

2015 Crop Growing Season Challenges

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Every crop year has its challenges during the growing season whether it be pests or drought. Challenges have started early in 2015 with too much rain and flooding. Farmers will have the first chance this week to appraise their crops after an extended period of excessive rainfall.

Most of the corn in the area had a good start being planted timely under favorable conditions in early May. Germination and emergence was excellent with uniform stands.

Then the rains came and they came again. There has actually been two extended wet periods. A shorter one with some flooding the end of the May and then a longer period this past week with more extensive flooding.

Corn is more tolerant to flooding than soybeans. Damage potential depends upon field drainage, crop growth stage, and air temperature.

Little crop damage would be expected if the water drains off the field after two to four hours. However young plants with less than six fully developed leaves may die after two to four days of standing water since the growing point is below the soil surface.

Temperature is a factor since plants will respire more (burn up reserves) with warmer temperatures. Young plants may die within 24 hours in standing water if temperatures are greater than 77°F.

Older plants have more reserves and the growing point moves higher above the soil surface after the fifth fully developed leaf stage. Fields in the area were at the 4th to 8th fully developed leaf stage when the last excessive rain began ten days ago.

Surviving plants may have long term damage done to their root systems, which may make them vulnerable to drought later in the growing season. The damaged roots may be unable to reach water deeper in the soil under dry conditions.

Soybeans had a tougher start in the area compared to corn. Some fields were actually too dry at planting for rapid germination and uniform emergence (soybeans require more moisture to germinate than corn). Soybeans are also more vulnerable to soil crusting than corn since the seed is pulled above the surface at emergence.

Soybean planting had occurred the first part of May to the first of June. Some fields were actually replanted as a result of poor early emergence or from stand loss after the first round of heavy rains the end of May.

Soybeans have low tolerance for standing water. They usually die if they have been submerged for 24 hours or have been in standing water and warm temperatures for more than 48 hours.

Soybean plants are more susceptible to many soil-borne diseases during wet conditions such as Phytophthora. Seed treatment are only effective against these diseases until the second trifoliolate leaf. After this stage plants have to rely on their genetic tolerance to the disease. Disease symptoms will become visible on susceptible plants this week.

Many soybean fields may look pale for another week until the nitrogen fixating bacteria in the soybean root nodules recover from the saturated soils. Eventually they will produce enough nitrogen to meet most of the soybean needs.

Even though soybean stands may have been reduced during the past wet period, they have an amazing ability to adjust to lower populations and still have respectable yields. They can produce more branches which will provide additional sites for more flowers.

Disease is the biggest concern in wheat from the recent wet period. Fusarium head scab infections still appear to be low in the area. However the wet conditions after flowering would be ideal for the fungus to thrive in infected heads. It is still too early to tell whether there will be vomitoxin concerns in some fields.

However, foliar leaf diseases are widespread in wheat fields because of the excessive rain. Flag leaves have as much as 60% damage. This loss of photosynthetic area may result in five to fifteen percent yield loss. Grain quality and test weights will most likely be reduced in these fields because of the leaf damage.

It is still too early to tell how much damage has occurred in area crops from the recent rains and flooding. It is too late to replant corn for grain. Soybeans could be replanted but yields would be greatly reduced at this late date. Wheat may need to be harvested at a higher grain moisture to minimize losses.