



Tomato

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Varieties

Size	Determinate	Indeterminate	Heirloom
Small	Baxter's Bush Cherry, Cherry Grande, Gold Nugget, Small Fry, Sweet Baby Girl, Vita-Gold	Black Cherry, Dona, Gold Gem, Husky Cherry Red, Jaune Flamme, Jolly, Juliet, Large Red Cherry, Sugar Snack, Sun Gold, Suncherry, Sunsugar, Sweet 100, Sweet Chelsea, Sweet Million, Yellow Cherry	
Medium	Amelia, Better Bush, Bush Early Girl, Carnival, Carolina Gold, Celebrity, Floramerica, Heatwave, Solar Fire, Solar Set, Sunmaster, Sure Fire	Carbon, Champion, Dona, Early Girl, First Lady, Golden Jubilee, Lemon Boy, Porter Improved, Super Fantastic	Arkansas Traveler, Black Krim, Cherokee Purple, Golden Girl, Golden Sunray, Porter's Pride, Red Rose, Rose do Berne, Taxi, Zapotec Pink Ribbed
Large	Bush Beefsteak, Bush Goliath, Floradade, Homestead, Tomato 444	Better Boy, Big Beef, Big Boy, Early Big Red, Rutgers, Sunny Goliath, Super Fantastic	Brandywine, Giant Belgium, Marianna's Peace, Prudens Purple
Paste	Chico III, Classica, Roma, Viva Italia	Golden Rave	San Marzano

Soil Preferences

Well drained sandy loams and silty loams with pH 5.5 - 7.3; avoid fields with heavy soils, low areas and those prone to salt problems.

Optimum Growing Conditions

A cold sensitive crop; 80-85°F days with 60-70°F nights, low humidity and sparse rainfall.

Establishment Methods

Planting Method	Fresh market - transplanted Processing - direct seeded
Optimum Time	Direct seeded - seed zone temperature > 55°F Transplant - when danger of frost has passed
Seeding rate	1 - 1.5 lbs/acre
Approx seed/oz	7,000 - 12,000
Seeding depth	0.5 - 0.75"
Transplanting depth	Completely cover root ball
Seedling spacing	18-24" on 6' wide raised beds

Fertility/Fertilization

Rates presented as actual lbs/acre N₂, P₂O₅, and K₂O (base actual rates applied on soil test results).

Generalized rate: 150 - 80 - 100 lb/acre*	
N**	50-80 lbs pre-plant 25 lbs side-dressed at 0.5" fruit diameter + 3-4 weeks
P	80-100 lbs banded 2" below seed at planting or 2" below transplant root mass
K	80-100 lbs applied pre-plant with N (normally not needed in most areas of Texas)

* Use starter solution when setting transplants

Starter Solution = 2 parts liquid 10-34-0 per 50 gallons water applied at 1 cup/plant

** Ammonium nitrate is very stable and least likely to evaporate. Urea and ammonium sulfate evaporate if not incorporated.

Water/Irrigation

20-25" per season uniformly applied from bloom through harvest applied at 1.5 times pan evaporation. Excessive and/or fluctuations in moisture induce fruit disorders and split stems.

