

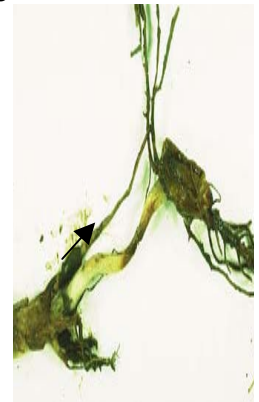
RECENT COOL WET WEATHER WILL STRESS YOUNG CORN PLANTS

After a good run of planting corn, we now find that most areas within the region have received a lot of rainfall from recent storms, while temperatures have plummeted and are roughly 20-25°F below normal. Saturated soils spell concern for both recently planted and young emerged corn. For corn not yet emerged, the major risk is with surface crusting that can easily develop following a heavy rainfall. Young seedlings often have trouble penetrating this compacted layer, resulting in “corkscrewed” growth and eventual leafing out underground. From sprouting through emergence, and up to the 6-leaf stage, when the growing point is below the soil surface, corn can only survive 2-4 days of flooded or saturated soil conditions. To check on the health status of affected plants, look for new leaf growth three to five days after water drains from the field. Also you can dissect the growing points and inspect for color and firmness. Healthy plants should be firm, and yellowish-white or cream color. Dying plants will be mushy and discolored (usually brown). Stage of development will determine the affect that recent cool temperatures have. Corn that has emerged will be less affected than corn that has sprouted but not yet emerged. Corn requires soil temperatures above 50°F for adequate growth. Young seedlings or germinating seeds will respond very slowly or not at all if soil temperatures are in the low 50’s or below. Growth will be further restricted if days remain cloudy and soils are nearly saturated with water. If corn is between the 1 - 3 leaf collar stage, plants will generally “wait” until better conditions. If temperatures stay below normal for extended periods, some plants may die from seedling blights or may become yellow or purple, until warmer conditions return. Seeds that have germinated, but have not emerged after several weeks, will probably account for most stand losses at this time. Sprouting seeds are

very vulnerable to soil borne pathogens, soil insects, chemical injury, etc. The longer it takes for emergence after germination, the greater the chance of stand loss. Generally, under good growing conditions, it should take five to seven days after germination for the coleoptile (seed leaf) to reach the soil surface. Forecasts for warmer weather should help both emerged corn as well as corn which has not yet emerged.

WATCH FOR CORN SEEDLING BLIGHTS

Cool wet soils have raised concerns regarding seedling blights, which usually result in reduced or uneven stands. Seedling blights can occur both during, and after germination. Preemergence seedling blights are identified by a grey to dark brown discoloration on the mesocotyl, and/or seedling roots which rapidly develops into a rot over the entire seedling. Post-emergence seedling blights are identified by a general lack of plant vigor, accompanied by yellowing, browning, wilting, or death. Examination of infected plants will also show gray to dark brown lesions on the seedling roots or mesocotyl tissue. Once this problem has occurred, little can be done except to evaluate the field for possible replant. Late infected seedlings, able to develop their permanent (nodal) roots prior to severe disease development, may be stunted but will usually survive.



CONTINUE SCOUTING FOR BLACK CUTWORM IN CORN

Because of the significant number of moths captured in traps earlier this spring, all areas with emerged corn should be scouted for black cutworm. Reports of leaf feeding and cutting of plants are coming in from both southern and

western parts of the Region. Fields with heavy weed cover (chickweed, mustards, etc.) earlier in the season are the most likely to be infested. While insecticide seed treatments may have been used, they often provide erratic protection, so these fields should also be monitored for damage. Also remember that while Herculex I Bt corn does provide cutworm control, that YieldGard Bt corn does not provide activity against black cutworm. Small cutworms will eat small irregular holes on seedling leaves. Larger larvae will chew into the side of stalks causing plants to wilt or fall over. The best time to look for cutworms is in the morning or early evening. In general, if the cutworms are less than 1¼ inch in size, and 3 % of the plants are cut, then an insecticide application is warranted. Due most likely to a warm early spring and high survival rates, a mix of different sized cutworms are now present in many fields, indicating that plant cutting will only increase.

Refer to page 57 of the 2006 Crop Protection Guide for more detailed



threshold information. A rescue treatment such as **Arctic** (4 to 8 fl oz/A), **Delta Gold** (1 to 1.5 fl oz/A), or **Taiga Z** (1.92 to 3.2 fl oz/A) will provide good results.

EFFECTS OF POST APPLIED UAN OR UREA ON EMERGED CORN

Due to delayed field operations resulting from recent wet weather, many growers may find a need to apply nitrogen in the form of UAN or urea over the top of emerged corn. University research has shown that UAN applied over the top of growing corn can cause leaf burning and reduction in early growth. However on young corn this damage was not permanent and did not appear to reduce yields. Crop injury and any yield reduction will be determined by the nitrogen rate, size of corn, and subsequent weather and growing conditions. If corn is beyond the 8-leaf stage of growth, UAN should

POSTEMERGENCE APPLICATION OF SOIL APPLIED CORN HERBICIDES?

The following information may be useful for those situations where corn and possibly weeds are emerging, and soil applied residual corn herbicides have not yet been applied. For combinations

be side dressed. A conservative approach would suggest that you should not exceed the following amounts:

- 90 lb. N/acre UAN alone up to 4 leaf stage
- 60 lb. N/acre UAN + atrazine up to 4 leaf stage
- 40 lb. N/acre UAN alone at 4 to 8 leaf stage

Granular urea was not as damaging to the corn plant as UAN. You can expect to see some white to brown leaf margins or spotting on leaves from granules that fall into the whorl of the corn plants. This damage can look bad, but did not significantly harm the plant and should not affect yield.

