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Sweet Corn — Growing and Harvesting

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Next to tomatoes, sweet corn is probably the most anticipated homegrown vegetable. It is difficult to wait patiently for the first mouthwatering taste of fresh corn on the cob.

Due to consumer demand, plant breeders have made numerous improvements in the quality of sweet corn. Nowadays several types and many varieties of sweet corn are available. It is often difficult to decide what kind to plant.

Sweet corn differs from field corn because it has a recessive sugary (su) gene. Kernels carrying this gene develop nearly twice as much sugar as starchy types. In the garden, standard sweet corn varieties retain their quality for only one or two days. After harvest, the sugar rapidly changes to starch.

Sweet corn breeders have developed high sugar varieties, such as sugary enhanced (se) and shrunken-2 (sh2) types, by modifying genes or altering gene combinations. Both types are sweeter than standard sweet corn varieties. They may also be harvested and stored over longer times, as they are slower to convert sugar to starch. The name shrunken-2 (sh2) comes from the shrunken or wrinkled appearance of the dried kernels. Sh2 varieties are also referred to as super sweets. Unfortunately, they do have some drawbacks.

Standard varieties may be planted in late April but sh2 varieties should not be planted until mid-May. The seeds of sh2 varieties germinate poorly when soil temperatures are below 65 degrees Fahrenheit.

Suggested sh2 varieties for home gardens in Iowa include Candy Store (bicolor), Challenger (yellow), Confection (bicolor), Honey n Pearl (bicolor), How Sweet It Is (white), Illini Gold (yellow), Northern Xtra Sweet (yellow), Phenomenal (bicolor), and Silver Xtra Sweet (white).

Sugary enhanced (se) varieties produce sweet, tender kernels that are easier to chew. The harvest and storage periods of se types are slightly longer than standard sweet corn varieties. They also have a higher sugar content. (The sh2 varieties possess the longest harvest and storage periods and have the highest sugar content.) Seeds of se varieties possess greater vigor and germinate more readily than sh2 types. Plant se varieties one week later than standard sweet corn varieties.

Suggested se bicolors varieties include D'Artagnon, Sweet Chorus, Temptation, July Gem, Precious Gem, Lancelot, Jackpot, Confection, Candy Corner, Starpak, and Cabaret; yellow varieties Bodacious, Incredible, and Legend; and the white variety Silver Choice.

Because sweet corn is pollinated by the wind, better pollination occurs when it is planted in short blocks of three or four rows rather than a single long row. Cross-pollination by field corn, popcorn, broomcorn, Indian corn, and standard sweet corn varieties will reduce the quality of the high sugar varieties.

There are several ways to isolate sweet corn to decrease cross-pollination. A distance of 700 feet will give complete isolation but this is usually impractical. A distance of 250 feet will give some contamination, but not enough to materially affect quality. If planting upwind, a distance of 100 to 150 feet is adequate.

Isolation can also be provided by time of maturity. To insure isolation, a minimum of 14 days between maturity dates of different varieties or between successive plantings of the same variety is adequate.

A final way of isolating sweet corn is with barriers. Using two to five border rows for protection can dilute a large amount of contaminating pollen. Isolation distances can be slightly reduced with these barriers.

Other helpful hints for growing and harvesting sweet corn success:

- Make sure soil temperatures are above 60 degrees Fahrenheit, especially with the supersweet varieties. Seed rots easily in cold, wet soil. Use fungicide treated seed or delay planting until soil temperature is 75 degrees Fahrenheit.
- Soaking seeds in water for about four hours may speed up germination. If you soak the seeds, you must plant them in warm moist soil. On the other hand, you can plant dry seeds, then water thoroughly.
- Plant seed at a depth of 3/4 to 1 inch.
- Space plants 8 to 10 inches apart in rows 3 feet apart. Closer spacing results in yield loss due to poorly filled ears.
- Provide adequate moisture. Water needs are greatest from tasseling to harvest, but do not neglect watering during the early stages of growth. Trickle or drip irrigation conserves moisture.
- Prepare a smooth seedbed and plant shallow, only 3/4 to 1 inch deep.
- Corn requires a moderate amount of fertilization. Apply a band of 5-10-10 fertilizer at planting. Then

side-dress with the same fertilizer when plants are 8 inches tall and again when they reach 18 inches.

