Weather Considerations

- The predictable thing about weather is that it is unpredictable.
- Good weather in early spring usually means more than average number of days suitable for planting.
  - No guarantees!
  - Soil sufficiently dry and subsequent rainfall less likely to saturate soil.
- Decision to begin planting depends upon personal approach to risk.
  - About half of the days during April and May are suitable for fieldwork.
- Should the decision be base upon soil temperature?
Should Soil Temperature or Calendar Date be used to Begin Planting? Answer: Probably both!

- For germination and emergence of corn, the seed needs water, oxygen and a minimum temperature of 50 °F.
  - Requires seed-soil contact for water uptake.
  - Seed absorbs 30% of its weight in water.
  - Under average spring conditions corn emerges 13 days after planting.
- Difficult to use soil temperature as a guide to begin planting.
  - When should soil temperature be measured?
- If soil temperature isn’t ideal for planting, it soon will be.
- Soil moisture is more important than soil temperature.
  - Monitor top 6 inches for soil moisture.
2003 Soil Temperatures at Arlington and Hancock

Average soil temperatures at Arlington during 2003

Soil temperatures at Arlington during 2003

Average soil temperatures at Hancock during 2003

Soil temperatures at Hancock during 2003

Lauer, © 1994-2009
University of Wisconsin – Agronomy
Grain yield decreases 0.5 bu/A per day on May 15 and accelerates to 2.5 bu/A per day on June 1 ...

\[ y = -0.04x^2 + 8.68x - 268 \]

\[ R^2 = 0.68 \]

Source: Lauer (Full-season hybrid at Arlington 1997-2006)
Grain Yield Response of Full-Season Corn Hybrids to Planting Date at Arlington (1976-2002)
The planting date producing maximum grain yield is May 1. Grain yield decreases 0.5 bu/A per day on May 15 and accelerates to 2.5 bu/A per day on June 1.

Grain Yield (bu/A)  
\[ GY = -530 + 12.8X - 0.055X^2 \]  
\[ R^2 = 0.98 \]  

Source: Lauer (Full-season hybrid at Arlington, WI)
Are Optimum Planting Dates Getting Earlier?

Yes, current optimum planting dates are 5 days earlier than 1974

Criteria: 10 or more years of data at a location
- Arlington, WI = 5 days
- Johnston, IA = 4 days

Arlington
\[ y = -0.18x + 473 \]
\[ P = 0.01 \]