

## Vegetable Packing Guide

The following guidelines and information have been derived from guidelines published by local produce auctions, buyers, The Packer's "Produce Availability and Merchandising Guide" (Vance Publishing), and USDA. These guidelines are not to be considered grading standards but rather informational in nature. The three most important points to remember are:

- 1) Quality produce is essential to repeat sales. Off-quality produce should be left in the field. Some buyers are interested in second quality, but second quality should be packed separately and clearly represented as second quality.
- 2) Uniformity is the key to a well graded and packed product. Size, color, maturity and shape should be uniform within a package, a grade and a shipment. Misshapen, off-color, bruised or scared produce does not belong in a first quality package at all.
- 3) Communication with the buyer is essential. Ask the buyer what package they prefer, what quality characteristics they require, and so forth. The packing standards given below are general and may not satisfy the buyer's expectations.

**ASPARAGUS:** Make 12 oz. or 16 oz. bunches or pack 10 lb. loose in a 1/2 bu. box or asparagus crate with the butt end down. Snap spears while heads are still tight. Grade by length and thickness. Cut white bottom off.

Temperature: 32-36 F Relative humidity: 95% Cooling: Hydrocooling or vacuum cooling.

**BEANS (snap):** Beans should be free of scars and damage. Dark green slim varieties are preferred. Pick at early maturity. Pack 15 lb. in 1/2 bu. produce box or 26 to 31 lbs. in bu. crate, basket or box.

Temperature: 40-45 F Subject to chilling injury below 40 F. Relative humidity: 90-95% Cooling: Hydrocooling or forced-air cooling.

**BEANS (lima):** Pods should be well-filled but picked at early maturity, clean, bright and fresh with a dark green color. Pack 15 lb. in 1/2 bu. produce box or 26 to 31 lbs. in bu. crate, basket or box.

Temperature: 38-42 F Subject to chilling injury. Relative humidity: 90-95% Cooling: Hydrocooling or forced-air cooling.

**BEETS:** Beets should be firm and well shaped. Topped beets can be packed loose in 1/2 bu. boxes or 25 lb. bags. Bunched beets (5-8 per bunch) should be packed in a 1 1/9 bu. box or crate with 12 to 24 bunches per box.

Temperature: 32 F Relative humidity: 95% Cooling: Hydrocooling.

**BROCCOLI:** Heads should be tight with dark green or purple buds. Pack 10, 12, 14, 16 or 18 in 1 1/9 bu. box. Weight should be 23 lb. Leave 6 in. of stem on. Should be iced.

Temperature: 32 F Relative humidity: 90-95% Cooling: Packed with ice.

**CABBAGE:** Heads should be solid, hard and fairly heavy in relation to their size. Pack in 50 lb. cabbage bags or boxes. Can also be sold in bulk bins filled by count. Should be graded for size.

Temperature: 32 F Relative humidity: 90-95% Cooling: Forced-air cooling.

**CANTALOUPE:** Pick at half to full slip stage. Never let fruit get overripe in the field or packing house. Plant varieties that will ship well.

Grade out seconds. Grade into 3 or 4 sizes. Can be packed 9, 12, 15 or 15 in flat melon boxes. Can also be packed bulk or in bins by count.

Temperature: 32-40 F Relative humidity: 85-90% Cooling: Forced-air cooling.

**CARROTS (bunched):** Carrots should be well formed. Clean well and tie in bunches of 6 to 8. Pack in 1 1/9 bu. box.

Temperature: 32 F Relative humidity: 90-95% Cooling: Packed with ice or forced-air cooling.

**CAULIFLOWER:** Heads should be white, creamy white or lime-green. The curds should be clean, firm and compact, not spotted, speckled or bruised. Pack 9, 12 or 15 trimmed heads (leaves trimmed just above top of the head) in a cauliflower box. Can also be packed bulk after grading for color quality and size. In most cases bulk packed does not need to be trimmed.

Temperature: 32 F Relative humidity: 90-95% Cooling: Forced-air or vacuum cooling or packed with ice.

**CELERY:** Stalks should be clean, crisp, thick and solid. Pack in 1/2 bu. box or standard celery crate. Grade by size and quality.

