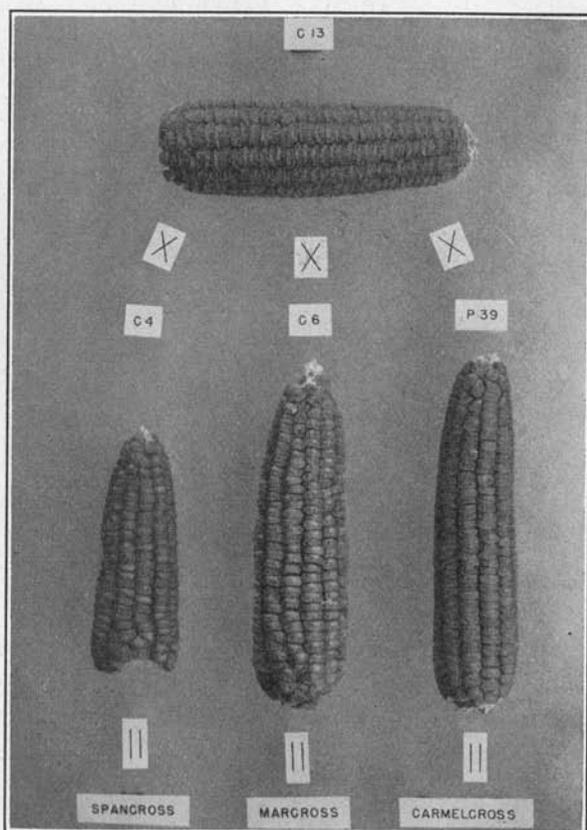


# Early Sweet Corn Hybrids Spancross, Marcross and Carmelcross

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Connecticut  
Agricultural Experiment Station  
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## Early Sweet Corn Hybrids

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**S**PANCROSS, Marcross and Carmelcross are three early sweet corn hybrids introduced by the Connecticut Agricultural Experiment Station.

Spancross (C4 x C13) is an extra early hybrid, has a medium sized ear of good quality (Figure 1), is resistant to bacterial wilt and is also somewhat cold resistant. In southern Connecticut it can be planted in late April with a good chance of securing a stand. The plant is short (4 to 5 feet) and stocky with the ear set low on the stalk. The hybrid is remarkably uniform in

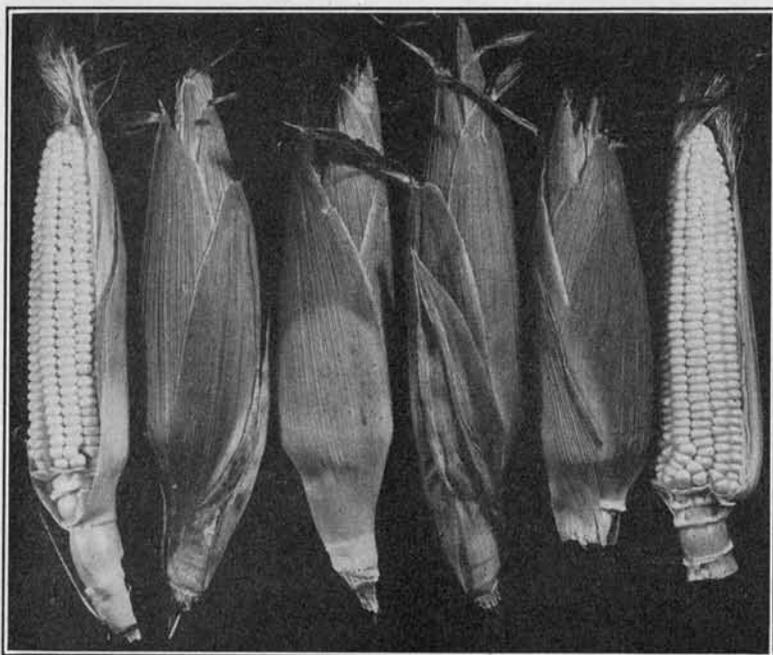


Figure 1. Spancross is an extra early hybrid with a medium sized, good quality ear.

time of maturity and will produce most of its crop by the time Golden Early Market makes its first few marketable ears. Spancross is a day or two earlier than Golden Early Market. The parents of Spancross are Connecticut 4, a Spanish Gold inbred, and C13, a Golden Early Market inbred.