Pest Management

Tomato Diseases and Common Name of Fungicidal Controls

DISEASE	FUNGICIDE*	OMRI LISTED FUNGICIDE**
Bacterial spot	Acibenzolar-S-Methyl, Copper Sulfate, Mancozeb, Streptomycin	<i>Bacillus subtilis</i> , Clove, Rosemary and Thyme Oil, Copper Hydroxide, Cuprous Oxide, Hydrogen Dioxide
Early blight	Azoxystrobin, Boscalid, Chlorothalonil, Copper Sulfate, Fenamidone, Fluoxastrobin, Mancozeb, Maneb, Polyoxin D Zinc Salt, Propamocarb Hydrochloride, Pyraclostrobin, Pyrimethanil, Trifloxystrobin, Ziram	<i>Bacillus pumilus</i> , <i>Bacillus subtilis</i> , Clove, Rosemary and Thyme Oil, Copper Hydroxide, Cuprous Oxide, Extract of <i>Reynoutria Sachalinensis</i> , Hydrogen Dioxide, Neem Oil, Potassium Bicarbonate
Late blight	Azoxystrobin, Chlorothalonil, Copper Sulfate, Cyazofamid, Cymoxanil, Dimethomorph, Fenamidone, Fluopicolide, Fluoxastrobin, Mancozeb, Mancozeb, Mandpropamid, Maneb, Potassium Phosphite, Propamocarb Hydrochloride, Pyraclostrobin, Sodium Tetraborohydrate Decahydrate, Trifloxystrobin	<i>Bacillus pumilus</i> , <i>Bacillus subtilis</i> , Clove, Rosemary and Thyme Oil, Copper Hydroxide, Cuprous Oxide, Extract of <i>Reynoutria sachalinensis</i> , Hydrogen Dioxide
Nematode	1,3-Dichloropropene, Chloropicrin, Metam-Potassium, Metam-Sodium, Sesame Oil	Azadirachtin
Powdery mildew	Azoxystrobin, Myclobutanil, Paraffinic Oil, Polyoxin D Zinc Salt, Potassium Phosphite, Potassium Salts of Fatty Acids, Copper Sulfate, Pyraclostrobin, Sodium Tetraborohydrate Decahydrate, Trifloxystrobin	<i>Bacillus pumilus</i> , <i>Bacillus subtilis</i> , Clove, Rosemary and Thyme Oil, Extract of <i>Reynoutria sachalinensis</i> , Hydrogen Dioxide, Neem Oil, Potassium Bicarbonate, <i>Streptomyces lydicus</i> , Sulfur
Verticillium & Fusarium wilts	1,3-Dichloropropene, Chloropicrin, Fludioxonil, Metam-Potassium, Metam-Sodium, Metam-Sodium, Potassium Phosphite, <i>Trichoderma</i>	<i>Bacillus subtilis</i> , <i>Gliocladium virens</i> GI-21, <i>Streptomyces lydicus</i>

	<i>harzianum</i>	
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Tomato Insect Pests and Common Name of Insecticidal Controls

INSECT	INSECTICIDE*	OMRI LISTED INSECTICIDE**
Armyworm	Bifenthrin, Cryolite, Deltamethrin, Flubendiamide , Methomyl, Novaluron, Spinetoram	Azadirachtin, <i>Bacillus thuringiensis</i> , Spinosad, Pyrethrins
Cutworm	Bifenthrin, Carbaryl, Deltamethrin, Diazinon, Esfenvalerate, Flubendiamide, Gamma-Cyhalothrin, Lambdacyhalothrin, Zeta-Cypermethrin	Azadirachtin, <i>Bacillus thuringiensis</i>
Earworm	Bifenthrin, Cryolite, Deltamethrin, Flubendiamide, Methomyl, Novaluron, Spinetoram	Azadirachtin, <i>Bacillus thuringiensis</i> , Pyrethrins, Spinosad
Hornworm	Chlorantraniliprole, Chlorfenapyr, Cryolite, Gamma-Cyhalothrin, Indoxacarb, Lambdacyhalothrin, Methamidophos, Methomyl, Permethrin, Zeta-Cypermethrin	Azadirachtin, <i>Bacillus thuringiensis</i> , Garlic Juice Extracts, Pyrethrins, Spinosad
Leafminer	Cyfluthrin, Cyromazine, Deltamethrin, Dimethoate, Dinotefuran, Gamma-Cyhalothrin, Imidacloprid, Lambdacyhalothrin, Methamidophos, Paraffinic Oil, Petroleum Oil, Soybean Oil, Thiamethoxam	Azadirachtin, Garlic Juice Extracts
Looper	Bifenthrin, Chlorantraniliprole, Indoxacarb, Methomyl, Novaluron, Spinetoram	Azadirachtin, <i>Bacillus thuringiensis</i> , Garlic Juice Extracts, Pyrethrins, Spinosad
Mite	Paraffinic Oil, Petroleum Oil, Sodium Tetraborohydrate Decahydrate, Soybean Oil	Azadirachtin, Garlic Juice Extracts, Neem Oil
Pinworm	Methomyl	Azadirachtin, <i>Bacillus thuringiensis</i>
Stink Bug	Beta-Cyfluthrin, Bifenthrin, Carbaryl, Cyfluthrin, Deltamethrin, Endosulfan, Fenpropathrin, Gamma-Cyhalothrin, Lambdacyhalothrin, Methamidophos, Novaluron, Thiamethoxam	Azadirachtin, Pyrethrins