- A pH of 6.0 to 6.5 is best, but many areas of the state have pH over 7.0 and do not need lime.
- On light, sandy soils, clear plastic mulch will improve stands, conserve moisture, and produce earlier maturity. Corn seed is planted 10 to 20 days earlier by punching through the clear plastic mulch.
- Harvest sweet corn when the silks are brown and dry at the ear tip and the kernels are in the milk stage. The soft kernels produce a milky juice when punctured with a thumbnail. Over-mature sweet corn is tough and doughy. An immature ear will not be completely filled to the tip and the kernels produce a clear, watery liquid when punctured.
- The harvest date can be estimated by noting the date of silk emergence. The number of days from silk emergence to harvest is about 18 to 23 days. Prime maturity, however, may be reached in 15 days or less during hot weather. Most hybrid sweet corn varieties produce two ears per plant. The upper ear usually matures one or two days before the lower ear.
- As the sweet corn approaches maturity, check it frequently. Sweet corn remains in prime condition for only one or two days during hot (85 degrees Fahrenheit and above) weather.
- Insect pests such as corn borer, corn earworm, and aphids are the major pests of sweet corn. For control measures obtain a copy of FG 600, titled Midwest Vegetable Production Guide for Commercial Growers, from your local county ISU Extension office or Extension Distribution Center (515) 294-5247.
- Harvest sweet corn by grasping the ear at its base and then twisting downward. Use or refrigerate sweet corn immediately. Standard sweet corn varieties may lose 50% of their sugar within 12 hours of harvest if not refrigerated. Sweet corn can be stored in the refrigerator at 32 degrees Fahrenheit for 4 to 8 days. High sugar varieties are slower to convert sugar to starch and may be harvested over a longer period. They also have a longer storage life.

For more information about sweet corn, visit the following web site on the Internet: <http://www.public.iastate.edu/~taber/Extension/scorn.html>

Graft Your Own Apple Tree

Have you ever wanted to actually graft trees? Now you can learn how and actually graft an apple tree yourself at any of three grafting workshops. Then you can take your tree home and plant it. For directions to the nearest site, pre-registration terms, and other details, call the telephone number listed below.

April 1	1:00 PM Fayette County, Hawkeye	319-425-3331
April 4	2:00 PM Pottawattamie County, Council Bluffs	712-755-3104
April 8	1:00 PM Boone County, Iowa Arboretum	515-795-3216

Apple Trees Pruning Workshops

You can learn how to prune apple trees at workshops offered through out the state during March and early April. For directions to the nearest site, pre-registration terms, and other details, call the phone number listed below.

March 4	1:00 PM	Scott Co., Bettendorf	319-359-7577	March 25	10:00AM	Madison Co., Winterset	515-462-1001
March 11	1:00 PM	Chickasaw Co., Nashua	319-267-2707	March 29	1:30 PM	Davis Co., Bloomfield	515-664-2730
March 16	2:00 PM	Sac Co., Auburn	712-662-7131	March 29	5:00 PM	Woodbury Co., Sioux City	712-276-2157
March 17	9:00 AM	Monona Co., Castana	712-423-2175	March 30	9:00 AM	Woodbury Co., Sioux City	712-276-2157
March 18	1:00 PM	Johnson Co., Swisher	319-337-2145	March 31	1:00 PM	Marion Co., Pella	515-842-2014
March 21	7:30 PM	Delaware Co., Manchester	319-927-4201	April 1	10:00AM	Fayette Co., Hawkeye	319-425-3331
March 23	1:00 PM	Pott. Co., Council Bluffs	712-366-7070	April 3	6:00 PM	Wapello Co., Blakesburg	515-682-5491
March 24	9:00 AM	O'Brien Co., Sutherland	712-446-2649	April 4	6:00 PM	Story Co., Nevada	515-382-6551
March 25	1:00 PM	Washington Co., West Chester	319-653-4811	April 5	3:00 PM	Poweshiek Co., Grinnell	800-769-9986

Landscape Plants Can Reduce Energy Consumption

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Ah, March! The blustery month of wild winds and the promise of warmer weather. At last, we can begin to put memories of below zero temperatures, measurable snow and falling on one's keister after mistaking slick parking lot ice for asphalt behind us for another year. Along with those frigid temperatures came heating bills. Very high heating bills if your house is a bit on the leaky side. What to do? Plant trees and shrubs of course! You were expecting me to say something else?

