Home Tomato Production

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Home Grown Tomatoes

The most commonly grown plant in the garden.
Tomato History

- From South America, used by 600 A.D.
- Seed taken to Southern Europe 1519 A.D.
- Grown in England by Patrick Bellow 1554
- Culinary use by 1650
- Seed sent to North America 1750
- First considered poisonous
Fruit or Vegetable?

• New Jersey recognizes the tomato as the state vegetable
• Tennessee adopted the tomato as the official state fruit
• Arkansas designated the South Arkansas Vine Ripe Pink Tomato as the official state fruit and vegetable in 1987
Fruit or Vegetable?

- Botanically, a tomato is a large berry (fruit).
- "Fruit" and "vegetable" are culinary terms, not botanical.
- But tomatoes are not as sweet as most fruit and are usually served as part of a salad or main course (as vegetables), rather than at dessert (the usual time for serving fruits).
- Other botanical fruits that are considered vegetables in the culinary world: eggplant, cucumber, and squash (all kinds - zucchini to pumpkins).
Fruit or Vegetable?

• The question of whether a tomato is a fruit or vegetable had legal implications in the United States in 1887 when U.S. tariff laws imposed a duty on vegetables but not on fruits.

• In 1893, the U.S. Supreme Court declared that the tomato is a vegetable based on the popular definition that classifies vegetables by use; that they are generally served with dinner and not dessert.
Tomato Culture

• Light – Sunny (at least 6 hours)
• Soil – Well Drained
• Fertility – Medium Rich
• pH – 6.0 to 7.2
• Moisture – Moist
• Spacing – 18 to 24 inches by 48 to 72 inches
Tomato Transplants

- Transplants are easier than starting from seeds
- Restrict variety selection to what is available
- Can be expensive
- Mislabeling can be a problem
- Poor transplant quality
- Unavailable at certain times (fall plantings)
Set Plant in Furrow if Transplant is Leggy or too Tall
Tomatoes From Seeds

- Least expensive
- Increased variety selection
- Control transplant quality and availability
- Select more resistance
- Requires planning
- Requires growing area
- 6-8 weeks to produce
Variety Selection
Variety Selection

• Description of plant
• Days to harvest
• Size of the fruit
• Heirlooms
• Disease resistance
Disease Resistance
Variety Selection

4434 Colonial Hybrid 76 days. Determinate. Widely adapted variety. The medium to large, deep oblate fruits are jointless, have firm, deep red flesh, green shoulders, average 7 oz. Medium large plants are resistant/tolerant V, F₁₂, St and ASC. Ground or stake culture. Fresh Mkt Gdn.

4439 Empire Hybrid 72 days. Determinate. Main-season crops of large, high quality red fruits 10-11 oz each; jointed, green-shouldered, with good firmness and crack-resistance. Large plants provide excellent fruit protection; well adapted to mid-Atlantic and northeastern areas. Tolerant F₁₂, V, N, TMV, ASC, St. Mkt, Gdn.

TOMATO DISEASE CODES:

- ASC: Alternaria Stem Canker
- BSp: Bacterial Speck
- F₀₁₂: Fusarium Wilt & race #s
- N: Root Knot Nematodes
- St: Stemphylium (gray leaf spot)
- TMV: Tobacco Mosaic Virus
- V₀₁₂: Verticillium Wilt & race #s
- TSWV: Tomato Spotted Wilt Virus
- TYLC: Tomato Yellow Leaf Curl
Home Tomato Production
Types and Cultivars

• Large Fruited – Slicers/Stuffers
• Small Fruited – Cherry/Grapes
• Processing - Roma/Plum
• Specialty Types – Colors/Sizes/Etc.
• Heirlooms - Flavor
Tomato Growth

- **Determinate** plants top out with flowers and quit growing.
- **Indeterminate** plants continue to set leaves and flowers.
Tomatoes
Large Fruited Cultivars

- Traveler 76
- Bradley
- Ozark Pink
- Better Boy
- Mountain Spring
- Celebrity
- *Amelia*

- Beefsteak
- Mountain Fresh
- BHN-444
- Marglobe
- Campbell 33
- Abe Lincoln
Tomatoes
Small Fruited

Cherry Tomatoes
- Cherry Grande
- Mountain Belle
- Sweet Chelsea
- Early Cascade
- Super Sweet 100

