

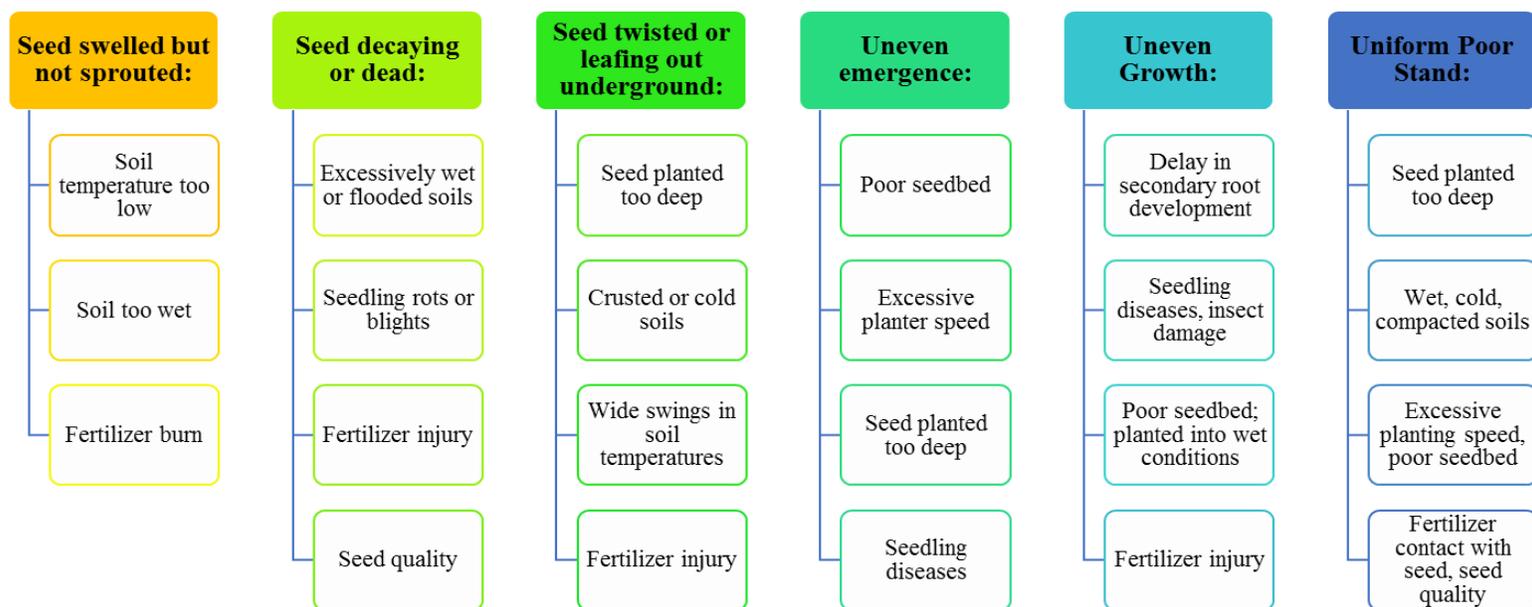
Diagnosing Emergence and Corn Seedling Issues

Adapted from ISU's Integrated Crop Management News

As you assess plant stands, remember also to check below ground growth, specifically general root and mesocotyl health. Remember too, it is important to carefully and completely evaluate what is seen in the field and to consider all possible causes.

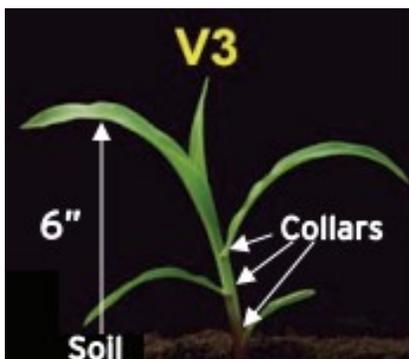
Survival of young corn seedlings depends on a healthy kernel and mesocotyl which should remain firm and white through at least growth stage V6. Damage to the kernel or mesocotyl prior to establishment of the nodal root system can result in stunted, weak or dead seedlings. A developing corn seedling relies on the kernel endosperm for nourishment until the nodal root system has fully developed, usually around the 6-leaf stage. Thus the mesocotyl acts as the "pipeline" for translocation of nutrients from the kernel and seminal roots to the seedling stalk and leaf tissues.

Possible problems commonly seen in corn fields from emergence to the eighth leaf stage are:



Fungicide seed treatments strengthen the spectrum and duration of protection against seed and seedling diseases, but no amount of seed treatment will eliminate seed and seedling disease under all conditions.

Some emergence issues are surfacing across the Midwest. By and large, the planting dates from the majority of these field reports all fall into the last two weeks of April. Possible problems stem from: the average Iowa (statewide) low between April 19 and April 27 was 33 degrees at night, and wasn't much better between the 27th and May 1 registering an average of 40 degrees. The low temps were in addition to excessive amounts of rain. As listed above, wet and cold soil conditions are a recipe for emergence and seedling issues.



Corn Growth Stage & Applying Post-emergence Herbicides

Adapted from Roundup Ready Plus Crop Management Solutions

Herbicide product labels indicate the corn growth stage that is most restrictive and should be followed when applying post-emergence. Corn leaf stage is determined by counting collars when leaves emerge from the whorl and a band is formed around the stem.

Leaves that are just emerging from the whorl will not have a visible collar and are not counted. Leaf stages are designated using a "V" to represent each leaf during vegetation development. The first true leaf on corn is the short, rounded leaf near the soil surface which is counted as V1. Each successive, visible leaf collar is counted and V2, V3, and all the way to V18 which is prior to tasseling.