

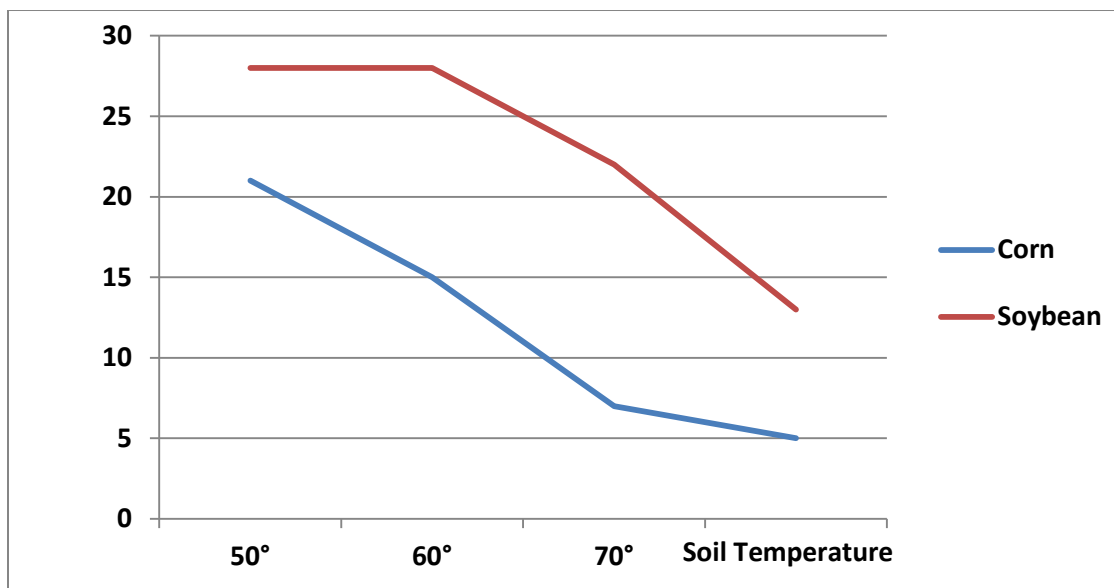
Soil Temperature and Crop Emergence

When should we expect to see the first corn emergence this spring? The answer to that question will come from watching the soil temperature. Generally corn will germinate and begin growth at a 50° soil temperature, but at this minimal temperature point the progress will be very slow. With at 50° seed bed it will typically take almost three weeks before we can expect to see plants emerge.

Fortunately weather changes and soils warm up. This means that corn growth will also increase. If the soil has warmed to a constant 60° we can expect to see the first emergence in about two weeks. Activity really speeds up when the soil reaches 70°. At that temperature corn emergence can happen in as little as one week.

Obviously the weather can, and will, change frequently in spring. Changing soil temperature is just one of the reasons that a 2" planting depth is important. Soil at a 2" depth will generally hold a more uniform temperature and not fluctuate as much as soil near the surface. Germinating corn does best with a steady temperature. Wide swings in temperature during germination can often cause twisting of the coleoptile spike or may contribute to leafing out underground.

Days to Emergence



Soybean germination is also directly related to soil temperature and follows a pattern similar to corn with the difference being that soybean germination begins at a temperature closer to 60°.

As a reference, the average soil temperature across Iowa taken at a 4" depth ranges from the low to upper 50s for this week, which is slightly below normal.