SWEET CORN PRODUCTION, HANDLING, AND LOADING

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In recent years the commercial green corn industry has been changing rapidly from the old roasting ear field corn to sweet corns of adapted hybrid varieties and in years to come this crop will occupy a prominent place among other truck crops in the principal vegetable farming areas of our State. Dozens of new varieties of sweet corn have been brought into existence and new ones are coming in each year. Some of the hybrid sweet corns now being grown will be replaced with newer and better ones.

Growers are learning better methods of producing sweet corn. Excellent worm control programs have been found and are being used by some growers. More efficient methods of packing, precooling, and loading for transportation to market are being followed in a number of producing areas. A larger number of markets are being found for good packaged, worm-free corn and more people are eating sweet corn. There remains, however, a great amount of work necessary to get a larger number of growers to produce better yields of good quality corn, as well as improvement in packing and precooling by growers and packers who have not been following the best practices.

In a well-planned and detailed study of sweet corn growing, harvesting, packing, precooling, and loading in cars for transportation to market, in a number of the principal producing areas in six Southeastern States during the past spring and summer by four Seaboard Air Line Railroad agricultural agents, the writer being included, we found, as expected, that by far entirely too many growers were securing yields that were much too low. Information contained in this study was secured from experiences of farmers, experiment stations, and marketing organizations. Sweet corn growing on some of the best lands in areas visited produced yields of 75 crates or less per acre, whereas if better practices of leguminuous cover crop planting, crop rotation, better fertilizing programs followed, better worm control program started at proper time and continued until harvest, yields of corn could easily have been increased to 100 crates or more per acre.

Numbers of sweet corn growers visited were found not following any worm control practices at all, others used practices that were inadequate and inefficient. In the matter of precooling some methods used were rather crude and all of the field heat was not removed soon enough after harvesting and packing before precooling and loading in iced cars.

In Florida sweet corn is grown principally in spring and early summer; however, in recent years there has been some interest in the growing of this crop in fall and winter in the warmer areas of south Florida. Planting for the fall and winter crop extend from latter part of August through October, with spring plantings from latter part of December

through March 15th on muck and vegetable soils. In upper Florida plantings should be made as soon as weather permits.

Sweet corn is grown on muck land under water control, irrigated and non-irrigated sandy loam soils commonly used in vegetable production, and good general farm lands adapted to corn growing. Select well-drained properly conditioned soils. On lands other than muck, corn should follow a leguminous cover crop. Regardless of soil type used, a well prepared seed bed is necessary. On muck and other vegetable soils, spring and early summer corn may be planted after a fall and early winter truck crop has been harvested.

Land should be plowed and disced sufficiently well in advance of planting to allow for decomposition of cover crop. Clean cultivated irrigated lands may be prepared just prior to seeding—a well prepared seed bed is a MUST. On muck and other vegetable crop lands, rows are spaced from 36 to 42 inches in width and on general farm lands 36 to 48 inches. Eight to ten pounds of seed are planted per acre, with plants spaced 12 to 14 inches in drill. Corn is planted in furrow of medium depth and frequent, shallow, clean cultivation should be followed, keeping weeds and grass under control. In cool, wet weather treat seed with a well recommended material (provided seed has not been previously treated) to assure good germination.

Some of the leading varieties recommended for planting in Florida are: Ioana, Golden Cross, Illinois Golden No. 10, U.S. 34, Caramel Cross and Seneca Chief for muck and vegetable lands; Ioana, Golden Cross, Caramelcross, Aristogold No. 1 on general farm lands. Ioana, Golden Cross, Caramelcross, Aristogold No. 1 mature in approximately 80 days, Illinois Golden No. 10 and U.S. 34 90 days, and Seneca Chief less than 70.

Among the best fertilization practices followed are: *Muck Lands*—1,000 pounds of 2-8-10 (N.P.K.) fertilizer applied before or at planting time, plus necessary minor elements, and two applications of a good side dresser of 100 pounds each when corn is 6 to 10 inches high, and second at 12 to 15 inches high. *Other Vegetable Soils*—1,200 to 1,500 pounds of a 4-7-5 or 4-8-6 (N.P.K.) mixture applied before planting and 300 pounds of side dresser (two applications of 150 pounds each when corn is 6 to 8 inches high, and 150 pounds at time corn is 12 to 15 inches high.) *General Farm Land*—800 to 1,200 pounds of a 4-8-6 (N.P.K.) analysis applied before planting, with 300 to 500 pounds of side dresser in two applications before the corn is 15 inches high.

Early plantings will not require as many applications for worm control as midseason or late plantings. For budworms dust at very first sign of worms, making two applications, using 5 percent DDT. Make first dusting of 5 to 7 percent DDT for earworms when first silks appear and dust every other day throughout silking stage, requiring 6 to 8 applications, based on two corn pickings. More than two pickings will require additional dust applications. With hand, horse-drawn or tractor-dusting equipment from 15 to 25 pounds is required per acre application. Dusting with aeroplane requires 40 pounds per-acre applications. While DDT has been used with good results, there is no definite information available as to the residual effect this material may have on the soil.

Harvesting should begin when the ears

are well filled out, but still in the milk stage. Time is the essence of success. Corn must be harvested at proper maturity, moved from field to packing locations in convenient containers or vehicles, graded, packed, precooled, and placed under ice in as short a time as possible. Sugar in the corn turns to starch within 4 hours if field heat is not immediately removed.

Packing should be done under cover where precooling is available. Worm-free corn should be packed in crates, as crated corn brings a higher return to the grower. Worm-infested corn should be clipped and packed in bags.

Corn grown on good land under favorable conditions will produce 500 dozen ears, or 100 crates, per acre. Muck or irrigated lands yield up to 200 crates per acre.

Mechanical precoolers, where the temperature of the water is kept about 34 degrees and container remains in the bath approximately 22 minutes, or ice water spray precooling machines in which the corn remains for 14 to 22 minutes (depending on speed of conveyor) with water temperature of 38 to 40 degrees, are used with good results. Where mechanical precoolers are not available, a wooden or metal vat, 4 feet wide, 30 to 60 feet long, using snow or cracked ice in the water and in which corn remains in the bath for at least 15 minutes, are generally satisfactory. Corn should move direct from precooler to refrigerated cars.

Sweet corn should be shipped under standard refrigeration using 7 tons of top ice (snow ice recommended) when properly precooled. When packed in crates top ice after car is loaded. When packed in sacks snow ice should be applied between every second layer of corn.