



## **2018 Soybean Varietal Response to Saflufenacil (Sharpen Herbicide)**

Tyler Sandlin, Extension Crops Specialist; Dennis Delaney, Extension Soybean Specialist

### **What is saflufenacil?**

Saflufenacil is a group 14 PPO herbicide. Saflufenacil is the active ingredient in Sharpen herbicide and one of the active ingredients in Verdict herbicide. This chemistry provides excellent burndown control of marestail/horseweed and other broadleaf weeds in soybeans when used properly. Good coverage (minimum of 15 GPA water volume) and a methylated seed oil (MSO) are required for optimal performance. Soybeans can be planted immediately following an application of 1.0 oz/Acre of Sharpen or 5.0 oz/Acre of Verdict respectively, on non-coarse soils (*see herbicide labels for other restrictions on rate and soil type*). Silt loam or silty clay loam soils commonly found in the TN Valley Region of Alabama fall into this category and can be planted with no pre-plant interval at the above rates.

### **When is Soybean Varietal Sensitivity Seen Following an Application of Saflufenacil?**

It has been documented that soybean varieties differ with respect to level of tolerance or sensitivity to saflufenacil. A varietal response is typically seen when an application of Sharpen or Verdict is made and a sensitive variety of soybean is planted immediately following the application, and rainfall is incurred while the germinating seeds are imbibing water or cracking the soil surface. During these events, the herbicide is imbibed into the seed or comes in contact with the hypocotyl when it is emerging. Poor closure of the seed furrow, especially on conventionally tilled soils and a heavy rain event following application and planting can also contribute to injury.



Figure1: visual stunting and chlorosis on soybean following pre-plant Sharpen application followed by a rainfall the next day.

## 2018 Screening Results

Knowing that varietal sensitivity does exist, we have found that an in-field screening of commonly planted soybean varieties for this area is a valuable tool. In 2018, 38 soybean varieties were screened. Please note that these results are based on silt loam soils. These plots were sprayed one day after planting with 1.0 oz, 1.5 oz and 3.0 oz/Acre of Sharpen respectively, on May 25, 2018. The 1.5 oz/Acre rate is off label for a zero day pre-plant interval and the 3.0 oz/Acre rate is off label altogether. These rates were only used for research purposes to create a worst case scenario and are not encouraged. The 1.0 oz and 1.5 oz rate was used to rate varietal sensitivity while the 3oz rate was used to confirm varietal tolerance. Knowledge of sensitivity is important but knowing what varieties are fully tolerant is especially important and that is also why these use rates were chosen.

Rainfall was incurred for eight consecutive days after planting totaling 2.68 inches.

Plots were replicated and untreated running checks were present throughout the trial. Ratings were taken at 21 days after application. Ratings were based on degree of stunting and visual leaf injury. Please note that these are the visual results we observed at this location under these conditions. More or less injury could be observed under different conditions.

Environmental conditions can have a tremendous impact on the level of observed sensitivity.

Consider multiple factors and sources of information when choosing a soybean variety.

Table1: rating scale utilized

Safe	Tolerant
Caution	Moderately Tolerant
Warning	Sensitive
Danger	Highly Sensitive

Table 2: Soybean varietal response to saflufenacil

<b>AGS</b>	<b>46X17</b>	Warning
<b>AGS</b>	<b>48X18</b>	Warning
<b>AGS</b>	<b>51X18</b>	Warning
<b>ASGROW</b>	<b>45X8</b>	Caution
<b>ASGROW</b>	<b>46X6</b>	Warning
<b>ASGROW</b>	<b>47X9</b>	Caution
<b>ASGROW</b>	<b>48X9</b>	Caution
<b>ASGROW</b>	<b>52X9</b>	Warning
<b>ASGROW</b>	<b>53X9</b>	Warning
<b>ASGROW</b>	<b>56X8</b>	Safe
<b>ASGROW</b>	<b>58X9</b>	Safe
<b>CROPLAN</b>	<b>RX4555S</b>	Warning
<b>CROPLAN</b>	<b>RX4687S</b>	Caution
<b>CROPLAN</b>	<b>RX4825</b>	Warning
<b>CROPLAN</b>	<b>RX4928</b>	Danger
<b>CROPLAN</b>	<b>RX5110</b>	Warning
<b>CROPLAN</b>	<b>RX5137</b>	Caution
<b>CROPLAN</b>	<b>RX5427</b>	Danger
<b>CROPLAN</b>	<b>5548</b>	Safe
<b>NK</b>	<b>S45-K5X</b>	Caution
<b>NK</b>	<b>S48-R2X</b>	Caution
<b>NK</b>	<b>5182X</b>	Warning
<b>NK</b>	<b>S56-B7X</b>	Safe
<b>PIONEER</b>	<b>42A52X</b>	Safe
<b>PIONEER</b>	<b>42A96X</b>	Warning
<b>PIONEER</b>	<b>44A72BX</b>	Safe
<b>PIONEER</b>	<b>46A57BX</b>	Safe
<b>PIONEER</b>	<b>48A60X</b>	Danger
<b>PIONEER</b>	<b>49A34X</b>	Safe
<b>PIONEER</b>	<b>50A58X</b>	Safe
<b>PIONEER</b>	<b>54A75X</b>	Safe
<b>PIONEER</b>	<b>55A49X</b>	Safe
<b>PROGENY</b>	<b>4620RXS</b>	Warning
<b>PROGENY</b>	<b>5016RXS</b>	Warning
<b>PROGENY</b>	<b>5688RX</b>	Caution
<b>USG</b>	<b>7489XT</b>	Warning
<b>USG</b>	<b>7496 XTS</b>	Danger
<b>USG</b>	<b>7568XT</b>	Safe

