



# Seedless Watermelon

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## Varieties

Gem Dandy, Matrix, Summersweet 5244, Tiffany, Tri-X 313

## Soil Preferences

Deep, well-drained, light textured soil having a pH range of 5.5 - 8.0. Does not tolerate heavy soils.

## Optimum Growing Conditions

Hot days (80-95°F) and warm nights (60-70°F). Cooler temperatures slow growth and maturity. Cloudy days and frequent rainfall reduces fruit quality.

## Establishment Methods

<b>Planting Method</b>	Transplants
<b>Optimum Time</b>	When all danger of frost has passed
<b>Approx seed/oz</b>	500
<b>Seeding depth</b>	0.5"
<b>Seedling spacing</b>	2-3' in-row on 80" (center to center) beds

## Transplant Production Suggestions:

- Use fungicide treated seed
- Prior soaking of pellets or potting media suggested
- Sow 2-3 seeds/pellet, pot or cell
- Sow seeds approximately 0.5" deep with pointed end up (reduces seed coat clamping around emerging seedlings)
- Cover seeded flats with clear plastic and maintain greenhouse temperature at 85°F for 48 hours
- Keep flats moist but not wet
- Remove plastic cover at 10% seedling emergence and reduce greenhouse temperature to 75°F
- Carefully remove seed coats from cotyledons
- Thin to one plant/pot, pinching off extra seedlings

### Fertility/Fertilization

Rates presented as actual lbs/acre N<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O (base actual rates applied on soil test results).

Generalized rate: 80 - 80 - 80 lb/acre	
<b>N*</b>	40-90 lbs 0-50 lbs pre-plant 0-30 lbs side-dressed 3 weeks after emergence Under high rainfall, an additional 20 lbs may be required at vining
<b>P</b>	40-80 lbs applied at planting
<b>K</b>	40-80 lbs (if needed, apply with pre-plant N)
<b>Starter solution (transplants)</b>	Approximately 8 oz of high phosphate starter solution/plant at field setting

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

### Water/Irrigation

10-15"/season. Steady moisture supply (1-2" every 7-14 days).

### Pest Management

#### Watermelon Diseases and Common Name of Fungicidal Controls

DISEASE	FUNGICIDE*	OMRI LISTED FUNGICIDE**
<b>Alternaria</b>		Clove, Rosemary and Thyme Oil, Hydrogen Dioxide, Neem Oil, <i>Streptomyces lydicus</i>
<b>Downy mildew</b>	Acibenzolar-S-Methyl, Azoxystrobin, Chlorothalonil, Copper Sulfate, Cyazofamid, Cymoxanil, Mancozeb, Dimethomorph, Fenamidone, Fenamidone, Fosetyl-Al, Mandpropamid, Potassium Phosphite, Propamocarb Hydrochloride, Pyraclostrobin, Sodium Tetraborohydrate Decahydrate, Trifloxystrobin, Maneb, Fluopicolide	<i>Bacillus pumilus</i> , Clove, Rosemary and Thyme Oil, Copper Hydroxide, Cuprous Oxide, Extract of <i>Reynoutria sachalinensis</i> , Hydrogen Dioxide, Neem Oil, Potassium Bicarbonate, <i>Bacillus subtilis</i> , <i>Streptomyces lydicus</i>
<b>Fusarium wilt</b>	1,3-Dichloropropene, Chloropicrin, Fludioxonil, Potassium Phosphite	<i>Bacillus subtilis</i> , <i>Gliocladium virens</i> GI-21, <i>Streptomyces lydicus</i>
<b>Gummy stem</b>	Azoxystrobin, Chlorothalonil, Copper Sulfate, Kresoxim-Methyl, Mancozeb,	<i>Bacillus subtilis</i> , Copper Hydroxide, Cuprous Oxide,

<b>blight</b>	Maneb, Paraffinic Oil, Polyoxin D Zinc Salt, Potassium Phosphite, Pyraclostrobin, Tebuconazole, Thiophanate-Methyl	Extract of <i>Reynoutria sachalinensis</i> , Hydrogen Dioxide
<b>Nematode</b>	1,3-Dichloropropene, Chloropicrin, Metam-Potassium, Metam-Potassium, Metam-Sodium, Sesame Oil	Azadirachtin
<b>Powdery mildew</b>	Acibenzolar-S-Methyl, Azoxystrobin, Copper Sulfate, Kaolin, Kresoxim-Methyl, Myclobutanil, Paraffinic Oil, Polyoxin D Zinc Salt, Potassium Salts of Fatty Acids, Pyraclostrobin, Quinoxifen, Sodium Tetraborohydrate Decahydrate, Tebuconazole, Thiophanate-Methyl, Trifloxystrobin, Triflumizole	<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, <i>Streptomyces lydicus</i> , Sulfur
<b>Virus</b>	Paraffinic Oil	

