Super Sweet Corn Production Guidelines

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SUPER SWEET CORN (*Zea mays*)

Super sweet corn is sweeter than most other corn types. Its sugars are converted to starch at a slower rate than other types following harvest, which means it retains its sweetness and crisp texture for several days after harvest. Traditional plant breeders are constantly working to improve super sweet corn and developing new varieties. Breeding work primarily focuses on genes identified as contributing the favorable flavor and texture we know in super sweet corn. Among these *naturally-occurring* genes in super sweet corn is the **shrunken-2 gene (sh2)**, which refers to the shriveled appearance of the dried seeds.

To ensure success when growing super sweet corn, it is important to follow the cultural guidelines outlined below.

ISOLATION REQUIREMENTS

Extensive crossing of super sweet varieties with non-super sweet varieties will cause tough, starchy kernels in both types. **If you plan to grow *both* super sweet and non-super sweet varieties, avoid cross-pollination between super sweet varieties and non-super sweet varieties by using *any one* of the following *three* options:**

1. Plant super sweet varieties at least 300 feet from non-super sweet varieties.

   or

2. Plant varieties with a days-to-maturity at least 12 days apart from each other. For example, plant a 75-day super sweet variety and a 91-day non-super sweet variety. Separate each planting by 25 feet.

   or

3. Stagger planting dates by at least 12 days. For example, plant a 75-day super sweet variety on May 15 and a 75-day non-super sweet variety on May 30. Separate each planting by 25 feet.

SITE SELECTION

Corn has high fertility requirements; fertilize prior to planting and periodically throughout the season. A fertile soil with good water-holding capacity and a pH of 6.0–6.8 provides the best results. Proper irrigation is also crucial in planting super sweet corn varieties; they must absorb twice the moisture as other corn types in order to germinate. After germination, provide the equivalent of 1–1½" of water each week.

GERMINATION TEMPERATURE

Minimum soil temperature requirements can vary by type and variety. Super sweet varieties generally need warmer soil temperatures than other corn types. Delay sowing fungicide-treated seeds until the soil temperature is at least 55–60°F (13–16°C). Untreated seeds need a minimum soil temperature of 65°F (18°C). Temperatures lower than recommended will result in decreased germination.

DIRECT SEEDING

Prepare a smooth seedbed, as super sweet varieties require seed placement of uniform depth. If using a planter, be aware that super sweet corn seed is smaller than other corn seed; there are ¼–⅓ times as many seeds per pound. Set your planter for proper seed size and planting depth (¾–1"). Using a high-phosphate starter in the planter can assist in meeting the high-fertility needs of corn.

Plant seed around the last frost date and when the minimum soil temperatures have been achieved. Avoid dry-soil planting. Sow shallowly and thickly, ¾–1" deep, 6–7" apart. Alternately, sow 2 seeds about every 9", and thin to 1 plant. Space rows 30–36" apart. The final stand should hold approximately 18,000–22,000 plants per acre. Plant in blocks of at least 4 rows to achieve the proper pollination needed for well-filled ears.

Corn plantings may be underseeded with clover to suppress weeds and add organic matter to the soil for the following year. Underseed after the last cultivation and only once the corn crop is well established to prevent nutrition competition between the corn and clover.

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TRANSPLANTING

Although less common in most of the country, transplanting corn seedlings is an effective way to avoid the cool-soil germination issues encountered in northern areas. By transplanting, you can give long-maturity varieties the head-start they need to mature before early fall frosts. Furthermore, transplanting helps to prevent the seed predation by birds that can occur when direct seeding.

If you plan to cover the seedlings with fabric row cover for the first few weeks, plant your seedlings about 1 month before the last frost. Sow 1–2 seeds per cell in 128-cell plug trays or smaller trays. Corn can easily become root bound, so special attention should be paid to the seedlings to prevent this. After germination, thin to one seedling per cell. Harden off before transplanting at the same spacing as you would if direct seeding.

SUCCESSION PLANTING

A successive harvest can be achieved in a number of ways, including the following two:

- Sow the same variety every 10 days until early summer. Be aware that some early-season varieties may form ears that protrude from the husk if planted too late.
- Sow multiple varieties on the same day, choosing varieties that each have differing days to maturity.

DISEASES

The major diseases affecting corn are rust, smut, Stewart's wilt, and northern and southern corn leaf blights. The best way to prevent their occurrence is to practice a regular crop rotation and to plant disease-resistant varieties. Contact your local Cooperative Extension Agency to confirm the identification of any suspected diseased plant material.

INSECT PESTS

Corn borers and earworms can be controlled with Bacillus thuringiensis. The best approach to borer control is prompt plowing-in or removal and composting of cornstalks after harvest. Wireworms in the roots result from an excess of organic matter that hasn’t broken down, such as sod and tilled-in mulch. They will not be a problem in stable humus conditions. Contact your local Cooperative Extension Agency for information on integrated pest management.

ANIMAL PESTS

At the time of seeding, birds may damage plantings by eating the seed. Repel with Bird Scare Flash Tape or cover the planting with row cover, which can also help moderate soil temperature.

As ears are developing, raccoons can be a nuisance. An electric fence with 3 strands placed every 3–4" provides adequate control.

HARVEST

Note the half-silk date: When kernels are plump and milky, this coincides with a drying and browning of external ear silks. Upon tasseling, watch for and record the date on which about half the plants show silk.

The field will be ready to pick beginning 18–24 days after half-silk, depending on temperatures during this period. Warmer weather favors earlier maturity. For example, a variety that matures in 85 days when planted in early May could mature in 65 days when planted in mid-June. Delay of harvest for a few days is permissible, as the super sweet tenderness and sweetness hold into the plumper kernel grades.

STORAGE

Super sweets are approximately twice as high as other corn types in sugar content at harvest and sweeter to an even greater degree after picking. This is due to slower sugar-to-starch conversion. For best quality, however, cool corn directly following harvest. Hold and ship under refrigeration.

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