



Agronomic Spotlight

Green Stem Syndrome in Soybean

Green stem syndrome in soybean fields is when pods and seeds reach maturity and drydown while the stems remain green. Leaving stems to naturally drydown may cause an increase in pod shatter and an increase in yield loss. Harvesting green stems can be difficult and waiting for a killing frost or using an approved herbicide may aid in the drying of the stems.

WHAT TO CONSIDER

An exact cause for green stem syndrome in soybean is not known. As normal soybean plants mature and near harvest, leaves drop and stems lose their color. Green stem syndrome is the phenomenon when stems remain green although pods and seeds mature.

Environmental conditions, viruses, insects, and the

soybean product can all be factors for green stem syndrome. When a soybean plant aborts or loses pods and/or seeds, the plant redistributes sugars and nutrients. This redistribution can cause the stem to retain its green color longer even though the pods and seeds have matured.

YIELD IMPACT

Many of these fields are difficult to harvest because combines must handle dry and wet material at the same time. Seed moisture content from normal plants and plants with green stem syndrome can differ, which can further complicate harvest. At times, combines can plug up from green tissue.

Waiting to harvest until after a killing frost may be necessary, depending on the severity of the green stem problem and the condition of the seed pods. However, waiting for a frost or for the stems to drydown may increase the risk of yield loss from pods shattering in the field during harvest.

MANAGEMENT OPTIONS

If waiting on frost is not a viable option, the use of a herbicide that is labeled for a harvest aid in soybean may be used. Two important things to take into account if considering using a chemical harvest aid are the cost and variability of maturity in your fields. It is imperative to

closely monitor your fields as yield may be diminished if your fields are not as mature as required by the label. Proper timing of harvest operations, management decisions, and making adjustments to combine settings are critical to reduce harvest losses.

Sources

¹ Casteel, S. 2010. Green soybean stems and dry grain. Soybean Station. Purdue University Cooperative Extension. www.soybeanstation.org.

² Egli, D.B. and Bruening, W.P. 2006. Depodding causes green-stem syndrome in soybean. Crop Management. www.plantmanagementnetwork.org.

³ Holshouser, D. 2009. Green stem syndrome in soybeans. Virginia Cooperative Extension. 2912-1430. <http://www.ext.vt.edu>.

⁴ Sprague, C. 2009. Harvest-aid options in soybean. Michigan State University Extension. <http://www.msue.anr.msu.edu>.

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