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### ***Cold Weather Crown Stress in Corn***

If a corn seed had its choice for optimal planting conditions, it would often look outside of northeast Kansas to find them. Planting in early April can expose us to imbibitional chilling injury when we see lower than optimal soil temperatures during the first 24-72 hours after planting. Once we get through that stage, we often hit a period of wet soils and cooler soil temperatures that can result in cold weather crown stress or cold weather corn rot.

The two-inch soil temperature at the Corning Kansas Mesonet Station just over a week ago was above 70 degrees F. Over a span of four days, we added over two and a half inches of rain and dropped two-inch soil temperature back to 52, holding steady at that level through this writing (May fifth). The conditions weren't quite as drastic at the Oskaloosa Kansas Mesonet Station with only an inch sixty for rain and temperatures dropping only seven degrees to the mid-50's. Still, it's not the upward trend of warming soil temperatures a young corn plant would prefer. While there's no guarantee we'll see issues (its variable to begin with and often dependent on how long soils stay cool/damp), it's good to be aware of potential problems.

What might it look like if we *do* happen to see issues? Plants are typically stunted and might show nutrient deficiency symptoms (potassium the most common). Root development will likely be normal, but the crown will tend to exhibit dark brown or black discoloration in the crown area when stems are split. According to Iowa State University work, *Fusarium* or a fungus that causes anthracnose can *sometimes* be isolated from affected plants, but not always. Sometimes the plants grow out of it as they develop. In the most extreme instances, when decay results in a 'disconnect' between leaves and roots, plants may wilt and even die.

Other stresses can make plants more susceptible to crown issues *and* cause problems later. Compaction, fertility deficiencies, or herbicide injury can enhance the potential for crown damage. Stress (drought/heat) conditions later on tend to result in further problems, with late season stresses on these plants potentially leading to stalk rots and lodging.

As sun returns and temperatures rise, be on the lookout for patches of uneven plant growth. Some of it can be attributed to our typical 'ugly duckling' stage as plants start to grow rapidly, but watch for areas of potential crown damage as well.

### ***Why Didn't My Garden Produce?***

A recent news release from K-State Research & Extension outlined management of storm damage in the garden. It reminded me of multiple conversations over the past winter with gardeners not happy with their production. Over the next few weeks, we'll address some of those in this space, starting this season's seemingly excessive wind events.

Sometimes, we can be *too* nice to our plants. Trying to help them recover from wind damage certainly falls in this category. Excess wind and saturated soils can both cause plants to lean. Instead of rushing out to bend them back – and potentially causing breakage in the process – let them be. In most cases, they'll start to straighten on their own in a few days.

Did you try to 'help' plants along too much last year? Often, or well meaning 'grooming' can cause unintended injury we might not even think about – especially after the growing season has already concluded.

Next week: the effects of rainfall.