Sweet Corn

Zea mays var. *rugosa* (Gramineae)

Fast Facts:

Acres in Washington:	Fresh 4,200 acres Processing 80,200 acres
Value of Production in Washington:	Fresh: $17,088,000 in 2006 Processing $53, 701,000 in 2006
Number of Growers:	700
Percent of Value of U.S. Production:	27%

Description Of crop:

Unlike field corn, sweet corn is produced for human consumption as either a fresh or processed product. Field corn varieties are harvested when the kernels are dry and fully mature. Sweet corn is picked when immature and eaten as a vegetable rather than as a grain. It stores poorly and should be eaten, canned or frozen before it deteriorates. Cultivars of sweet corn fall into various classes based on kernel color, taste and maturity rate. Variety selection is an important consideration in sweet corn production, as growers need to look at factors such as sweetness, seed color, size, yield and tolerance to pests. Sweet corn comes in three colors: yellow, white and bicolor (white and yellow). The plant is a single-stemmed annual, grown from one seed that can reach a height of 6 to 8 feet. The stem produces one to three ears. Early cultivars mature in 50 to 60 days while mid-season cultivars in 75-90 days and late cultivars in 100 to 130 days. It is ready to harvest 18-22 days after silking when the ear is full size, has a tight husk and semi dried silks. The seed itself is relatively delicate and virtually useless if stored longer than one year. Sweet corn grows best in hot climates, but requires a steady supply of water for optimum yields. Harvesting should be at night or early morning when it is cool. The sugar content in sweet corn converts rapidly to starch after harvest. Since lower temperatures slow this process, growers immediately cool the corn and transport it in ice or under refrigerated conditions. Isolation is an important factor and is necessary to maintain sugars and textures. An isolation distance of 500 ft or more between white and colored varieties is recommended to prevent out crossing. Sweet corn is also important as a rotation crop for potatoes. It can reduce the chance for a grower to have economic loss compared to continuous potatoes and often leads to a higher income. Rotating potatoes with sweet corn can also break diseases cycles associated with such pests as nematodes and can improve the sustainability of the system. Washington is the nation's leading producer of processed sweet corn. Processing facilities are in operation from July through October due to fall production of sweet corn. This extended production from July through October has resulted in large-scale plantings of sweet corn in the state.

Key pests:

The most critical pest is the corn earworm, which is especially severe on the east side of the Cascades. Soil insects such as the seed corn maggot and wireworms also pose a problem. Early season cutworm and armyworms can cause damage to a stand. Organic growers are finding that if their land has recently come out of sagebrush, they are seeing a problem with wireworms. There are currently 6,000 organic acres in Washington planted in sweet corn. Recently, the corn rootworm has emerged as a pest. The larvae are root feeders and the adult feeds on foliage, and pollen. Common smut and ear smut are the main diseases in sweet corn. Erwinia stalk rot is a severe but localized problem in the Mattawa area. This is a bacterial disease which multiples in warm water and ambient air temperatures of 90-100 degrees. The high plain virus, which is spread by the wheat curl mite is a new and poorly understood problem that has become severe in some areas. All types of weeds including grasses, lambsquarter, nightshade, Russian thistle, purslane and kochia are major pests. Volunteer potatoes are also a concern.

Key pesticides:

For the corn earworm in conventional stands, Brigade, Asana, Warrior, Lannate and Mustang are applied. In organic stands, growers use Entrust. The seed corn maggot and wireworms can be controlled with Cruiser or seed treated with Lorsban. Cutworms and armyworms can be controlled by Brigade. For the high plains virus, either Furadan or Brigade will help with this disease. For weeds, Dual or Atrazine are used.

Critical pest
Control issues:

The corn earworm is the most severe pest of sweet corn; growers can monitor its population using pheromone traps and applying pesticides accordingly. Currently, there is no means to control ear smut. Oregon State University is working on developing varietal type resistances Growers are encouraged to rotate crops, manage water use by watering only when needed and avoiding high nitrogen levels. For Erwinia, treating ponds with sodium hypochlorite may help. Weed management includes practicing good seedbed preparation, providing appropriate nutrients and rotating crops. Genetically modified (GMO) sweet corn has met with consumer resistance, but if accepted the Bt type hybrids could greatly reduce spraying pesticides.

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Location Of production:

Grant county produces the majority of sweet corn for processing. Benton, Franklin, Lewis, Klickitat, Kittitas, Walla Walla, Whatcom, and Yakima counties also produce processing corn. Yakima is the main producer of sweet corn for the fresh market.. King, Pierce, Snohomish, Spokane and Thurston counties also produce corn for the fresh market.

Pictures:

Sweet Corn
www.pestdata.ncsu.edu
www.Carolinapeaches.com