nightshade family Solanaceae. It bears edible fruit/berry which may vary in size and color ranging from red, pink or yellow when ripe. It is known to be rich in lycopene which has many beneficial health effects.

Tomato is also considered as one of the most economically important vegetable crops in the world. In the Philippines, it is an ingredient in various dishes, sauces, salads and drinks and a good source of vitamins and others nutrients.

Ecological Requirement

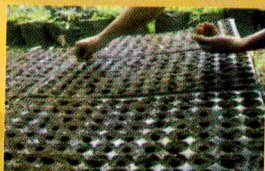
The optimum temperature requirement of tomato is between 20-25 °C and requires well drained soils, light loam with high organic matter content and 5 - 7.5 pH level

Cultural Management

Land Preparation. Plow and harrow the field until pulverized. Make furrows with distance of 0.60-0.75m and planting beds (0.60m - 0.75m wide). Place plastic mulch in planting beds and dig a hole with a distance of 30cm to 40cm apart where the seedlings will be placed.



Seedling Preparation. Prepare soil media in seedling trays composed of vermicompost, coir dust and soil (1V:1C:1S). Sow the seeds and after emergence, transfer seedlings in other seedling trays with 1 seedling/hole. Spray Tropical Herbal Nutrient (THN) and Fermented Plant Juice (FPJ) to seedlings once or twice a week



Seed sowing



Pricking of seeds

Transplanting. Transplanting may be done three weeks after seedling emergence. It must be done early in the morning or late in the afternoon to prevent stress.



Nutrient Management. Apply vermicompost at a rate of 0.5kg/m² - 1kg/m² at planting or at 3 days before transplanting. Side dress vermicompost at the start of flowering stage with a rate of 0.5kg/m². Add Foliar application of FPJ (Fermented Plant Juice) and THN (tropical herbal nutrient) 2 times a month at 150 ml per 16 li knapsack. Seaweeds extract of 100 ml per 16 li at reproductive stage.

TIP: For effective control, use resistant varieties, crop rotation (legumes then solanaceous) , rouging and pruning of infected plant parts and planting of repellant (marygold) and companion crops. Organic pesticides such as citronella extract, guyabano seed extract, luyang dilaw, malagao and perla soap can also be utilized to control and minimize pests for fruit vegetable .



Trellising. It must be provided to support the weight of its fruits at fruiting stage. Plastic twine tied to bamboo poles may be used as trellis material. G. I. Wires may also be used as trellis material.

Common Pest and their Control

1. White Flies (*Trialeurodes vaporariorum*)

Control - Spray citronella extract mixed with either crushed gumamela leaves, perla soap or okra to serve as sticker.

2. Aphids (*Aphids craccivora*)

Control - Spray citronella extract or ginger-chives extract to plants regularly until population is controlled or minimized.

3. Fruit worm (*Helicoverpa zea*)

Control - Regularly spray guyabano seed extract to infected crops. The extract may be mixed with either, perla soap, crushed gumamela flowers or okra to serve as sticker.

Steps in Seed Processing

1. Seed Extraction & Fermentation – Sliced tomato fruits then place in a container and ferment overnight up to three days. After fermentation, press or squeeze the tomato then soak in water. Remove seeds that float in water and save those which settled at the bottom.



2. Drying – After extraction, place the seeds in screens or net bags then air dry for at least 3 days before sun drying for up to 5 days.



3. Seed Storage – Dried seeds may be place in polyethylene plastic bags and glass bottles/jars for storage. Storage area must have low temperature and low humidity to attain longer shelf life of seeds.

COST AND RETURN ANALYSIS

ITEMS	Qty.	Unit	Rate	Amt. Php
A. Labor				
Seed Sowing	10	MD	250	2,500
Land Preparation	40	MD	250	10,000
Planting/basal fertilization (Organic soil conditioner)	10	MD	325	3,250
Cultivation (off-baring and hilling-up)	8	MD	325	2,600
Watering	16	MD	325	5,200
Trellising	5	MD	325	1,625
Weeding	20	MD	325	6,500
Preparation of organic concoctions and botanical pesticides	5	MD	325	1,625
Application of nutrients and botanical pesticides	5	MD	325	1,625
Harvesting	20	MD	325	6,500
Seed processing	10	MD	325	3,250
Packaging	5	MD	325	1,625
Miscellaneous				5,000
B. Supplies and Materials				
Seeds (0.3kg/ha) P300/100g	300	g	300	900
Trellis materials				14,800
Organic Compost	5	ton	5,000	25,000
Knapsack sprayer 16 liters				4,000
Crates 20kgs	20	kg	175	3,500
Spade and other tools				3,300
Sealer				3,300
Net bags (8x12)				4,000
Polyethylene Plastic				5,000

ITEMS	Qty.	Unit	Rate	Amt
Sacoline	80	m	50	4,000
C. Water and Electricity				16,000
D. Contingencies (10%)				13,510
TOTAL COST				148,610
Gross Income Var. NSIC TM9 Seed Yield: 85 kg Php3,000/kg				255,000
Net Income				106,390
ROI%				71.6

Legend:

MD=manday, kg= kilograms, li= liter, m= meter, pc= piece

Credits

Technique developed by :

Bureau of Plant Industry Los Baños, National Crop Research Development and Production Support Center (BPI-LBNCRDPSC)

Authors (s):

Herminigilda A. Gabertan, Ph.D.
Lorna M. Tepper,
Mercedes L. Dela Cueva,
Eugenia M. Buctuanon ,
Meanne P. Andes, and
Benito Sojor

Published by:

Crop Research and Production Support Division

692 San Andres St. Malate, Manila
Tel. (02) 525-7313
Email: bpi.da.organic@gmail.com
Website: www.bpi.da.gov.ph



Republic of the Philippines
Department of Agriculture



BUREAU OF PLANT INDUSTRY

LOS BAÑOS NATIONAL CROP RESEARCH,
DEVELOPMENT AND PRODUCTION SUPPORT CENTER

ORGANIC TOMATO SEED PRODUCTION

