

**Iowa Soybean Association On-Farm Network®**  
**2010 Authority Assist Soybean Herbicide Replicated Strip Trial Protocol**

**Objective:**

The purpose of this project is to quantify the agronomic and economic impacts of using Authority Assist herbicide followed by a glyphosate application compared to a glyphosate only program on soybean fields in Iowa.

**Brief summary:**

Growers with yield monitors equipped with GPS will treat at least six alternating pairs of strips with Authority Assist herbicide compared to strips using glyphosate only. The two herbicide programs will be compared by measuring the yield differences at the end of the growing season. An example of the Authority Assist soybean herbicide replicated strip trial is shown on the right. Harvesting must ensure at least one “pure” combine pass (not mixing yields from two strips) within each Authority Assist herbicide treated strip and glyphosate only treated strip. Loads should be used in the yield monitor to identify Authority Assist herbicide treatments, glyphosate only treatments, and mixed passes.

Rep 1	Authority Assist herbicide followed by 1 pass glyphosate
	2 pass glyphosate
Rep 2	Authority Assist herbicide followed by 1 pass glyphosate
	2 pass glyphosate
Rep 3	Authority Assist herbicide followed by 1 pass glyphosate
	2 pass glyphosate
Rep 4	Authority Assist herbicide followed by 1 pass glyphosate
	2 pass glyphosate
Rep 5	Authority Assist herbicide followed by 1 pass glyphosate
	2 pass glyphosate
Rep 6	Authority Assist herbicide followed by 1 pass glyphosate
	2 pass glyphosate

**Grower Requirements:**

1. Apply alternating strips of Authority Assist herbicide following the product label with the rows and strips with no Authority Assist herbicide with a minimum of six replications. The length of the replicated strips should be a minimum of 1,320 feet. Areas containing waterways and or point rows should be avoided. All other factors in the trial area must be managed the same (planting date, variety, etc). The strips with Authority Assist herbicide should be sprayed with a post applied glyphosate product if the grower determines a second herbicide pass is necessary. The strips without Authority Assist herbicide will be treated with a glyphosate only program. The glyphosate only strips should be sprayed at a time determined by the grower based on weed height and density and when the grower would typically apply glyphosate treatments. The grower should not apply glyphosate to both treatments at this time because of convenience. It is preferred that these alternating treatments are managed as two separate systems. All herbicide applications should be based on the weeds present, weed size, and weed density.
2. Accurately record where all herbicide treatments were applied using GPS equipment that include the time of application, application starting point, width of treatments, and number of replications.
3. Complete and submit a replicated strip trial registration form, GPS as-applied files, and field boundary by June 25, 2010. The field boundary should be in shapefile format (.shp, .dbf, & .shx) or an FSA map with the field clearly outlined. The GPS as-applied files can be in a raw format from the memory card or exported shapefile (.shp, .dbf, & .shx).
4. Trial must be harvested with a calibrated yield monitor equipped with GPS. If possible harvest the entire trial area on the same day. Raw GPS yield data from the memory card must be submitted within 30 days of harvest or no later than December 1, 2010.
5. Allow ISA to use submitted and collected data for research, educational, and informational purposes.

**ISA Agrees to:**

1. Provide Authority Assist herbicide product for the trial area in some cases.
2. Attempt to collect aerial images from each field and provide them to the grower at no cost.
3. Return a report analyzing the treatment differences.
4. Keep data in a confidential manner that can't be linked back to the individual producer by other parties.