Trees and shrubs planted in key positions around homes can reduce energy consumption and save

money. For example, properly placed trees can slash air-conditioning demand in summer by as much as 50 percent. Thoughtfully placed trees also can reduce winter heating costs by 4 to 22 percent. But to achieve maximum energy savings and environmental improvement, appropriate tree and shrub species must be planted in strategic locations and in the correct relationship to buildings they are to benefit. Simply stated, the goal is to get maximum shade in summer but minimum shade in winter.

But before we plant the first tree, let's remember that a lot of the unwanted heat in a house in summer

comes from the sun shining through windows. And because the summer sun is so high in the sky, almost twice as much solar energy enters through east and west windows as the south windows. Therefore, highest priority should be given to planting shade trees due west of west-facing windows followed by planting trees east of eastern windows.

Trees located in these positions offer the most advantageous combination of solar control and energy savings by blocking early morning and late afternoon sun in the summer, but offering no obstruction to winter sunlight. Select trees that can be planted within 20 feet of windows and will grow at least 10 feet taller than windows. If space permits, use tree combinations to create a continuous planting opposite all major west- and east-facing windows.

But don't waste your time planting trees on the south side of your home. In summer, the midday sun is almost directly overhead. A large tree oriented to the south will cast little, if any, shade on buildings to the north because its shadow will fall directly under the tree. In winter, when the sun is lower in the sky, the same tree will cast an undesirable shadow on structures to the north for most of the day.

Deciduous shade trees (those that drop their leaves in autumn) are the preferred natural heating and cooling regulators in temperate climates like ours. To obtain maximum benefit, the "ideal" shade tree should have a broad crown and dense foliage in summer when shade is most desirable. Then when temperatures begin to cool in fall, the ideal tree would lose its leaves, permitting the sun's energy to penetrate a sparsely-branched canopy. Trees meeting these criteria are classified as "solar-friendly." Kentucky coffeetree, green and white ash, river birch, red and sugar maple, and American linden are examples of solar friendly trees because they provide dense summer shade and sparse winter branching.

In general, large-growing trees are best because they provide the maximum environmental benefit per tree. But, because solar friendly trees are most effective when planted close to east and west sides

of buildings, only sturdy trees with good branching habits that resist injury from storms should be planted. Do not plant large, fast-growing, weak-wooded species like silver maple and cottonwood next to homes. And if energy efficiency is your primary goal, avoid trees that drop their leaves late in the fall (Norway maple), trees that retain their leaves throughout winter (oaks), trees with exceptionally sparse branching (ginkgo) or those that are densely branched (litleleaf linden).

If a site isn't large enough to accommodate large-growing tree species, you might consider using woody plants to establish a zone of insulating dead air space along the walls of buildings. Plants like arborvitae and juniper installed close to buildings will create a layer of still or slow-moving air that can slow heat loss in winter and heat gain in summer. This technique is most effective when plants are installed in a continuous line that extends along the walls to be protected and around the corners.

Other, large-growing conifers like pine, spruce and fir, can be used to shield homes from piercing north and west winds during winter. Finally, landscape interest can be created by using a variety of plants, but take care to group like kinds together.

Energy-conserving landscapes don't happen by accident. Rather, careful planning and preparation is required to realize environmental and financial benefits from strategically placed woody plants. So, before you plant that next tree or shrub, make certain it is positioned for aesthetic beauty and energy conservation.

Acreage Living is published monthly. For more information, contact your local county ISU Extension office.

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