

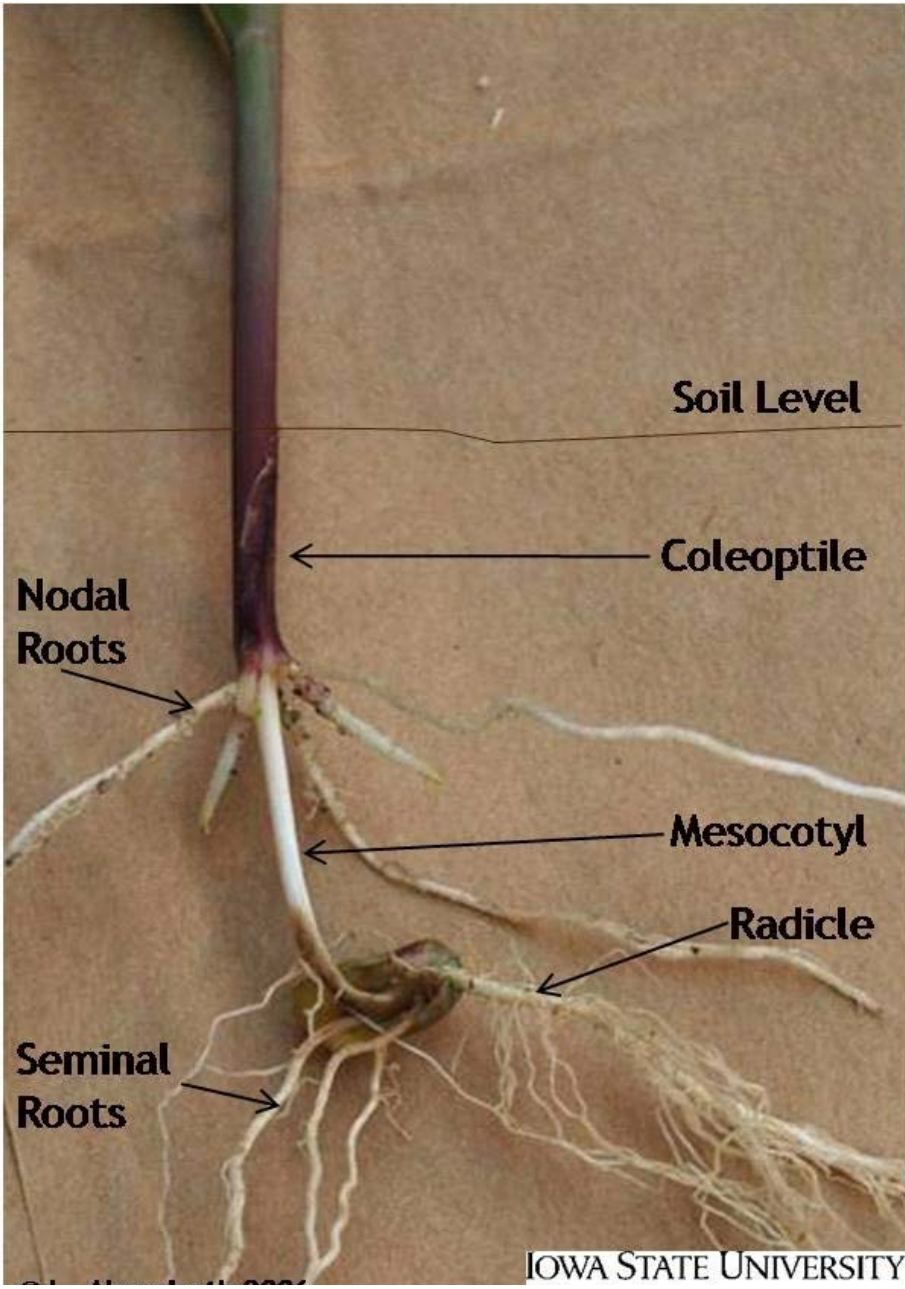
Southwest Iowa Crop Update: May 6, 2009
Kyle Jensen, ISU Extension Field Agronomist

Corn has been emerging for the last week here in SW Iowa. The weather has also been warming up some and we have been accumulating growing degree units (GDU's). I have been digging quite a few plants here in the last month. I've noticed some different things but overall it looks good. A few seedlings were corkscrewing a little, the soil temperature was more than likely tricking the plant which way to grow. I have also noticed a few fields that were planted pretty shallow or the ground settled enough to cause this. I've heard about a few cases in MN where the light fluffy soil settled and there were some cases of shallow planted corn. Shallow planted corn may develop some problems later in the season. The main concern is where the crown is formed on the young seedling.

When a corn seed germinates the radicle emerges first and is the first form of roots for that seedling. Next to emerge from the seed is the coleoptile. The coleoptile is pushed toward the dent end of the corn seed and then upward by the elongation of the mesocotyl. Where the coleoptile emerged from the seed seminal roots begin elongating. The radicle and seminal roots are the root system for the young seedling. Once the coleoptile reaches the surface the mesocotyl stops elongating. Where the mesocotyl and coleoptile meet there is a noticeable difference in circumference, this is where the crown or (nodal) roots will start to develop from. Crown/Nodal roots are permanent roots that are needed for water and nutrient requirements of the corn plant as well as anchors to keep the plant upright throughout the growing season. If corn is planted too shallow the crown is almost formed on the surface of the ground. Crown roots may not be able to form correctly and we experience "rootless corn syndrome".

If any of the corn plant's roots are restricted by dry soil, wet soil, and most likely sidewall compaction, the corn plant will be at a disadvantage at an early stage and most likely show signs of developmental stunting. I think we have all heard this, but I'll say it again. The most important day of a corn plant's life is the day it is planted. Here are a few pictures of corn seedlings and what all of these parts I've been talking about look like. A picture is worth a thousand words. I've also included a picture of some corn dug from the same field, there are some emergence issues.







Black Cutworms

Every year ISU Extension Field Agronomist and a number of private individuals put out black cutworm pheromone traps. These traps are strictly indicators of when peak moth flights occur and where. Catching moths does not mean we will or won't have problems.

Here are a few things that may increase our chances of cutworm damage: Winter annuals and perennial weeds will attract the adult female moths. These females will lay eggs into fields that have the weeds and when the weeds are killed by herbicides the young cutworms will move to feeding on corn. When delayed corn planting happens, cutworms are larger in comparison to the size of the corn at that time of year. The corn seedlings are small enough that a small amount of feeding will "cut" the plants and kill the plant rather than maybe just injuring the plant if it were considerably larger. I've attached a few pictures of the adult black cutworm moth and the larva. The adult female is about $\frac{3}{4}$ " long and is very easy to identify because of the black dagger shaped markings on each wing. The larval stage is the stage that damages our corn here in Iowa. Black cutworm larvae can be distinguished from the dingy cutworm by looking at the tubercles (black spots on its' side). A black cutworm has tubercles of different sizes (dingy has same size tubercles).



The easiest thing to do is to keep fields clean. Try to manage those winter annuals so there is not an area that will “draw in” these cutworm moths. If they don’t land and lay eggs, there won’t be a cutworm problem.

Planting Progress

Corn planting seems to be getting down to the short rows. There are some isolated areas where there are some large acres that still need to be planted to corn. There still is adequate time to get those acres in and not see any yield drag.

Soybeans have a good start and I have even looked at some beans that have emerged.

Have a good and safe week.

Any questions or comments please contact me.