

# Hybrid Seed Corn Production

By

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**T**HE SEED CORN situation in 1944 will generally be better than it was in 1943. The seed of early maturing hybrids of 80 to 85 day relative maturity will nevertheless be difficult to locate. This is partly because these very early hybrids have been introduced very recently and the seed production of the early hybrids developed by the Experiment Station, as well as the earliest hybrids developed by the commercial seed companies, has been hindered in the last two years by excessive rains and unusually unfavorable seed corn weather in areas where this seed is produced. An increasingly heavy demand for early hybrids is also aggravating the seed shortage. Growers in northern, central and western North Dakota therefore must depend to a large extent on the seed of the more plentiful locally adapted open-pollinated varieties or semi-late hybrids of 85 to 90 day relative maturity until the seed of early hybrids are more abundant.

The North Dakota Experiment Station developed and made available to seed producers in 1942 and 1943 the foundation crossing seed stocks of Nodakhybrids 201, 202, 203 and 204. The results obtained at the Experiment Station and sub stations with hybrid corn field trials show that these North Dakota hybrids, on the average, yielded about 10 to 15 percent more grain than the early strain of Minnesota 13 and more often produced ripe corn while Minnesota 13 failed to mature. Among these hybrids, Nodakhybrid 203 has been the earliest, and in the last three years the ears contained less moisture than those of the Falconer variety. Nodakhybrids 201 and 202 have matured about the same time as Falconer, while Nodakhybrid 204 has been slightly later. All these

hybrids are yellow dent, with the plant and ear height similar to early strains of Minnesota 13 but were more resistant to lodging. They have yielded as well or better than Falconer, but are taller, bear ears higher on the stalk and were more resistant to lodging and breaking over.

In cooperation with selected farmers and seedsmen, the Experiment Station has been increasing the seed of the inbred lines and has produced and increased the supply of the foundations single crosses of the early Nodakhybrids. In the spring of 1943 the foundation crossing seed stocks for 438 acres were made available. Because of excessive rains in the spring, about 70 acres were not planted. Of the 368 acres planted, 114 acres were later drowned out by high flood water. The remaining 254 acres

harvested yielded about 3500 bushels of commercial hybrid seed corn sufficient to plant about 24,000 acres for the production of feed corn in 1944.\* However, this small supply of seed has long since been nearly exhausted or has been contracted for in advance by farmers.

A new supply of foundation crossing seed produced last year and available in 1944 will be sufficient to plant about 550 acres for the production of early maturing Nodakhybrid seed. These foundation crossing seed lots are released to applicant farmers or seedsmen who are interested and understand the requirements for the production of hybrid seed corn.

\*The commercially sold hybrid corn seed produced by controlled crossing of specific and stable foundation single crosses or inbred lines and the benefits in yield, uniformity and other characters are obtained only in the first-generation after crossing. The commercially sold hybrid seed corn is the authentic first-generation hybrid seed and is used for feed production only. When the seed is saved from the commercial hybrid corn field it is an advance (or second) generation seed. The crop grown from this advance generation seed lacks uniformity and yields from 10 to 20 percent less than the authentic first-generation hybrid seed. Therefore, in order to obtain the benefits of superior yield and uniformity of hybrid corn, a grower must obtain or produce a new supply of authentic first-generation hybrid seed every year.

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**The Bureau of Agricultural Economics, U. S. Department of Agriculture, Lincoln, Nebraska, office, recently released information relative to recent population changes in the Great Plains States. From 1940 to 1943 North Dakota declined 16.4 percent; Montana, 15.3 percent; South Dakota, 14.0 percent; Nebraska, 8.8 percent; Kansas, 4.6 percent; Oklahoma, 9.7 percent. The estimated civilian population of North Dakota in 1943 (a preliminary estimate) was 536,510; in 1942, 592,960. The U. S. Census credited the State with 641,692 people in 1940.**

Besides these early North Dakota produced hybrids, the seed stocks of two hybrids produced by the Wisconsin Experiment Station have been increased. The foundation seed to plant about 500 acres of crossing fields are available. Nodakhybrid 302, (North Dakota produced Wis. Hybrid 279) 85-90 day relative maturity, matures about the same time as the Haney strain of Minnesota 13, but has yielded higher and has been more resistant to lodging. Nodakhybrid 501, (North Dakota produced Wis. Hybrid 355) of about 95 day relative maturity, has matured satisfactorily and yielded high in the good corn growing areas of southeastern North Dakota.