Temperature: 32 F Relative humidity: 90-95% Cooling: Hydrocooling.

**COLLARDS & KALE:** Pack 20 to 25 lbs. in bu. crates or cartons. or 12-24 bunches per crate or carton.

Temperature: 32 F Relative humidity: 90-95 Hydrocool or pack in ice.

**CORN (ornamental - small or large):** Ears should be mature, dry and well-filled. Pull husk back and bunch 3 uniform ears together by the husk using wire ties, rubber bands or twine. Grade bunches into two grades. Pack in boxes or crates with a uniform count per box.

**CORN (sweet):** Ears should be well-filled and free from worm damage. Kernels should be plump but at the early maturity stage. Pack 5 doz. ears in corn bag, box, or crate. Can also be packed bulk in bins by the count. Icing will help preserve sweetness.

Temperature: 32 F Relative humidity 90-95% Cooling: Hydrocooling, forced-air cooling or packed with ice.

**CUCUMBERS (slicing):** Cucumbers should be well-formed and straight, ideally 6 to 8 in. long. Grade by size. Pack in 1/2 bu. or 1 1/9 bu. boxes.

Temperature: 50 F Susceptible to chilling injury when stored below 45 F. Relative humidity: 90-95% Cooling: Forced-air cooling or hydrocooling.

**CUCUMBERS (pickling):** Grade for quality and length making 3 sizes - small 1 1/2 to 2 1/2 inches; medium 2 1/2 to 3 1/2 inches; large 3 1/2 to 5 inches. Pack in 1/2 bu. or 1 bu. box.  
Temperature: 45-50 F Susceptible to chilling injury when stored below 45 F. Relative humidity: 90-95% Cooling: Forced-air cooling.

**EGGPLANT:** Eggplants should be well formed, free from scars, uniformly colored, firm and heavy relative to their size. Grade for size and quality and pack in 1/2 bu. or 1 1/9 bu. boxes. Count for standard eggplant should be 22-28 in 1 1/9 bu. boxes. Smaller specialty eggplant should be packed in 1/2 bu. boxes.  
Temperature: 50 F Susceptible to chilling injury Relative humidity: 90-95% Cooling: Forced air cooling.

**ENDIVE:** Heads should be full, green and fresh. Pack in 1/2 bu. or 1 1/9 bu. produce boxes.  
Temperature: 32 F Relative humidity: 90-95% Cooling: Vacuum cooling.

**GOURDS:** Gourds should be well shaped and completely mature with hard shells. A good assortment of shapes and colors is desirable. Wash and grade for size. Small mixed assortments should be packed in 1/2 bu. boxes while larger sizes should be packed in 1 1/9 bu. boxes. Extra large gourds such as turbans, bird house, snake and goose may be packed bulk by count.

**HERBS:** Pack in bunches 12 or 24 to 1/2 bu. box.  
Temperature: 38-42 F except basil and oregano which should be stored at 48-50 F. Cooling: Room cooling

**LETTUCE:** Lettuce should be fresh, full heads with good color. Pack in 1 1/9 bu. boxes with uniform counts of 12 to 24 in every box.  
Temperature: 32-36 F Relative humidity: 95% Cooling: Vacuum cooling or packed with ice.

**ONIONS (scallions):** Pull onions when the neck is medium sized. It should be blanched 2-3 in. above the root. Tie 6 to 9 in a bunch (bch) and pack 24 bch in a 1/2 bu. box or 40 to 48 in a 1 1/9 bu. box.  
Temperature: 32 F Relative humidity: 90-95%. Cooling: Pack in ice or hydrocool.

**ONIONS (dry):** Onions should be dry, firm and shiny with a thin skin. Cure, grade and pack in 25 or 50 lb. bags.  
Temperature: 32 F Relative humidity: 65-70%

**PEAS (hull):** Pods should be bright green, velvety to touch and fresh in appearance. Pack 15 lb. in pea box or 1/2 bu. box or 30 lb. in bu. or 1 1/9 bu. boxes or baskets.  
Temperature: 32 F Relative humidity: 90-95% Cooling: Forced-air cooling or pack in ice.