Grape Tomatoes
- Santa
- Smarty
- Tami G
Tomatoes
Processing Cultivars

• Roma
• Belle Star
• Picus
• Plum Dandy
• Amish Paste
Heirloom Tomato

- Gaining in popularity
- Loosely defined
- Variety at least 50 years old
- Open pollinated—some consider hybrid
- Associated with superior flavor
Tomatoes
Specialty Types

• Caro Rich (Orange and Low Acid)
• Lemon Boy and Mountain Gold
• Yellow Stuffer (Hollow Like a Pepper)
• Green Zebra (Green Stripped)
Good Seed is Valuable
Starting Seeds

- Get Soil Test!
- Order or purchase seeds.
- Start 6 to 8 weeks before transplanting.
- Seeds takes 5 to 8 days to germinate.
- Germination heat pad helps.
- 6 oz Styrofoam cup or pan is a good seeding container.
- Use a peat based starter mix in cup.
- Keep plants in a warm and sunny place about 72 degrees F.
Young Tomato Seedlings
Transplanting Seedling

• Transplant when seedling has first pair of true leaves.
• Separate roots carefully
• Transplant into container
• Grow transplant 4-5 wks till field planting
Young Tomato Seedling
Tomato Seedlings
Buying Transplants

- Select healthy disease free plants
- Straight pencil diameter stem
- 6-8 inches tall
- Confirm variety
Planting Tomato Transplants

• Soil Temperature Above 60 degrees F
• Set Deeper Than Cotyledons
• If Plant is Too Tall, Lay Stem in Furrow 2 inches Deep
• Use Fertilizer Starter Solution
Transplanting

- Transplant on cloudy days or late afternoon to minimize sun scald and excessive wilting.
- Water well after transplanting.
Use Starter Fertilizer High in Phosphorus
Transplant Starter Solution
1 Tbs soluble Fertilizer / gallon
1 Tbs.
10-20-10
Irrigation

• Sprinklers- apply water so leaves will be dry going into the evening.

• Soaker hoses - work well but some will have a sprinkler effect or apply too much too quick.

• Drip tape – slower application, conserve water, kits are becoming more available
Frost Protection

- Cloches
- Plastic Milk Jugs
- Buckets
- Floating Row Covers
- “Walls O Water”
Economical Hot Caps
Pruning

• Prune or Sucker
• Used to control growth (fruit and/or plant size)
• Indeterminate requires more pruning
• Determinate requires less pruning
Pruning Tomatoes
Pruning Staked Tomatoes Single Stem Plants

- Identify Axillary Shoots
- Pinch Them Out When They are 2” Long
- Do Not Pinch out Flowers
- Determinate Cultivars Need Less Pruning
- Indeterminate Cultivars Need Multiple Prunings
Pruning Indeterminate Tomatoes

Double Stem

- Identify and leave the first strong auxilliary shoot (prune) below first flower cluster for double stem.
- Pinch out all other side shoots
- Prune new stem and original stem
- Indeterminate cultivars need multiple pruning.
Pruning Determinate Tomatoes

- Needs little or no pruning
- Commercial growers leave 2-3 prunes under the first cluster and remove all prunes below that point.
- All other prunes above the first cluster are left.
- Remember that determinates will stop growing in height, so more prunes are needed for plant height.
Staking or Caging
Get the Plants Off the Ground

• Improve Air Circulation
• Eliminate Contact With the Soil
• More Sunlight Into the Canopy
• Better Spray Coverage
• Easier to Control Pests
• Easier to Pick Fruit
Tomato Cages
Commercial Tomato Field
Tying Tomato Plants

- Set Stakes every 3-4 feet, 15 inches deep.
- Tie first String at 9 inches.
- Then every 9 to 12 inches.
- Anchor stakes well at the end of the row.
Tying Tomatoes
Fertilizing Tomatoes
In The Garden

- Pre-plant: 3 lb / 100 sq ft of a complete fertilizer (13-13-13).
- Transplanting: One cup of starter fertilizer solution per plant (1 Tbs of 20-20-20 per gallon solution)
- After 1st cluster of fruit has set: Side dress each plant with 1 Tbs of a complete fertilizer (13-13-13). Repeat every 3 weeks.
Bloom Setting

During unfavorable weather (night temperatures lower than 55 degrees F or above 72 degrees F and day temperatures above 90 degrees F with dry, hot winds), tomatoes do not set fruit and the flowers drop. The problem usually disappears as the weather improves.