WATCH FOR ARMYWORM

Armyworm moth flights have been higher than usual this year, especially in southern areas. Larger populations of moths earlier this spring, means that we should closely monitor grass pastures, wheat, and adjacent corn fields for economic larval populations and feeding damage. For wheat, check several places in a field to determine armyworm population. Rescue treatments are generally warranted when counts average 5 or more larvae per foot of row.

WHEAT HEAD SCAB POTENTIAL

Recent rains have increased the likelihood for head scab problems in wheat. Wheat that flowers during rainy periods is most likely to be infected. Unfortunately, little can be done at this time, except monitor for the development of this disease. Bleached heads or portions of heads can usually be seen within a few days. Symptoms may affect the entire head, or any section of the head. If only a few heads across the field show bleaching, the problem may be light. If many heads show some bleaching, problems could become severe as the disease spreads to other spikelets on the head over the next few weeks. In later stages of the disease there will be a salmon or pinkish color that develops on the glumes. Scab reduces grain quality and test weight, but also adversely affects end-use through contamination with mycotoxins (vomitoxin) which are produced by the scab fungus.

containing atrazine used in conventional corn, application with an adjuvant such as **Superb HC or Prime Oil**, before weeds exceed the 2-leaf stage and/or 1½ -inches in height, will maximize burndown activity. Most products without atrazine will not effectively control emerged weeds, but can be tankmixed with various postemergence herbicides such as **Option, Sterling, Sterling Plus, etc.** In Roundup Ready corn, tank-mix with glyphosate products and apply before weeds reach 4-inches in height. Consult the individual herbicide labels for more detail.

Maximum Corn and Weed Sizes for Selected Residual Corn Herbicides	
AS Atrazine	Apply before corn exceeds 12-inches and before weeds exceed 1½-inches. Apply with Superb HC or Prime Oil for best results. Do not apply in liquid fertilizer.
Bicep II Magnum	Apply up to 5-inch corn and before weeds exceed two leaf stage. Apply with Superb HC or Prime Oil for best results. Do not apply with liquid fertilizer.
Bullet	Apply up to 5-inch corn and before weeds exceed two leaf stage. Apply with Superb HC or Prime Oil for best results when sprayed in water. Apply before corn is 5-inches tall, broadleaves are 2-inches tall, and grasses are at the 2-leaf stage. Application in liquid fertilizer is not recommended.
Callisto	Apply before corn reaches 30-inches (V8 stage) and before broadleaf weeds are 5 inches.
Cinch ATZ	Apply up to 5-inch corn and before weeds exceed two leaf stage. Apply with Superb HC or Prime Oil for best results. Do not apply with liquid fertilizer.
AS Confidence	Apply up to 11-inch corn but prior to weed emergence. Do not apply with liquid fertilizer.
AS Confidence Xtra	Apply up to 11-inch corn and prior to the 2-leaf grass stage. Apply with Superb HC or Prime Oil for best results. Do not apply with liquid fertilizer.
Degree	Apply up to 11-inch corn but prior to weed emergence.
Degree Xtra	Apply up to 11-inch corn and prior to the 2-leaf grass stage. Apply with Superb HC or Prime Oil for best results when sprayed in water. Can be applied in 28%N as a carrier, before corn is 5-inches tall, broadleaves are 2-inches tall, and grasses are at the 2-leaf stage.
Dual II Magnum	Apply up to 5- inch corn and before weeds emerge. Do not apply in liquid fertilizer.
Expert	Apply up to 12-inch RR corn only and before weeds exceed 6 inches. Do not apply in liquid fertilizer or tank mix with other products after corn emerges.
Field Master	Apply up to 11-inch RR corn only and before weeds exceed 6 inches. Do not apply in liquid fertilizer.
Guardzman Max	Apply up to 12- inch corn and before grasses exceed 1-inch. Apply with Superb HC or Prime Oil for best results. Do not apply in liquid fertilizer. 28% may be used at surfactant rates.
Harness	Apply up to 11-inch corn but prior to weed emergence. Do not apply in liquid fertilizer.
Harness Xtra	Apply up to 11-inch corn and prior to the 2-leaf grass stage. Apply with Superb HC or Prime Oil for best results. Do not apply in liquid fertilizer.
Hornet WDG	Apply up to 20-inch (V-6) corn and before broadleaf weeds exceed 6 inches. Do not apply in liquid fertilizer.
Keystone	Apply up to 11-inch corn but prior to weed emergence or see label for tank mix products to control emerged weeds. Do not apply in liquid fertilizer.
Outlook	Apply up to 12-inch corn and before weeds emerge. Do not apply in liquid fertilizer.
AS Pendant	Minimum or no-till. When mixed with other herbicides such as Atrazine or Sterling Plus , apply before corn is four-leaf stage and before weeds exceed one inch, or apply alone up to 30-inch corn (V-8) but before weeds emerge. Do not apply in liquid fertilizer.
AS Simazine	Apply before corn emerges.
AS Sterling Plus	Apply up to five-leaf corn and before grass weeds exceed two-leaf stage. Apply with Preference NIS for best results. Application in liquid fertilizer is not recommended.
Surpass	Apply up to 11-inch corn but prior to weed emergence. Do not apply in liquid fertilizer.
TopNotch	Apply up to 11-inch corn but prior to weed emergence. Do not apply in liquid fertilizer.