

Checking the Back Forty



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Getting the point (growing)

We have definitely had a cold front here for a day or two and looks like we have another night of possible frost. The concern always becomes will corn get frosted and killed.

Most of the corn I have seen that was early planted is in the two leaf stage (V2), almost three. To achieve a leaf stage you must be able to see the leaf collar totally out of the whorl and as of yesterday we weren't quite there. Until we reach the V5 growth stage headed to V6 the growing point is underground, about 3/4 inch below the soil surface. You will recognize that spot quick because that is where all of the nodal form that become the main roots of the corn plant, those supplying the water and the nutritional needs of the plant.

Unless the cold temps can reach 28° F that deep in the soil the growing point will remain intact. As you can see in Figure 1 temperatures which went below 28° F will kill off the top part of the plant, in this case mostly leaf area. But as in Picture 2 you can see that the stalk near or the below the soil surface is still alive. This is an important point. Because as long as the plant down to the growing point is alive and no rots of any kind have set in you have a viable plant



Figure 1, frost damage May 14, 2013, picture May 16



Figure 2, red line divides dead leaves above from healthy part of the plant below

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Figure 3.
New growth on May 24, 2013

that will continue to grow. You can see the regrowth in Figure 3 which was taken on May 24, ten days later. You can expect some modest yield loss if the corn is taller when frosted as the plant does need to recover so is set back to some degree. But don't hit the panic button thinking you would need to replant.

There are a few soybeans in and up. Soybeans also incur damage at 28° F and below. However the results can be much different with soybeans as the growing point is out of the ground as shown in Figure 4. This isn't exactly a correct statement. This growing point is what is called an apical or terminal meristem as it is a group of cells at the "apex" that divide and become the new growth for the plant on the main stem. If that area is destroyed or removed growth stops. This is the point of primary growth of the plant but there are axillary or lateral buds where all of the leaf petioles attach to the main stem. So the leaves can be removed and as long as these buds are intact they will likely start new growth. This is why most times soybeans will recover from hail as when the apical growth is removed these axillary buds start new growth. That is not so say you would receive full yield, you won't but most often what you get is better than replanting.

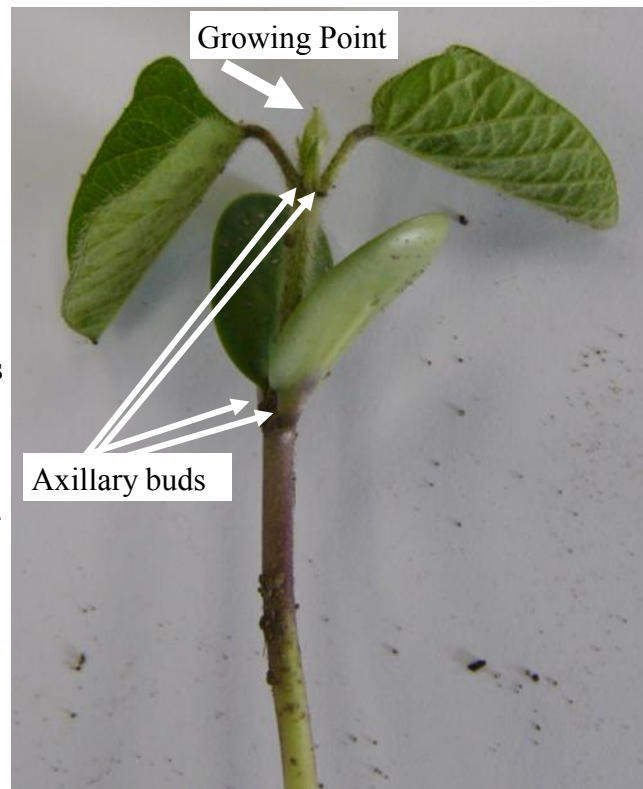


Figure 4.
Soybean growth on May 21, 2015

If those bottom axillary buds are removed then there will be no new growth. So if a frost destroys those lowest buds the plant is done and explains why the concern over soybeans and frost.

Given cool conditions may be it is time to talk about another instance where corn can typically recover better than soybeans. Slugs feed on corn and soybeans, but with corn again the growing point is below the ground so the most of the feeding is on the leaves. With soybeans the slugs

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can consume all of that top growth before the plant can add any new growth. This is usually worse in cool years when the soybeans aren't growing very fast. Whether soybeans (Figure 5) or corn (Figure 6), slugs are more often found where there is considerable crop residue around the plants and amazingly much less feeding where there is none.



Figure 5.
Slug damage to soybeans

Figure 6.
Slug damage to corn



Don't forget the culprit here is the grey field or garden slug in Figure 7 . The field slugs are small and disappear into the soil during the heat of the day and are rarely seen compared to the larger ones you might see in your garden.

Figure 7. Grey field or garden slug



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Fusarium head blight commentary, May 21, 2015

Gary Bergstrom, Extension Plant Pathologist, Cornell University

Editors Note:

With more acres of barley, in particular malting barley, and wheat being grown it is good to be aware of the possible development of Fusarium head blight (FHB) during the growing season. Not only is there possible yield loss from the disease, mycotoxins from the fungus causing the disease can be a health issue and must be kept to a minimum, exact levels depend on use of the grain. Use this information to determine if and when you should be applying a fungicide to prevent FHB. Kevin Ganoë

Many winter wheat and malting barley fields in New York State are approaching head emergence. The next 10 days will be critical for farmers making fungicide spray decisions for suppression of Fusarium head blight (FHB) and protection of flag leaves from foliar diseases. The triazole products Caramba and Prosaro are the most effective fungicides for suppression of FHB and deoxynivalenol (DON) toxin contamination when applied at wheat flowering (emergence of anthers on heads) or at full head emergence in barley (anthers begin to appear on barley before heads emerge from the boot). A flowering application of triazole fungicide should be based on Fusarium head blight (FHB) risk as well as the risks of powdery mildew, rust, and fungal leaf blotches in the upper canopy based on scouting of individual fields. There is an application window of approximately 6 days from the beginning of flowering in which reasonable FHB suppression can be expected. Fungicide products containing strobilurins should not be applied to headed wheat or barley as they may result in increased levels of DON in grain. While the current risk of FHB epidemics is low to moderate over most of the state, that risk could increase next week. Check the Fusarium Risk Assessment Tool (<http://www.wheatcab.psu.edu/>) and your local weather forecast frequently as your crop approaches flowering.

-- Gary Bergstrom, Extension Plant Pathologist, Cornell University

To Receive FHB Alerts by Cell Phone:

I will be providing weekly New York commentaries on FHB risk through June. You can subscribe to receive FHB Alerts directly to your Cell Phone (http://scabusa.org/fhb_alert.php). You can select to receive alerts as 1) Text Message Alerts, 2) Email Alerts, or 3) both Text and Email Alerts. To receive alerts for New York, select the Northern Soft Winter Wheat option which provides alerts for MI, NY, WI and VT.