**PEAS (sugar and snap):** Pick at early maturity when pods are tender and sweet but firm. Pack in 10 lb. in 1/2 bu. produce box.  
Temperature: 32-35 F Relative humidity: snap - 95%; sugar - 50%. Cooling: Forced-air cooling or pack in ice.

**PEPPERS:** Peppers should be well-formed and firm with a thick flesh. Grade for size and quality. Small size should have about 90 to 1 1/9 bu. box, medium 75 to 85 per box, large 60 to 70 per box and extra large 45 to 55 per box. Grade bell peppers for color - fully green, fully red (or yellow), half red (or yellow) and suntan. Pack misshapen peppers separately as choppers. Bell peppers should be packed in 1 1/9 bu. boxes while specialty peppers are usually packed in 1/2 bu. boxes.  
Temperature: 45-50 F Subject to chilling injury. Relative humidity: 90-95% Cooling: Forced-air or vacuum cooling.

**PUMPKINS (face):** Pumpkins should be clean, solid, free from cuts and bruises, and have the color characteristic of the variety. The stem should be solid and cut off 2-3 in. long. Grade for uniform size and quality. Pack bulk by the count or weight.  
Temperature: 50-55 F Relative humidity: 70-75%

**RADISHES:** Radishes should be well-formed, bright and crisp. Tie 8 to 12 in a bunch so that 20 bch fill a 1/2 bu. or 40 bch a 1 1/9 bu. box.  
Temperature: 32 F Relative humidity: 95% Cooling: Pack in ice or hydrocool.

**RHUBARB:** Trim off some of leaf. Pack 15 one - lb. bunches in a bu. box.  
Temperature: 32 F Relative humidity: 95% Cooling: pack in ice or hydrocool.

**SPINACH:** Leaves should be fresh and crisp with a solid green color. Cut with some of the root still on and wash. Pack 5 lb. in 1/2 bu. box or 13 lbs. in 1 1/9 bu. box.  
Temperature: 32 F Relative humidity: 90-95% Cooling: Vacuum cool, hydrocool or pack in ice.

**SQUASH (summer - zucchini):** Summer squash should be firm with a tender and shiny skin which is free from cuts and bruises. Harvest regularly. Ideal size is 5-7 in. long. Grade for size and quality and pack in 1/2 bu. box.  
Temperature: 50 F Susceptible to chilling injury. Relative humidity: 90-95% Cooling: Forced-air or hydro-cooling.

**SQUASH (winter):** Winter squash should be mature, well-formed, hard-shelled and heavy for their size. Grade for size and quality. Pack in 1 1/9 bu. box.  
Temperature: 50-55 F Relative humidity: 50-75% Cooling: Room cooling.

**SWEET POTATOES:** Sweet potatoes should well-shaped and firm. Grade for size and quality and pack in 1/2 bu. or 1 1/9 bu. box.  
Temperature: 55-60 F Susceptible to chilling injury. Relative humidity: 85-90%

**TOMATOES:** Tomatoes should well-formed and free from cracks, scars and blemishes. Pick at pink to orange color and ship when orange to firm red. Grade for quality and size. Sizes are small 2 1/8 to 2 9/32 in. diameter, medium 2 9/32 to 2 17/32 in., large 2 17/32 to 2 28/32 in. and extra large 2 28/32 in. and up. Pack in 25 lb.tomato or 1/2 bu. produce box. Cherry tomatoes are packed in 12 pt. flats.  
Temperature: 55-70 F Relative humidity: 85-90% Cooling: Room cooling.

**TURNIPS:** Turnips should be firm and well-formed. Harvest when turnips are 2 to 2 1/2 in. diameter. Trim tops to 1 to 1 1/2 inches. Pack in 25 lb.plastic cello bag or 1/2 bu. box.  
Temperature: 32 F Relative humidity: 95% Cooling: Room cooling

**WATERMELONS:** Watermelons should be firm but not hard, symmetrical in shape and a waxy skin. Harvest when prime ripe. Grade for size and quality. Sell bulk by the count.  
Temperature: 45-50 F Relative humidity: 85-90% Cooling: Room cooling