

About Carrots

Carrot is a cool season, biennial vegetable (takes 2 years to grow and flower), originated in Afghanistan. All varieties can be used for fresh market, although some are better suited for processing (canning, freezing, pickling and dehydration). Carrots are an important source of pro-vitamin A (important for vision).

**Climate and Soil**

Temperature	Frost tolerance	Water needs	Tolerance to waterlogging	Drought tolerance
Between 10 and 30°C. Optimal color at 18-21°C. Flowering is promoted by a 6-10 week period of 10°C or less.	Moderately sensitive to frost. Hard freezes can cause "forking" or "stubbing".	Uniform water supply is required for good color and root formation. Roots split in significant wet-dry cycles. Sensitive to water salinity.	Low. Excessive water discourages good color formation and may encourage disease.	Low to moderate tolerance to drought. Water stress causes strong flavors.
Humidity tolerance	Wind tolerance	Soil needs	Nutrient requirements	
High, but seed production is more difficult due to disease risks.	High	Often grown on sandy soils; ideal soil is silt or sandy loam, pH 5.5 - 8. Heavy soils can encourage hairy, deformed roots. Poor soil structure can cause "forking" or "stubbing". Fairly sensitive to soil salinity.	Moderate N, moderate to high P, high K.	

Production, Harvest and Postharvest Practices

Site selection and Field Preparation	Loosen and turn soil to a depth of 8-9" (20-22cm) to allow full root development. Clods will prevent root penetration.
Planting	Plantings may be staggered throughout the season. Plant no earlier than 28 days before the last frost, and no later than 90 days before the first frost. Sow seeds in six or eight lines in 1 meter-wide beds. Make a narrow groove about 1 cm deep and place seeds in the groove about 1cm apart. Lightly cover with soil. About 0.4 to 0.5 million seeds will be needed per hectare.
Thinning	For larger varieties, thin the seedlings to 1-2 plants/inch (every 2.5cm). This is approximately 800-100,000 plants per hectare.
Time to harvest	50-150 days after planting, depending on the purpose and variety.
Length of harvest	Depends on length of planting season.
Expected yields	11- 20 tons per hectare for fresh market, 30-40 tons per hectare for processing.
Postharvest	Carrots are washed, graded, sized, and packed. Handle carefully to prevent bruising, cracks, and tip breakage. Damage shortens storage life of the product.
Storage	32°F (0°C) at 99% relative humidity will permit more than 7 months' storage with minimal losses (10 - 15%). At 3-5°C, mature carrots can be stored for up to 5 months, while immature carrots can be stored for 2-3 weeks.
Pests and diseases	Insects, viral/fungal/bacterial diseases; prevention and avoidance are most effective management strategy and most profitable. Carrot suffers severe yield loss from weed competition, especially during the first weeks after planting.