

Carrot

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Varieties

Baby: Little Finger, Napoli, Nelson, Short n' Sweet, Thumbelina

Processing: Danver 126, Gold King, Spartan Bonus

Fresh: Danver Half Long, Imperator 58, Nantes Half Long, Red Core Chantenay, Royal Chantenay, Scarlet Nantes, Sweet Rocket, Touchon

Soil Preferences

Tolerates wide range of soils and pH but prefers deep, well-drained, friable sandy loam types with pH of 6.5 - 7.8. Extremely sensitive to soil salinity and crusting. Avoid development of hardpan.

Optimum Growing Conditions

Moderately cold nights (45-50°F) with cool days (60-75°F). High temperatures cause bitterness, woodiness, and reductions in root sugar and color. Roots can withstand considerable cold but tops can be freeze sensitive (<20°F). Increasing temperature and day length enhances bolting.

Establishment Methods

Planting Method	Direct seeded
Optimum Time	Spring - soil seed zone temperature 40-50°F Fall - soil seed zone temperature 80-95°F
Seeding rate	Raw seed - 2-4 lbs/acre Coated seed - 1.5-2.5 lbs/acre
Approx seed/oz	23,000
Seeding depth	1/8-1/4"
Seedling spacing	1-2" in-row in 4-6 lines on 38-40" raised beds. Adjust precision planters to drop seeds at slightly greater spacing in the inside lines than for the outer lines.

Fertility/Fertilization

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

Generalized rate: 80 - 80 - 100 lb/acre	
N*	50-120 divided between pre-plant and 1-2 side-dressings)
P	60-80 banded 2" below seed at planting
K	60-100 applied pre-plant (normally not needed in most areas of Texas)

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

Water/Irrigation

10 - 15" of water uniformly distributed over the growing season. Most critical growth stage is emergence due to shallow planting depth. Keep seed beds moist during germination and emergence. Pre-plant irrigation may be beneficial.

Pest Management

Carrot Diseases and Common Name of Fungicidal Controls

DISEASE	FUNGICIDE*	OMRI LISTED FUNGICIDE**
Leaf blights	Propiconazole, Trifloxystrobin	Neem Oil
Nematode	1,3-Dichloropropene, Metam-Potassium, Chloropicrin, Metam-Sodium, Sesame Oil	Azadirachtin
Powdery mildew	Azoxystrobin, Boscalid, Potassium Phosphite, Potassium Salts of Fatty Acids, Propiconazole, Pyraclostrobin, Sodium Tetraborohydrate Decahydrate, Trifloxystrobin	<i>Bacillus pumilus</i> , <i>Bacillus subtilis</i> , Extract of <i>Reynoutria Sachalinensis</i> , Neem Oil, Potassium Bicarbonate, <i>Streptomyces lydicus</i> , Sulfur
Root rot		<i>Streptomyces lydicus</i>
Seedling damping off	Fludioxonil, Thiram	

Carrot Insect Pests and Common Name of Insecticidal Controls

INSECT	INSECTICIDE*	OMRI LISTED INSECTICIDE**
Cutworm	Beta-Cyfluthrin, Bifenthrin, Carbaryl, Cyfluthrin, Deltamethrin, Esfenvalerate, Methoxyfenozide, Zeta-Cypermethrin	Azadirachtin, <i>Bacillus thuringiensis</i>
Grub		Azadirachtin
Leafhopper	Carbaryl, Deltamethrin, Endosulfan, Esfenvalerate, Imidacloprid, Malathion, Potassium Salts of Fatty Acids, Sodium Tetraborohydrate Decahydrate, Thiamethoxam, Zeta-Cypermethrin	Azadirachtin, Garlic Juice Extracts, Kaolin, Pyrethrins
Weevil		Azadirachtin, Garlic Juice Extracts

Weeds and Common Name of Herbicidal Controls

WEED	HERBICIDE*	OMRI LISTED HERBICIDE**
Preplant incorporated	Bensulide, Trifluralin	Corn Gluten Meal
Preemergence	Linuron, Metribuzin	
Postemergence	Carfentrazone, Fluazifop, Paraquat, Linuron, Sethoxydim, Glyphosate, Pelargonic Acid, Clethodim, Metribuzin	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

Days after planting	85-135
Normal method	Machine
Containers	Bulk wagons
Grades	Based on root appearance (defects, shape, etc.)
Packaging/Handling	Bulk loads washed, graded and packed in 1 lb cello bags (0.75-1.25" shoulder diameter, 6" in length), 50 lb masters
Anticipated yield/acre	350 + masters (15-18 tons)

Transit Conditions

32°F at 95% RH (root chilling injury occurs at temperature <29°F). Shelf life 4-5 months.

Comments/Production Keys

- Difficult obtaining stands due to small seed with poor seedling vigor and emergence strength
- Avoid soils prone to crusting. Sprinklers and drip-applied irrigation water can reduce the problem
- Soils with pH
- Carrot stands difficult to thin; precision plant or adjust seeding rates according to germination percentage
- Weed control essential during emergence due to slow growth
- Windbreaks can reduce stress caused by sand blasting and hot winds
- Uneven moisture and hardpans can cause cracking and malformed roots
- Root tip injury can cause forking roots
- Excessive moisture and/or temperature can induce root fading
- Machine harvesting requires strong vigorous plant tops
- Do not store or ship with ethylene-producing produce, as it causes development of bitter taste
- Current market trend toward baby style carrot processing for fresh market sales