Marcross (C6 x C13) is now familiar to nearly all market gardeners. It is an early corn, maturing three or four days later than Spancross and a

day or two later than Golden Early Market. Marcross is outstanding for its large ear (Figure 2), resistance to bacterial wilt, cold resistance and uniformity in all plant and ear characters. The plants of Marcross are usually 5 or 6 feet high and the ears are large and uniform. This hybrid has been thoroughly tested in New England and the northeastern states and is well adapted as far south as New Jersey. It has been grown with success in the Pacific Northwest and also does well in parts of the Corn Belt.

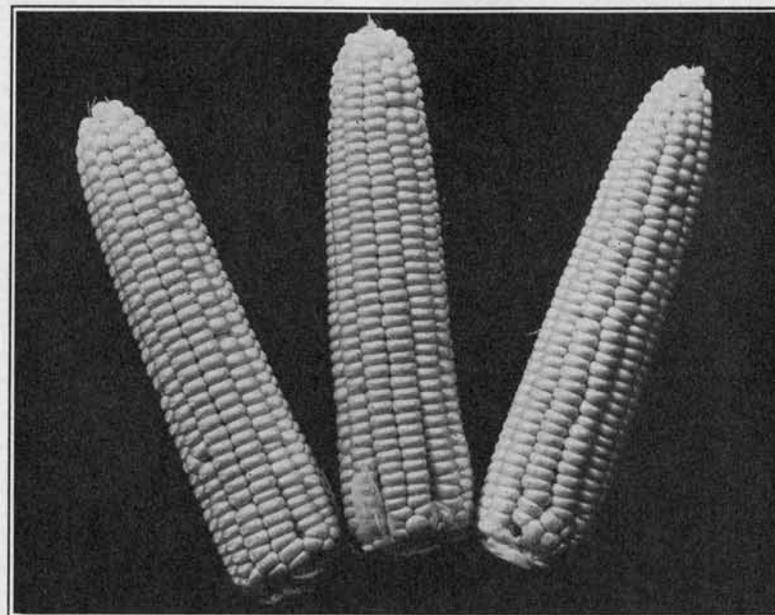


Figure 2. Marcross is an early corn remarkable for its large ear and resistance to bacterial wilt.

Carmelcross (P39 x C13) is the latest of these three early hybrids and is classed as early-midseason in maturity. It matures three or four days later than Marcross and about three or four days before the Whipple variety or before Whipcross C6.2. In size of ear Carmelcross compares favorably with Whipcross C6.2 and has much better quality (Figure 3). It is recommended for New England and the northeastern states. It will probably do well in most areas where Golden Cross Bantam is successful since it has one parent (P39) in common with Golden Cross Bantam.

If Spancross, Marcross and Carmelcross are planted at the same time they will mature in the order named and there will be no overlapping in season. All Spancross ears will be picked before Marcross is ready and Marcross will be harvested before Carmelcross matures. By planting these three hybrids, a succession of sweet corn for 10 to 12 days can be obtained.

### Naming Sweet Corn Hybrids

In our 1934 mimeographed sweet corn report we proposed a naming system for sweet corn hybrids that is now in quite general use. According to this system the three hybrids described could each be called "Mar"-cross since each has as one parent C13, a Golden Early Market inbred. To avoid

