



SWEET CORN COMPREHENSIVE GUIDE

Isolation:

Thanks to the presence of the sugary gene (referred to as 'Su'), sweet corn is a sweeter, more palatable relative of field corn. Sweet corn is categorized a few different ways based off certain sweetness genetic traits. There are sweet corn varieties that have the 'Su' (sugary) genetic traits, varieties that have the 'Se' (sugary enhanced) genetic traits and those that have 'sh2' (Supersweet—this gene causes the kernels to look shrunken). 'shA' (Augmented Supersweet) have traits of the Sh2 varieties as well as the Se gene. There are some varieties of sweet corn that may carry genes from Su, Se and sh2—these are called Synergistic varieties.

When planning on growing more than one variety of sweet corn at a time, be aware of how the different sugary traits interact with each other. When corn plants get pollinated, the kind of plant that the pollen came from can impact how the kernels grow. Sometimes it can change its sugar content, making your corn less tasty. To get quality sweet corn you must strategize your planting. Isolate all Su, Se and Synergistic varieties from the sh2 and shA varieties. Similarly, you must isolate all your sweet corn from popcorn, ornamental corn, and field corn. See Figure 1 below for a helpful guide. If maintaining the color is important to you—be aware that pollen from yellow or bicolor sweet corn can turn white corn yellow. If this is a concern you may want to practice isolation by color too.

We can isolate by distance or by time. If you're growing sweet corn isolate by 250 feet. Easier yet is to isolate by time. This means that you are spacing out your planting times by 14 days to help ensure that the different corn plants are hitting maturity at different times. This dramatically reduces the chances of pollen from the wrong parent being present in the environment.

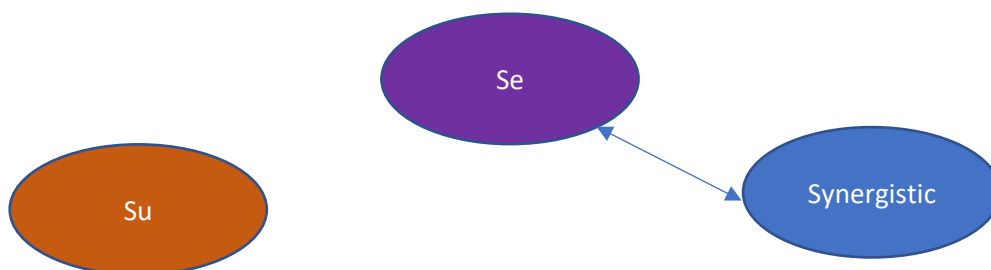
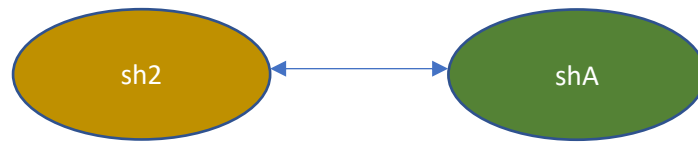


Fig. 1. Arrows connect each variety type that can be planted together with no need for isolation



What's the difference between Su, Se, Syn, sh2 and shA?

Su corn tends to be older varieties. They can have great quality, but their quality can dwindle in storage after harvest. Best in home gardens when they can be eaten shortly after harvest.

Se varieties are a step up in sweetness from Su corn and have a longer shelf life before the sugars turn to starches. Considered the highest eating quality.

Syn or Synergistic varieties are very sweet, creamy and have a very long shelf life. 75% of the ear has Se kernels and 25% are Sh2 kernels.

sh2 varieties have a very high sugar content and a longer shelf life. They have thicker seed coats, so they have a firmer and crunchier texture.

shA are an improvement from sh2 varieties. Sweet, tender and have a long shelf life.

Seeding:

When seeding sweet corn early in the spring it is important to be aware of the soil temperature. When planting untreated sweet corn, minimum soil temperature should be around 65-70°F at 2 inches deep. Treated sweet corn can be planted earlier when the soil temperature is around 55-60°F. Be aware that sh2 & shA varieties, on average, will need to be planted at least 1 week later than others as this trait is sensitive to cool temperatures. Ideally 65°F at a minimum. If you plant your sweet corn when the soil is too cool, it will struggle to develop and could be overtaken by fungal pathogens.

When you're planting, you want the seed to be 1-1 ½" deep and spaced 8-12" apart in a row. When planning your garden keep in mind that you want a minimum of 4 rows of sweet corn hitting maturity around the same time for proper pollination. For optimal pollination, plant in blocky sections in squares rather than rectangles. Each row should be spaced 30-36" apart.

You need about 2-4 oz. of seed (~155 seeds) per 100 linear feet of row. On a larger scale, about 1 lb of seed per 1000 linear foot row is needed, or 10-15 lbs per acre planted (15,000-24,000 seeds per acre). On non-irrigated land a maximum plant population would be seeded around 22,000 seeds per acre. Irrigated land can handle a more dense population.

Seeds are either sold by weight or by seed count. The roman numeral 'M' represents a value in the thousands. For example, '1M' represents 1000 seeds, '2.5M' is 2,500 seeds and so on. The size, shape and weight of a seed can vary from year to year. One pound of seed one year may have a higher or lower seed count the next year. 'SPP' represents however many seeds are present per pound. So, if the seed one year is a little larger, you may need more weight if you need a certain number of seeds. Other codes you may see associated with sweet corn are the seed size and shape. These are MF (medium flat), MR (medium round), LF (large flat) and LR (large round). These are important when using equipment that fit a certain seed size or shape to sow the seeds.

Culture:

Sweet corn can be a heavy feeder. It is best to fertilize based off soil test recommendations. Feeding too much or too little can hamper growth and too much fertilizer can run off and negatively impact waterways. However, as a general recommendation, feeding about 2-3 lbs of 10-10-10 or similarly balanced fertilizer per 100-foot row is a good start. This is something that ideally should be incorporated into the top few inches of soil before you plant your seed. As your sweet corn develops, it will usually need a bit of a boost. Once your plants are around 1-2 ft tall, you can apply another 1-2 lbs of the same 10-10-10 or balanced feed. This is to be laid in a band along each row. Alternatively, if you have fertile soil, a nitrogen-rich application of urea could be applied instead at a rate of ¼ lb per 100 ft row. If you have super sandy soils, a third application may be needed when the plant stops growing and starts to spread pollen.

As with most gardening, it's best to mulch the soil surface to help preserve moisture. You can do this with organic materials like compost, grass clippings or

landscape fabrics. It's critical that corn has enough moisture when the silks on the developing ears are growing and being pollinated. Sweet corn needs about an inch of water a week and when it gets very dry, giving your plants a weekly watering of around 6 inches is ideal.

Harvest:

Typically, ears are ready for harvest about 15-24 days after silks emerge. The kernels should be juicy, and the juice should be almost milky in appearance. Heat accelerates development, so monitor closely in hot weather. Similarly, cool weather will slow them down. The ready-to-harvest ears are good for a day or two, but can begin to lose their sweetness and tender texture thereafter. Once harvested, the ears will start to lose their sugar content (fastest with Su corn, which can lose half its sugar content within half a day). The newer sweet corn types will lose their sugar content at a slower rate. In ideal situations and with optimum care, you can plan on around 11-13 ears per 10 foot of row.