

## 6. Miscellaneous Demonstrations

### DEPTH OF PLANTING

**T**WENTY-ONE depth of planting tests were conducted in nine counties in 1912 and 1913. Seed was planted at 1, 2, 3, 4, 5, and 6-inch depths. From six to eight plots in different parts of each field were planted at each depth.

There was no appreciable difference in yield between the 1, 2, and 3-inch depths of planting. Yields obtained from 4, 5, and 6-inch depths dropped only one to two bushels for each inch of increased depth (see Figure 6.1).

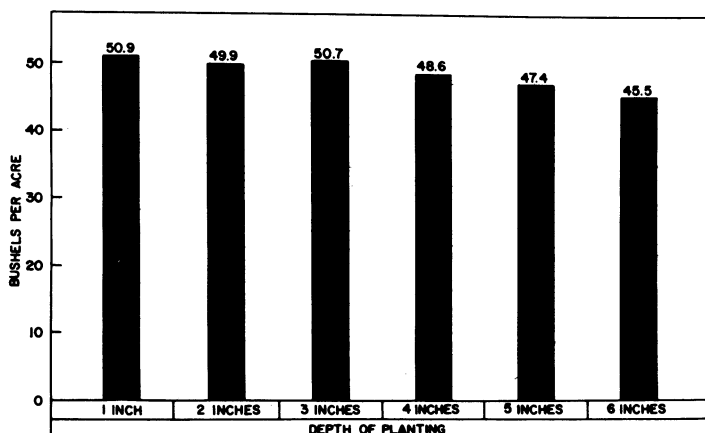


Fig. 6.1. Depth of planting demonstrations. Average of 21 tests in 14 counties during 1912 and 1913.

The decrease in yield was in proportion to the decrease in stand obtained.

Many farmers were surprised to learn that the main feeding roots branched out from the stem sprout near the surface of the ground, regardless of the depth of planting.

The Clinton County Farm Report for 1913 gives, "The squirrels took the shallow planted corn much worse than they did the deeper" as the reason for low yields of plots planted less than four inches deep. The general conclusion and recommendation based on these depth of planting tests were: "There seems to be more danger of getting the corn planted too deep than too shallow. For best results, corn should be planted only deep enough to have the seed well covered with moist soil."

### BUTTS, MIDDLES, AND TIPS

Farmers usually shelled off one to two inches of tip kernels and half an inch to an inch of butt kernels when preparing their seed for planting. They did this in order to get a more even stand and because of a widespread belief that butt and tip kernels would produce low yields of poor quality corn even if they grew.

The comparative value of butt, tip, and middle kernels was demonstrated in 17 tests in 11 counties during 1912 and 1913.

Middle kernels yielded more than butt kernels in 12 of 17 trials, more than tip kernels in 13 trials, and more than either in nine of the 17 trials. Middle kernels out-yielded butt kernels by an average of 1.7 bushels and the tip kernels by an average of 3.3 bushels as an average for all trials (see Figure 6.2).

Most of the differences in yield are believed to be due to differences in stand of stalks obtained. Middle kernels produced 2.4 percent better stands than butt kernels and 6.3 percent better than tip kernels.

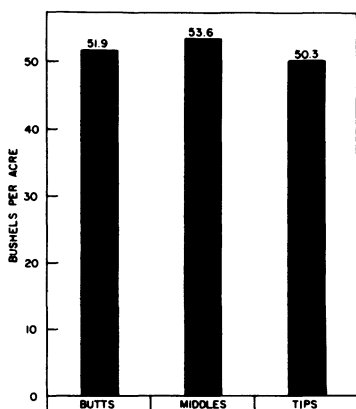


Fig. 6.2. Butt, middle, and tip kernels compared. Averages of 17 tests in 11 counties during 1912 and 1913.

There was some evidence that the stalks that grew from middle kernels were more productive than those from butt or tip kernels.

The conclusion from these demonstrations was: "The chief reason for shelling off butts and tips before planting is to allow the planter to drop a uniform number of kernels."

### VALUE OF TESTING EACH EAR

The fundamental relation of the percentage germination of seed corn, stand, and yield was fully demonstrated by the Farmers' Variety and Individual Ear Tests, Chapters 2 and 3.

It was only in 1912 and 1913 that separate demonstrations to show the value of testing a few kernels from each ear were included in the County Farm tests. A considerable number of ears were obtained from each of one or two men in each county. Six kernels from each ear were carefully germinated.

Six lots of seed were prepared: (1) ears showing all *strong* sprouts from the six tested kernels; (2) ears

showing one or more *weak sprouts*; (3) ears showing one or more *dead sprouts*; (4) the corn used in plots one and two was mixed, to give a sample of seed with both *strong and weak sprouts*; (5) the seed used in plots two and three was mixed, to give a sample of *weak and dead kernels*; (6) the seed used in plots one, two, and three was mixed, to give a sample of *strong, weak, and dead kernels*. (See Figure 11.4.)

The value of testing six kernels of each ear and discarding all except ears which showed six strong sprouts was again clearly demonstrated. As an average of all tests the six-strong-kernel ears outyielded the one-or-more-weak-kernel ears by 4.9 bushels per acre and the one-or-more-dead-kernel ears by 19.9 bushels per acre. The strong-and-weak-mixed seed outyielded the one-or-more-dead-kernel seed by 16.8 bushels (see Figure 6.3).

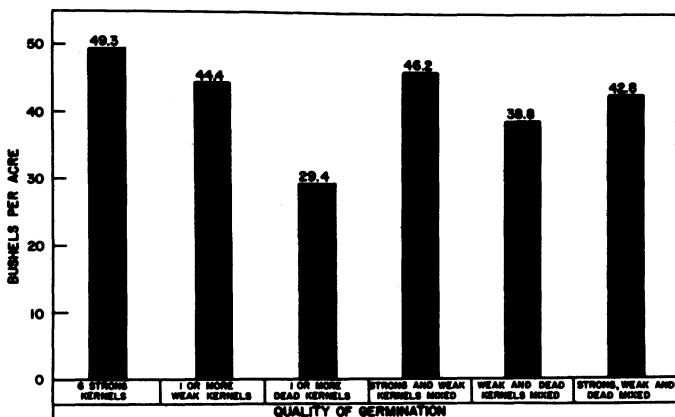


Fig. 6.3. The value of testing each ear of seed corn. Summary of 9 tests in 7 counties during 1912 and 1913.

### SINGLE-EAR TESTING SPREAD RAPIDLY

The idea of testing each seed ear for germination and disease symptoms spread rapidly. Many commercial testers were on the market. Commercial and co-operative

seed testing laboratories were established in many countries. The sawdust box tester, illustrated in Figure 11.4, and the rag-doll testers continued to be favorites.

The rag-doll tester was very simple. A piece of good muslin about one foot wide and four feet long was ruled down the middle with two rows of 10 sections each. The cloth was soaked in water so the kernels would stay in place and six kernels from each of 20 ears were placed in the 20 sections of the cloth, with germ sides up and the tips of kernels pointing to one edge of the cloth. A half page of newspaper was crumpled into a tight roll, soaked in water and, beginning at one end, the cloth with kernels in place was rolled around the soaked paper. Three rubber bands were put around the rolled-up cloth, one at each end and one in the middle. The "dolls" were then stood on end in a bucket with the tips of the kernels pointed down. The buckets were filled with warm water and the dolls soaked for one or two hours. Then the surplus water was poured out of the bucket and the bucket with the dolls still on end was placed in a warm room. The dolls were sprinkled every day or two to keep them moist. The rag-doll tester was a very good tester.