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Planting early for optimum yields

Dale E. Farnham
Iowa State University, 1farnha@exnet.iastate.edu

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Abstract
Every year, corn producers are faced with the challenge of determining when they should begin planting corn. As mid-April approaches, corn and soybean producers across the state are waiting for fields to dry so fieldwork can begin. Many feel that the prospects for a cool, wet spring are inevitable. Knowing what we do about springtime in Iowa, it will pay to be prepared to hit the fields as soon as the first window opens up.

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Long-term studies from the central Corn Belt indicate that yields are best for plantings made during the period from April 20 to May 5 (see table). The main issues here are soil moisture, seedbed condition, and perhaps soil temperature. The advantages of early planting include optimized yields, drier corn in the fall, a greater choice of hybrid maturities, and a greater window of opportunity for replant decisions.

Research done at the North Iowa Research and Demonstration Farm (Kanawha) from 1984 to 1987 showed corn planted on April 25 averaged 160 bu/acre whereas corn planted on June 5 averaged 126 bu/acre. At the Southeast Iowa Research and Demonstration Farm (Crawfordsville), research conducted from 1990 to 1992 showed corn planted on April 27 averaged 148 bu/acre whereas corn planted on June 2 averaged 113 bu/acre.

On average, yields for plantings made a week or so earlier or later than the last week of April should not differ greatly, if soil conditions are desirable. Of course, there always will be exceptions from individual years or sites. Yield losses begin to accelerate after May 10-15. Generally, the yield reduction experienced from planting 10 days too early will be less than that experienced from planting 10 days too late. When planting is delayed intentionally for a week, there's no guarantee that the weather won't delay it another week, or perhaps more.

Very early planting often works but can be risky. Unless two weeks of planting days is needed, the probability of realizing significant yield increases is almost nil. Regardless of planting date, however, it's best to start on well-drained upland soils where the prior crop was soybean. The goal should be to establish an even stand at the desired (optimum) plant population. Plant full-season hybrids first so they can express their full yield potential. Ultimately, getting corn planted in a timely manner and establishing a quality stand will be of greatest importance.

Corn yield as affected by planting date.

Date	Yield (%)
April 10	96

April 20-May 5	100
May 10	97
May 20	90
June 1	81
June 10	67

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