

# Carrot

# **Planting & Growing Guide**

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## **CARROT TYPES**

**Imperator:** grows up to 10," orange, long and slender with a pointed tip, less sweet than other varieties. Examples are Kuroda.

**Danvers:** grows up to 7," orange, wider at the top with a pointed tip; longer than Chantenay. Has a strong flavor.

Nantes: grows up to 7," orange, short and blunt, very sweet, good for fresh eating. More fragile that others with a shorter storage life

**Chantenay:** grows up to 5," deep orange, short and fat with broad tops and blunt tips, grows well in heavy soil, stores well.

**Amsterdam:** grows up to 3," thin and slender, good for early harvest, grows well in heavy soil. Example is the Little Finger.

Paris Market: Round, short, about 1½" in diameter. Example is the Parisienne.

**Purple:** wide variety of color intensity and shade with an orange or yellow core; very sweet with peppery tinge in some varieties.

**Red**: red to purplish exterior with pink to orange core; usually sweeter than most varieties.

White: white coloration; thin to slender and mildly flavored.

Yellow: hybridized from orange varieties for sweetness; yellow exterior and core.

# **GROWING BASICS**

**Soil:** carrots prefer a soil pH of 6-6.8. Preferred 60-75°F (above 60°F for best germination). Tolerance 45–75°F. Amend heavy clay soils with compost and remove as many rocks as possible.

Air Temperatures: Considered a cool season crop developing best at 60-65°F.

**Days to Emergence:** 6–21 days, depending on variety and conditions. **Seed Longevity:** if properly stored, the seeds should be viable for about 3 years

Yield: Varies widely depending on variety as well as weather and water availability.

**Spacing:** 1-2" in rows 2' apart

# **Companion planting:**

Incompatibility – dill, parsnips, coriander. Companions – tomato, rosemary, sage, chives, radish, lettuce.

Water Requirements: Consistent moisture. Sprinkle lightly daily to keep soil moist and not dislodge seed during germination.

**Fertilization:** Address amendments prior to transplanting into garden, supplementing per product label. Do not fertilize with high nitrogen fertilizers

#### **PLANTING & GROWING**

**Sowing:** Carrots are sown directly in the garden and a loose, rock-free soil is essential to success. Work soil to a depth of 12" and amend soil if needed (avoid manures). Sow seed ¼" deep, keeping in mind how much thinning will be needed to space 2" apart. For more even seeding you can mix your seed with sand, coffee grounds or vermiculite. Crusting of soil is a problem for seed germination, so you can cover with sifted soil, vermiculite, compost or QuickRoot to help with seed emergence. For a continuous harvest, make successive plantings every three weeks. Begin as early in spring as frost dates allow and/or about 10 weeks before the first frost date for fall harvest.

Carrots do not compete well with weeds, so keep weed-free during germination and establishment. Thin carrots to 2-3" between plants by snipping rather than pulling out seedlings to avoid damaging the root.

Keep evenly moist to avoid root forking, bitterness, root cracking or slow leaf development. Can mulch around plants to help conserve moisture. Do not fertilize with high nitrogen fertilizers, this can lead to root branching.

#### HARVESTING

Check the shoulders of the carrots at the soil line. Once finger sized they can be harvested by gently lifting from the soil (care should be taken with long varieties to not snap off tip). They can be stored in the ground until mature size or allow to remain into the winter if covered in a straw mulch.

Will usually store 4–5 months in a root cellar at 33°F with humidity of 90-95%. Twist off greens and remove excess soil (do not wash). Layer them so that roots do not touch in a box with sand and straw.

## COMMON PESTS, DISEASES OR PROBLEMS

**Bolting:** Plant goes to flower. Caused by prolonged exposure to temperatures below 65°F or to below freezing. Use row covers to protect.

Leaf hoppers: Leaves turning yellow, wilting or curling up. Use beneficial insects, row covers or an organic insecticide labeled for leaf hoppers.

Carrot Rust Fly: Root has tunnels that ooze soft material. Can use sticky traps (for monitoring) or an organic insecticide labeled for Carrot Rust Fly.

