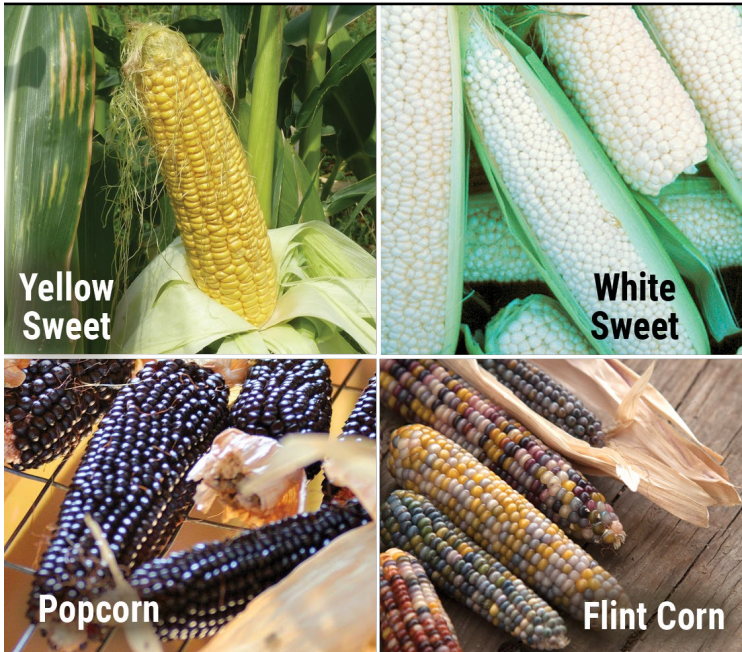


# Corn

## Planting & Growing Guide

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## CORN TYPES

**Sweet:** traditional market corn for human consumption; harvested immature before sugar converts to starch; often hybridized to increase sugar content; categorized into yellow/gold, white or bi-colored (white and yellow)

**Dent (Field):** kernels with a dimple that are starchy; used for commercial, industrial and livestock products

**Flint:** similar to dent with less yield; hard/glassy outer shell; primarily soft, starchy kernels easily ground

**Popcorn:** consists of a minor amount of starchy core with a tough outer shell

**Chinese hulless:** harvested early for tender stir-fry or preserving or grown to maturity for popcorn

## GROWING BASICS

**Soil:** prefers a soil pH between 5.8–7.0 and temperatures of 60–85 °F for germination (will tolerate temperatures between 50–100). Soil should be well-draining and has plenty of organic matter

**Days to Germination:** 7–14 depending on variety and conditions

**Seed Longevity:** if properly stored, should be viable for about 2 years

**Yield:** most varieties produce 2 ears/stalk; high fertility and good environmental conditions may yield 3/stalk

**Spacing:** sow 4" apart and thin to 8–12" with rows 24–36" apart in blocks of 4 rows

### Companion planting:

Incompatibility – celery, tomatoes.

Companions – beets, beans, peas, squash, sunflowers, parsley, melons, and dill.

**Water Requirements:** Use mulch to assist with water retention. Roots that emerge above soil line are for stabilization whereas those below soil line require moisture. Water deeply to encourage root depth.

**Fertilization:** Address amendments prior to transplanting into garden, supplementing per product label. Requires nitrogen fertilizer weekly as a side dressing until tassels begin.

## PLANTING & GROWING

Sow seed directly into garden only after soil has warmed sufficiently (60–70°F) and space into blocks (at least rows of 4) for good pollination. If your soil is not warm enough, you can use black mulching plastic or planters paper to increase soil temperature. Plant 1" deep and keep well watered until germination. Thin to 8–12" apart when seedlings are 4–5" tall for adequate spacing. Mulch to control weeds and retain moisture. Stagger planting dates to extend season as stalks generally produce only 1–2 ears.

Corn has a shallow root system and unless sufficient rain falls, you must provide adequate irrigation.