### Watermelon Insect Pests and Common Name of Insecticidal Controls

<b>INSECT</b>	<b>INSECTICIDE*</b>	<b>OMRI LISTED INSECTICIDE**</b>
<b>Aphid</b>	Acetamiprid, Bifenthrin, Diazinon, Dimethoate, Endosulfan, Fenpropathrin, Imidacloprid, Lambdacyhalothrin, Malathion, Oxamyl, Oxydemeton-Methyl, Permethrin, Petroleum Oil, Potassium Salts of Fatty Acids, Sodium Tetraborohydrate Decahydrate, Soybean Oil, Thiamethoxam, Zeta-Cypermethrin	Azadirachtin, Garlic Juice Extracts, Neem Oil, Pyrethrins
<b>Armyworm</b>	Beta-Cyfluthrin, Bifenthrin, Cyfluthrin, Deltamethrin, Flubendiamide, Lambdacyhalothrin, Spinetoram	Azadirachtin, <i>Bacillus thuringiensis</i> , Pyrethrins,
<b>Cabbage Looper</b>	Methomyl	Azadirachtin, <i>Bacillus thuringiensis</i> , Garlic Juice Extracts, Pyrethrins
<b>Cutworm</b>	Beta-Cyfluthrin, Bifenthrin, Carbaryl, Cyfluthrin, Deltamethrin, Diazinon, Esfenvalerate, Flubendiamide, Lambdacyhalothrin, Permethrin, Zeta-Cypermethrin	Azadirachtin <i>Bacillus thuringiensis</i>
<b>Leafminer</b>	Abamectin, Deltamethrin, Dimethoate, Dinotefuran, Lambdacyhalothrin, Paraffinic Oil, Permethrin,	Azadirachtin, Garlic Juice Extracts,

	Petroleum Oil, Soybean Oil, Spinetoram, Thiamethoxam, Zeta-Cypermethrin	Spinosad,
<b>Mite</b>	Oxydemeton-Methyl, Paraffinic Oil, Petroleum Oil, Sodium Tetraborohydrate Decahydrate, Soybean Oil	Azadirachtin, Garlic Juice Extracts, Neem Oil,
<b>Thrips</b>	Diazinon, Dimethoate, Dinotefuran, Fenpropathrin, Imidacloprid, Lambdacyhalothrin, Oxamyl, Petroleum Oil, Potassium Salts of Fatty Acids, Soybean Oil, Spinetoram, Thiamethoxam	Azadirachtin, Garlic Juice Extracts, Neem Oil, Pyrethrins, Spinosad,
<b>Webworm</b>	Labdacyhalothrin, Soybean Oil	Pyrethrins,
<b>Whitefly</b>	Beta-Cyfluthrin, Bifenthrin, Cyfluthrin, Deltamethrin, Dinotefuran, Endosulfan, Fenpyroximate, Fosetyl-Al, Imidacloprid, Lambdacyhalothrin, Paraffinic Oil, Petroleum Oil, Potassium Salts of Fatty Acids, Sodium Tetraborohydrate Decahydrate, Soybean Oil, Spiromesifen, Thiamethoxam	Azadirachtin, Garlic Juice Extracts, Neem Oil, Pyrethrins,

### Weeds and Common Name of Herbicidal Controls

<b>WEED</b>	<b>HERBICIDE*</b>	<b>OMRI LISTED HERBICIDE**</b>
<b>Preplant incorporated</b>	Clomazone, Ethalfluralin, DCPA, Bensulide, Trifluralin	Corn Gluten Meal
<b>Preemergence</b>	Ethalfluralin, DCPA, Terbacil	
<b>Postemergence</b>	Carfentrazone, Oxyfluorfen, Paraquat, Halosulfuron, Sethoxydim, Glyphosate, Pelargonic Acid, Clethodim, Terbacil	D-Limonene, Clove Oil, Cinnamon and Clove Oil

\* 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

<b>Days after planting</b>	65-75 days
<b>Normal method</b>	Hand
<b>Containers</b>	Bulk wagons or pallet boxes
<b>Grades</b>	Based on diameter size and freedom from blemishes
<b>Packaging/Handling</b>	4-8 watermelon per 50-60 lb cardboard carton (depending upon fruit size) Shipped in pallet bin boxes
<b>Anticipated yield/acre</b>	5-15 tons/acre

## Transit Conditions

50-60°F at 80-85% RH (chilling injury at 40°F); Shelf-life 3-4 weeks.

## Comments/Production Keys

- Production of seedless watermelon may not be an option for everyone as it requires a high levels of input, management and grower sophistication
- A production systems approach should be followed:
  - Transplant establishment
  - Plastic mulch
  - Drip irrigation
  - Precise water and nutrient application
  - Windbreaks
  - Bees
- Direct seeded establishment not economically feasible at this time due to seed cost and germination problems
- To ensure sufficient pollination, plant every third bed to a standard diploid melon variety (of a different color or shape than the seedless triploid variety) to serve as the pollinator. Make certain that the outer two beds of the field are planted to the pollinator variety.
- The first fruit set/vine will often contain a few true seeds and many immature edible (white) seed