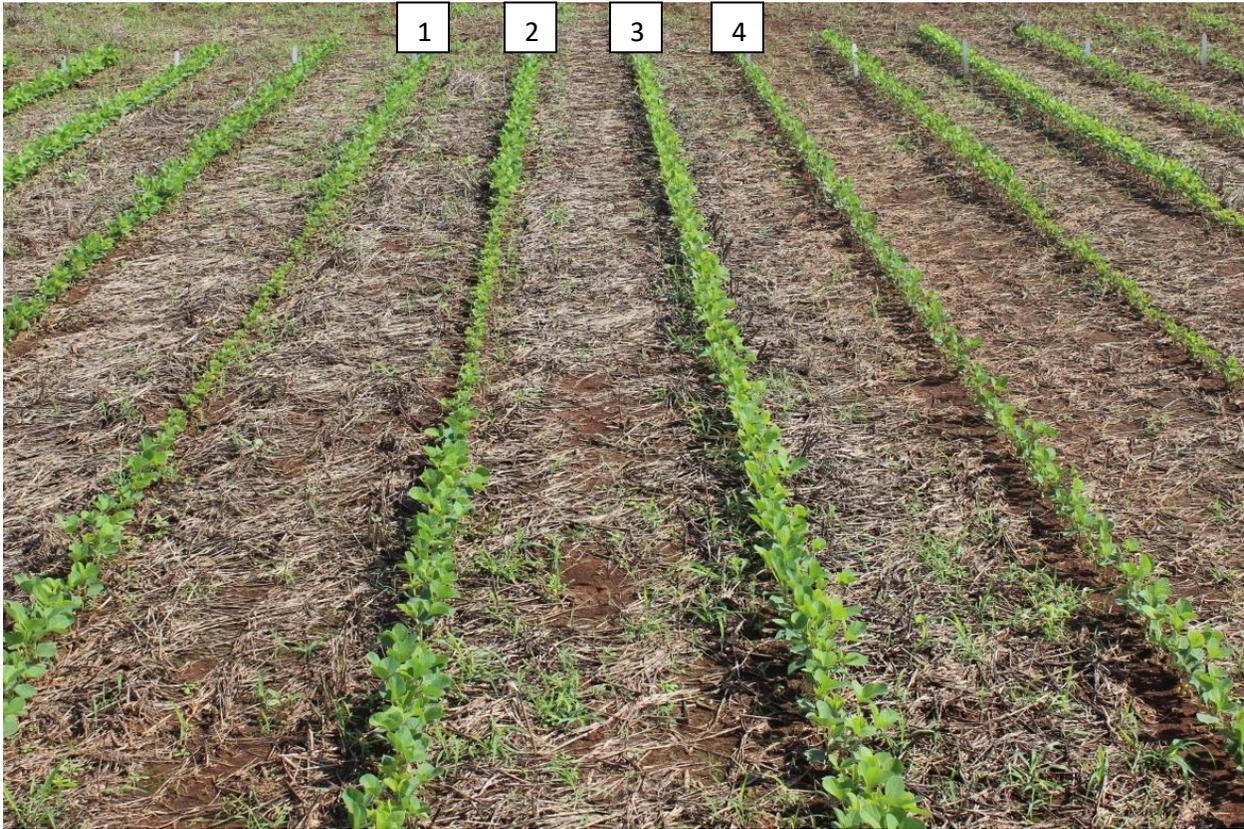


Figure 2: An example of highly sensitive (1), sensitive (2), tolerant (3), and moderately tolerant (4). Treatment is in the center of the row, foreground and background are untreated.

**For further information or questions please contact:**

Tyler Sandlin  
Extension Specialist  
ACES, Auburn University  
256-353-8702; tns0012@auburn.edu

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