When plants are small you may want to cover with bird netting or light-weight floating row cover such as Agribon AG15 to protect from birds.

## HARVESTING

**Harvesting Sweet Corn Varieties:** Look for when silks start to appear. Usually corn will be ready to pick about 20 days later. To pick at the peak of sweetness and flavor, harvest early in the morning when the sugar content is at its highest. Test to see if your corn is at the "milk stage" by puncturing a kernel and if the liquid is clear wait a little longer, if there is no liquid the ear is past its prime. Also look at the silks, they should have turned brown at the top with a little green near the kernels. If your stalk has produced more than one ear, it is usually the top ear that

ripens first. The ear will feel full and it will lean away from the stalk. You can peel back the husk on one ear to check the kernel size. If ready to pick, bend ear away from stalk and twist off.

Corn is best eaten right after picking, but if you are not going to eat it right away, leave the husks on. This will help keep the corn moist until you are ready to eat. Ears should be consumed as soon as possible for best sugars, but it will hold in the refrigerator for short storage.

**Harvesting Dry Corn Varieties:** Ears should feel hard and the husks are completely dry. Ears should be allowed to dry on the stalks in the garden as long as possible before weather or pest presentation hinder. Once picked, remove the husk and store in mesh bags, suspended if possible, for air circulation in a warm, dry, ventilated area. Once completely dry, remove kernels and store in airtight containers or leave intact for storage if space allows.

## PEST CONTROL - IPM

Important to practice good cultural controls for pest management of corn. Cultural controls such as removing plants after harvest (to avoid leaving food for insects to continue to multiply on), use clean transplants, practice crop rotation (e.g. do not plant cole crops in same area for 3 years), use row covers such as Agribon AG15 (apply before insects have arrived).

## COMMON PESTS & DISEASES

**Aphids:** usually found on the underside of leaves or on flower head. Control by strong spray of water, beneficial insects, or organic insecticides labeled for aphids.

**Corn Earworm:** Young larvae may feed on silks progressing into the ear showing signs of excrement at tip of husk. Use an organic insecticide labeled for Corn Earworms.

**Cutworms:** Stalks are severed at soil line. Leave garden area fallow for at least 2 weeks before planting or use collars around stems to cover 3" above soil line.

**Spider Mites:** Webbing on underside of discoloring leaves. Mites may be visible. Present in dusty conditions with water stress. Use a strong jet of water, beneficial insects, or an organic insecticide labeled for spider mites.

**Smut:** tumor-like galls on ears, stems, leaves and tassels. Cut out galls before they produce the dark fungal spores. Do not put them in your compost, bag them and place in the trash.

**Rust:** Elongated cinnamon brown spots or streaks on both leaf surfaces. Caused by wind borne spores. Use an organic fungicide labeled for Rust as soon as possible to prevent spread of spores.

## COMMON QUESTIONS

**How do I prevent corn varieties from cross pollinating so I can save seed?** Varieties need to be a minimum of one-half mile apart or be bagged to prevent crossing from wind blown pollens. Can also stagger the planting so the pollen tassels are maturing at different times.

**Plant in rows or blocks – which is best?** For pollination purposes by wind it is best to plant in blocks of 4 rows or more.

**How do I assure my corn is sweet and not starchy?** Besides monitoring and harvesting each ear as it presents the optimal signs, plant sweet varieties and at a time when they can be harvested in the fall. The sugar production lessens with higher temperatures. Fall presents the best harvest time due to long sunlight days but lower crisp temperatures. Furthermore, storing and cooling in a single layer in a refrigerator for at most a week preserves the sugar best. After that freeze to preserve.

**Why are the kernels on an ear only partially filled out?** Pollination is only one of the reasons – male pollen must reach and female silks. Plant sufficient number of plants for wind pollination. Other causes are inadequate fertility (potassium deficiency), birds eating the kernels, insufficient moisture maintenance and hot weather or high winds during pollination period (2–3 weeks before anticipated harvest).

## 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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