<p align="center">Thrips</p>	<p>Acetamiprid, Beta-Cyfluthrin, Bifenthrin, Carbaryl, Cyfluthrin, Deltamethrin, Dinotefuran, Fenpropathrin, Gamma-Cyhalothrin, Imidacloprid, Lambdacyhalothrin, Methamidophos, Novaluron, Petroleum Oil, Potassium Salts of Fatty Acids, Soybean Oil, Thiamethoxam, Zeta-Cypermethrin</p>	<p>Azadirachtin, Neem Oil, Pyrethrins</p>
<p align="center">Whitefly</p>	<p>Beta-Cyfluthrin, Bifenthrin, Cyfluthrin, Deltamethrin, Dinotefuran, Endosulfan, Esfenvalerate, Fenpyroximate, Gamma-Cyhalothrin, Imidacloprid, Lambdacyhalothrin, Novaluron, Paraffinic Oil, Petroleum Oil, Potassium Salts of Fatty Acids, Pyridaben, Sodium Tetraborohydrate Decahydrate, Soybean Oil, Spiromesifen, Spirotetramat, Thiamethoxam, Zeta-Cypermethrin</p>	<p>Azadirachtin, Garlic Juice Extracts, Neem Oil, Pyrethrins</p>

Weeds and Common Name of Herbicidal Controls

WEED	HERBICIDE*	OMRI LISTED HERBICIDE**
<p align="center">Preplant incorporated</p>	<p>DCPA, Napropamide, S-Metolachlor, Pendimethalin, Trifluralin</p>	<p>Corn Gluten Meal</p>
<p align="center">Preemergence</p>	<p>DCPA, Napropamide, S-Metolachlor, Rimsulfuron, Pendimethalin, Metribuzin</p>	
<p align="center">Postemergence</p>	<p>Carfentrazone, Oxyfluorfen, Paraquat, Rimsulfuron, Halosulfuron, Sethoxydim, Glyphosate, Pelargonic Acid, Clethodim, Metribuzin</p>	<p>D-Limonene, Clove Oil, Cinnamon and Clove Oil</p>

* The above is a partial listing of controls intended as examples. Some labels may have been revoked since the publication of this guide. Refer to product labels for specifics and use accordingly. Ensure that products with one of the listed active ingredients are registered for the crop it is to be used on. Failure to do the above may result in crop injury, death and/or citation for law violation. Humans, animals and the environment may also be adversely affected by misuse.

** As stated in §205.206 of the National Organic Standards, pest management decisions should follow a hierarchical approach, which should be defined in a farm's organic systems plan. Please ensure that you have followed the appropriate steps and any product to be used in certified organic production systems has been approved by your certifying agent.

Harvest

Days after planting	60-100
Normal method	Fresh Market - Hand Processing - Machine
Containers	Fresh Market - Field boxes, baskets Processing - bulk wagons
Grades	<ul style="list-style-type: none"> • U.S. #1 • U.S. Combination • U.S. #2 • U.S. #3 Greenhouse tomatoes: <ul style="list-style-type: none"> • U.S. #1 • U.S. #2 Tomatoes not in these categories are labeled "unclassified".
Packaging/Handling	Dependent on size
Anticipated yield/acre	Fresh Market - 20,000-30,000 lbs/acre Processing - 5-10 tons/acre

Transit Conditions

55-70°F at 90-95% RH

Comments/Production Keys

- Responds well to black plastic mulch and drip irrigation
- Windbreaks should be used in areas with prevailing winds
- Excessive N fertilizer can delay maturity and reduce yield
- Trellising reduces fruit rots and facilitate easy harvest
- Row covers over trellised plants reduces frost damage and induces earliness (remove when plants begin to flower or if temperature > 90°F for 2 consecutive days)
- Can be trellised by staking, caging, or staking + string weaving (preferred commercial method)
- Bloom drop, poor fruit set and/or cat-facing (deformed fruit) induced by high temperature (> 92°F) due to reduced pollination (condition aggravated by high relative humidity)
- Harvest mature green for long distance shipment and breaker stage (first pink at blossom end) for local markets
- Harvest 2-3 times/week
- Remove calyx cap at harvest to reduce fruit bruising
- Forced ripening of mature green tomatoes accomplished by holding fruit at 68-77°F, 85-95% RH, and exposing to 100-150 ppm ethylene gas for 24-48 hours in an air tight room
- Field ripening can be induced with Ethrel (refer to label)
- Fall production is marginal in most areas of Texas