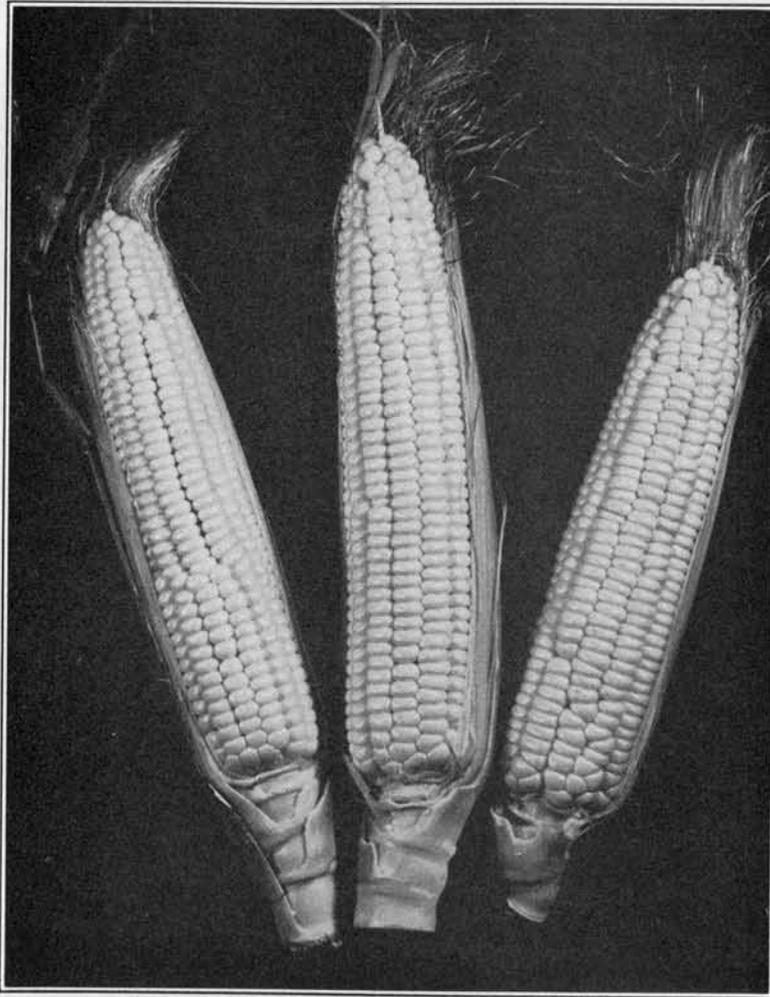


Figure 3. Carmelcross is a productive early-midseason hybrid of excellent quality.

confusion we prefer to call only one, C6 x C13, Marcross. This hybrid was introduced first, has always been known as Marcross and the type of ear and plant growth more closely resemble Golden Early Market.

The earlier hybrid, C4 x C13, is named Spancross, since C4 is a Spanish Gold inbred and Spanish Gold is associated with earliness. Other Spancross hybrids such as Spancross C2 and Spancross P39 will probably still be grown to a limited extent, but in each case the inbred number should be included in the name. Whenever Spancross is used without a number it refers to the hybrid C4 x C13.

Spancross C2 is no longer recommended. Marcross should be grown instead. Likewise Spancross P39 is no longer recommended. Seneca Golden is a better hybrid in the same season. If the name Spancross is used only for the hybrid C4 x C13 there will be no confusion regarding this name.

The hybrid Purdue 39 x C13 has a plant growth larger than Marcross, is later and has a longer, more slender ear. Consequently a new name seems desirable. Since the parentage of Purdue 39 is unknown, it can not be used in naming this hybrid. The name Carmelcross was selected because it was developed at our Experiment Station farm at Mt. Carmel.

### Performance of Spancross, Marcross and Carmelcross

Spancross has been tested only two years while Marcross and Carmelcross have each been in trial for four years. In the 1939 trials these three hybrids gave the results listed below. Golden Early Market, Whipcross C6.2, Whipcross P39 and Golden Cross Bantam are included in the table for comparative purposes.

TABLE 1. AVERAGE OF FIVE ROWS 19 PLANTS LONG (18 FT.) PLANTED MAY 13, 1939, AT MT. CARMEL, CONNECTICUT

Variety	Date picked	Mkbl. ears	Average of Best 10 Ears		
			Diam.	Length	Wt.
Spancross	7/26	19	1.7	6.5	.38
Golden Early Market	7/27	12	1.8	6.4	.38
Marcross (6.13)	7/30	16	1.8	7.4	.44
Marcross (13.6)	7/31	15	1.9	7.8	.51
Carmelcross	8/3	13	1.8	7.5	.44
Whipcross C6.2	8/7	15	1.9	7.8	.50
Whipcross P39	8/9	17	1.8	7.8	.51
Golden Cross Bantam	8/12	20	1.8	8.0	.48

### Seed Production

The performance of any hybrid depends upon the purity of the inbred stocks used and the care taken in seed production. The Connecticut Experiment Station will sell small quantities of hand pollinated seed of all of its sweet corn inbreds as well as Purdue 39 and 51. We are also supervising the increase of our inbred seed in larger quantities and will recommend sources of seed to those interested. By this method we hope all seed producers will have pure inbred stocks for their use in seed production.

Even when utmost care is taken, stocks of inbreds may contain a few outcrosses. These "rogues" must be removed from the crossing field. The pollen parent must be rogued very carefully. Possibly a brief description of the inbreds will help the grower to recognize their characteristics and enable him to determine outcrosses quickly.

#### Description of Inbreds

**Connecticut 4** is an extra early inbred derived from Spanish Gold. The plant is short, stocky and dark green. The silks are entirely green while the anthers and glumes are slightly red. Any plant having silks colored ever so slightly should be discarded. Also any plant larger than the rest should be pulled up.

