

SOYBEAN PRODUCTION SYSTEMS

Purple Soybean Stems

Shawn P. Conley
State Soybean Extension Specialist

The purple symptomology we are seeing on both mature and green soybean stems is most likely caused by elevated anthocyanin levels. Elevated anthocyanin levels are more common in soybean cultivars with purple flowers, but can occur in cultivars with white flowers as well. Soybean plants with purple stems have been common across Indiana in 2006. The extent to which we are seeing this phenomenon does correspond with the growing season we are having. As the soybean plant reaches maturity the source-sink relationship for carbohydrates is disrupted. In 2006, we have seen delayed maturity (green stems and prolonged leaf retention) coupled with mature pods. So simply the plant is still producing carbohydrates (sugar) and has nowhere to put it. These sugars are being converted to anthocyanins and expressed in the stem. If you look at the stem, the purple color it is usually occurring on 1/2 to 3/4 of the stem. The back-side (usually north) however remains its normal tawny color. This consistent symptomology suggests that this is a physiological response and not a disease or nutrient deficiency response.

