



Assessing Corn and Soybean Hail Damage



Localized hail damage to corn and soybeans occurred in Lewis and Jefferson Counties in separate storm events on August 3 and 4th (see photo below). It has already been a challenging enough growing season and the last thing we needed to deal with was hail. The appearance of hail damaged crops can be very disheartening to the grower. Fortunately, the anticipated crop losses immediately after the hail storm appear much worse than the overall final yield at harvest (in most cases...).

The key to storm related damage to crop fields are to be patient, determine crop growth stage and assess plant health accurately. Patience is first and foremost. You will need to give the crop some time to begin to recover. We won't really know the extent of the damage to the crop for several days. In about 7 to 10 days we should be able to observe regrowth of damaged plant tissue and the dead plant tissue will be apparent at that point.

The timing of these storms came at a very vulnerable crop develop stage for both our corn and soybean crops. Corn yield is most negatively affected by hail damage at the vegetative tassel (VT) stage through silking (R1). Soybean leaf defoliation at early growth stages has little impact on final yield or maturity. Much of the soybean crop in our area is between the R2 (Full Bloom) and R4 stage (Full pod). While, some of the early planted soybeans, have approached the R5 stage (Beginning seed). Soybean yield is most negatively affected by leaf defoliation caused by hail when they are in the R5 stage.

Two excellent corn and soybean hail damage resources from the University of Nebraska- Lincoln are: 'Evaluating Hail Damage to Corn,' EC126, <http://bit.ly/2vC9ZDP> and 'Evaluating Hail Damage to Soybean,' EC128, <http://bit.ly/28N5IBP> .

In corn, most yield reduction due to hail damage results from a loss of photosynthetically active leaf area. The degree of yield loss depends on crop growth stage and the amount of leaf area removed. (See Table III in the above referenced corn factsheet). In soybeans, 80% leaf loss at R2 stage of indeterminate soybean varieties will only reduce overall yield by 12%. (See Table 3 in the above referenced soybean factsheet).

We would also like to point out that we are not aware of any current research that supports the use of fungicide applications to improve the crops ability to recover from hail damage and limit yield losses. This question has been tested in replicated university research trials in Illinois, Wisconsin and Iowa. Yes, there are some corn diseases that are favored by "wounding" of plant tissue; however, corn fungicides are not effective against these pathogens. If you choose to apply a fungicide to



Hail Damaged small grain field. Photo courtesy of Terry McClelland, McClelland Agronomic Services, Lowville, NY.

hail damaged crops, it would be a good idea to leave a couple untreated strips in the field for comparison of treatment effectiveness.

For more information about field crop and soil management, contact your local Cornell Cooperative Extension office or NNY Cornell University Cooperative Extension Regional Field Crops and Soils Specialists, Mike Hunter and Kitty O'Neil.

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Our Mission

“The North Country Regional Ag Team aims to improve the productivity and viability of agricultural industries, people and communities in Jefferson, Lewis, St. Lawrence, Franklin, Clinton and Essex Counties by promoting productive, safe, economically and environmentally sustainable management practices and by providing assistance to industry, government, and other agencies in evaluating the impact of public policies affecting the industry.”