

Soybean Sprouting in Pods

by Andy Luke, Agronomy Specialist, MU Extension

Rains throughout the region over the past two weeks have provided relief from the drought we endured throughout the summer. While ponds and pastures were able to benefit from the moisture, soybeans in the field were past the point of benefitting from the rain, and may suffer yield losses as a result.

One major issue farmers are seeing in their fields now is soybeans sprouting in the pods. In general, soybeans need temperatures above 50 degrees and a moisture content greater than 50% to germinate. While these requirements are met in the late summer, hormone balances in the plant will prevent the seeds from sprouting. However, once the seeds reach maturity at harvest, the hormone balance changes and allows germination to occur.

This year, rains began just as many seeds were reaching maturity, but before farmers were able to get their soybeans harvested. Several rainy and cloudy days in a row caused the once-dry pods to become soaked and allowed moisture inside to the dry seeds. As the soybeans absorbed this moisture, they expanded, forcing the pods open. Once the pod was open, much more water could enter the seed, allowing it to reach the 50% moisture content needed for germination. Warm afternoons during this time allowed many soybeans to sprout while in the pods.

Premature sprouting is quite damaging to soybean grain quality and yield. Soybeans that have forced open the pods will eventually shrink as they dry down. If the pod is open far enough, the soybeans may fall out onto the ground, which is called shattering, leading to yield loss. Soybeans that have germinated will eventually die in the pod, and will be more likely to break into pieces during harvest. Those that do make it through the combine will release compounds such as sugars and fatty acids that can lead to fungal growth and grain deterioration. The damaged soybeans are also more susceptible to invasion by fungi and insects, which will reduce the storage time and grain quality of the crop. Finally, sprouted soybeans are considered damaged by grain grading standards, which may lead to a dock at the elevator.

Unfortunately, sprouted seeds lead to permanently damaged grain. If you notice seeds sprouting in your soybean fields, a timely harvest and quick drying of soybeans to 13% moisture can reduce germination and grain deterioration.

(Written 10/19/18)