The ears of C4 are short (4 or 5 inches) and tapering. The color varies from light to deep yellow. Some ears have a reddish cast due to pericarp color. The light shade is preferred and should be selected. The ears have 10 or 12 rows of kernels which are translucent. No pseudo-starchiness has been observed in C4.

**Connecticut 13** is a Golden Early Market inbred. It has a short, stocky growth, is medium green in color, has colored anthers and glumes, and silks that have a slightly reddish color. One distinguishing characteristic of C13 is its big, bushy silk that is first green and then becomes pink after exposure to sunlight. The color grows more intense with age. Any plant showing a deep red silk should be pulled out, also any plants larger than normal, or lacking the stocky growth. The ear is rather large for an inbred, (5 to 6 inches long) cylindrical and medium yellow in color. See cover. There are usually 12 rows of kernels although a few ears have 10 rows. The kernels are dull but not pseudo-starchy.

**Connecticut 6**, a Whipple inbred, has a plant somewhat taller than C13, is light green and has colored glumes and anthers. Its silks are green with a blush of pink on the tips after exposure to sunlight. The silks are never as deeply colored as those of C13. The tassels of C6 are borne upright on a rather elongated stalk and are always held erect. The tassels are held firmly by the plant making it rather difficult to detassel. The ears, which are set low on the stalk, are slightly tapering and light yellow, with 10 or 12 rows of broad kernels that usually show some pseudo-starchiness. They are 5 or 6 inches long and may have a faint beak or tassel-tip on the end. See cover.

**Purdue 39** is the tallest of the four inbreds. At New Haven it will grow to a height of about 6 feet. Our stock of this inbred has green glumes and anthers; other stocks may have colored glumes and anthers. The silks of Purdue 39 are always green. The ear is long and cylindrical with intermediate yellow color. It has 12 to 16 rows of translucent kernels. See cover.

#### Spancross Seed Production

For producing seed of Spancross either inbred, C4 or C13, may be used for the seed parent. C4 is recommended, however, as both inbreds can then be planted at the same time. If C13 is used as the seed parent, it should be planted 7 to 10 days before C4. Since both C13 and C4 make a rather small plant growth, these inbreds can be planted closer together than normally. A spacing of the hills 30 inches each way will give plenty of room.

#### Marcross Seed Production

Marcross seed can be produced by using either C13 or C6 as the seed parent. Most producers have used C6 because it gives a little better quality seed. The ear of C13 is rather slow in drying. However, we recommend using C13 as the seed parent because when the cross is made this way both inbreds can be planted at the same time. C13 is earlier than C6 and will have a few of its silks ready for pollen by the time the first pollen on C6 is shed. As silks will usually wait two or three days for pollen, losses from lack of pollination before the C6 pollen is ready will probably be slight.

When the cross is made the other way the C6 must be planted a little earlier than the C13. Relying on experience in previous years, it is possible to estimate approximately how much earlier the C6 must be planted. However, there is considerable variation from year to year and within the same growing season. Weather conditions may accelerate one planting and retard the other. For these reasons it is impossible to tell exactly when the two parents should be planted to bring the pollen and silks together. If the cross is made this way the seed parent (C6) is planted first. It is probably the safest plan to plant the pollen parent (C13) at different times. This can be done by skipping every other hill the first time, and seeding the alternate hills one week later. In the Marcross production field, the first planting of the C13 pollen parent should be made one week after the seed parent. The alternate hills of the C13 can be planted just one week later, or two weeks after the C6 seed parent.

#### Carmelcross Seed Production

In producing Carmelcross, Purdue 39 is generally used as the seed parent. This must be planted two or three weeks before the pollen parent, C13. It is probably wise to plant one-half the seed of C13 two weeks late and the other half three weeks late in the manner described for Marcross seed production.

TABLE 2. RELATIVE PLANTING DATES OF THE TWO PARENTS USED IN SEED PRODUCTION OF EARLY HYBRIDS

Hybrid	Seed Parent	Pollen Parent	Relative planting date
Spancross	C4	C13	Both same time
Spancross	C13	C4	Seed parent 7-10 days early
Marcross	C13	C6	Both same time
Marcross	C6	C13	$\frac{1}{2}$ pollen parent 1 week late $\frac{1}{2}$ pollen parent 2 weeks late
Carmelcross	P39	C13	$\frac{1}{2}$ pollen parent 2 weeks late $\frac{1}{2}$ pollen parent 3 weeks late

Seed of Spancross, Marcross and Carmelcross is being produced and will be available from Connecticut seed dealers. This station has no seed for sale or for general distribution.