

## **It's the first week of May, should corn be planted into cool soils?**

Planting date influences corn yield and moisture of harvested crop. Ideally, corn should be seeded between May 1 and May 15. While early seeding is generally recommended, soils remain cool this spring and a soil temperature of 10°C at 2-4" is required for germination.

### **Soil temperature affects days to emergence**

Planting into cool soils can delay emergence and result in an uneven stand. In the first 24-48 hours after planting, the seed absorbs water. While imbibing water allows the process of germination to start, temperature affects growth of the first root and shoot. Research conducted in Iowa found that corn typically required 90 to 120 GDD from planting to emergence, assuming soil moisture is adequate. If temperatures are cool after seeding, emergence will be delayed. Cool and wet conditions at planting can favour development and activity of soil pathogens, which can increase seedling mortality. The faster the corn seed goes through the process of germination and emergence, the more uniform the stand is expected to be.

### **Planting depth**

When planting conditions are cool, factors such as planting depth become more important. In most situations a planting depth of 1.5 – 2" works well, but depth can be adjusted based on moisture conditions and planting date. If planting into cool, moist soils in early May planting depth should be at the shallower end of this range as soil warms up quicker near the soil surface. Planting less than 1.5" is not recommended since some seed may end up much shallower due to normal variation in the seedbed and planting depth. Shallow planted seed can lead to uneven emergence or reduced plant stand due to moisture variation, and poor nodal root development.

Timing of corn planting depends on the individual farm and the production risks that each is willing to take. Under most circumstances, it is best to plant corn as early as weather and seedbed conditions allow, but keep in mind that planting into cool soils can delay emergence.