Failure to germinate/emerge: If temperatures are not optimal seed will not germinate. If they do germinate and the soil is allowed to crust over, they cannot emerge. Do not water from overhead heavily -even heavy rain can displace seed or compact the soil.

Slugs: Chew leaves. Hand pick at night, bait or set out saucers of beer or use an organic pesticide labeled for slugs.

**Root-Knot Nematodes:** causes knobby distortions and stunted roots. Do not plant carrots in the same area for at least 3 years. Plant a nonhost cover crop species such as wheat, barley, rye or oats.

#### PEST CONTROL - IPM

Important to practice good cultural controls for pest management of carrots. Cultural controls such as removing plants after harvest (to avoid leaving food for insects to continue to multiply on), practice crop rotation (i.e. do not plant crops in same family, in the same area for 3 years), use row covers such as Agribon AG15 (cover before insects arrive or to protect against birds when plants are young).

#### COMMON QUESTIONS

Why are the tops of my carrots always green? If carrots get large enough for the shoulders to be exposed to sunlight they will green up. Mound soil up around the shoulders, but not over the greenery.

Where do my carrots disappear from my garden bed? If there is a whole in the ground deeper than your carrot, it is probably gophers or groundhogs. If it appears the carrot has been plucked, suspect deer, rabbits, opossums or humans.

What causes my roots to fork off into numerous tips? Obstructions in the soil usually just causes the tuber to warp out of linear growth, but excess nitrogen will cause it to fork. Uneven moisture levels can also lead to this growth formation.

How do I avoid over sowing seed and then having to thin more carrots than grow to maturity? Use a small hand seeder to space individual seed. Mix seed with sand, dry coffee grounds or vermiculite before sprinkling down the row. Sow carrot and radish seed alternately. Radish will mature soon and take up the needed space between carrots while immature.

My carrots sometimes are more bitter than sweet? Temperature can cause carrots to get bitter. Hot or dry weather burns the sugars in the tubers. If nighttime temperatures reach over 60°F, this may occur so harvest what carrots are sizing up.

### **DEFINITIONS**

**Heirloom:** Heirloom seeds come from open-pollinated plants that pass on similar characteristics and traits from the parent plant to the next generation plant. Heirloom vegetables are old-time varieties generally which have been in production since before WWII, and have been saved and handed down through multiple generations.

**Hybrid:** a cross between two or more unrelated plant varieties. The two different varieties are cross bred, resulting in a seed that carries one or more favorable traits (increased yield, uniformity, color, disease resistance.) Hybrid seeds are not GMO, as they are manually cross-bred, not genetically modified in a lab. Hybrid seed is often sterile or does not reproduce true to the parent plant. Therefore, never save the seed from hybrids.

**Open Pollinated:** generally refers to seeds that will "breed true". When the plants of an open-pollinated variety self-pollinate, or are pollinated by another representative of the same variety, the resulting seeds will produce plants roughly identical to their parents. Genetic traits may differ only slightly due to variations created by local conditions.

**GMO:** Genetically Modified Organisms were genetically modified in a laboratory where DNA genes are extracted and mixed with other unrelated plants to improve characteristics. Saved seed will not always be viable and may be trademarked to prevent unauthorized use.

### **Limited Product Guarantees**

#### **Peaceful Valley Brand Seed Packs**

Peaceful Valley Farm & Garden Supply brand vegetable seeds are guaranteed to germinate. Once the seeds have sprouted, please understand that Peaceful Valley cannot be held responsible for the many uncontrollable growing and climatic conditions that must be met to ensure the success of your crop(s).

#### Seed & Plant Limitation of Remedy

We warrant to the extent of the purchase price only that the seeds or plants sold hereunder are as described on the label within recognized tolerances. No other warranty is given, expressed or implied, of (1) the merchantability or fitness of the seeds or plants for any particular purpose, or (2) against loss due to any cause. We cannot accept any responsibility for the many uncontrollable growing and climatic conditions (soil preparation, fertilization, weed and pest control, temperature control, irrigation...etc.) that must be met to insure the success of your crop(s) or plants



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