



**Crop Protection Update:
Syngenta: Protecting Crops Enhances Seed And Fertilizer Investment**

Source: Syngenta news release

Crop protection input costs account for less than 15 percent of a grower's variable production costs for corn and soybeans, but can provide returns of 300 percent or more, according to Syngenta Crop Protection.

"In 2008, crop protection was estimated to account for 8.8 percent of corn variable costs and 12.4 percent of soybean variable costs*," reports Pat Steiner, AgriEdge Corn Program manager with Syngenta.

In corn, extensive research demonstrates that a soil-applied herbicide is one of the best investments you can make, says Steiner. This was recently reinforced by results of 2007 and 2008 herbicide timing studies conducted by Purdue, Ohio State and Southern Illinois Universities.

"In these studies, applying Lexar corn herbicide at pre-emergence and glyphosate at post-emergence increased glyphosate-tolerant corn yields by an average of 18 to 30 bushels per acre compared to an all-post glyphosate program," reports Steiner.

In soybeans, soil-applied herbicides protect against yield loss due to early season weeds, potentially improving gross return by \$21 to \$40/A**, or profit by \$6 to \$30/A, a study by The Ohio State University finds.

According to the researchers of The Ohio State University study, pre-emergence herbicide typically results in an approximately 10 percent yield advantage over post- application when the weeds are larger than 4 to 6 inches tall. In a 50 bu/A soybean yield environment, this equates to about 3 to 5 bu/A yield advantage or \$21 to \$40 additional revenue. The additional revenue, minus the cost of pre-emergence herbicides of approximately \$10 to \$15 per acre, gives growers \$6 to \$30 more per acre in net gain, they conclude.

Early-season weed control can also save money on corn fertilizer, according to a recent University of Wisconsin (UW) study that teamed soil specialists with weed scientists to evaluate the effects of herbicide timing on nitrogen (N) efficiency.

"In 2006 and 2007 field studies, delayed post-emergence glyphosate programs required up to two times more nitrogen to produce the same corn yield as plots treated with pre-emergence herbicides or early post-emergence herbicides," reports Chris Boerboom, UW weed scientist. Giant foxtail and common lambsquarters were the predominant weed species in both years.

According to Steiner, the UW study is particularly significant because "it puts some real numbers to what many have suspected all along - that weedy fields waste nitrogen dollars."

In a comparison of nitrogen uptake conducted by Syngenta, researchers measured more than 9 pounds per acre of nitrogen accumulation in one- to two-inch weeds - a value of about \$4.50/acre at current nitrogen prices (\$0.50/lb). The weeds absorbed some of the nitrogen that would have been available for corn that by the V2 stage, corn treated with glyphosate had only accumulated half the amount of nitrogen as corn in weed-free plots treated pre-emergence with Lumax herbicide.

To encourage early-season weed control, the AgriEdge Corn Program from Syngenta offers incentives for using Lexar, Lumax, Camix, Halex GT, Bicep II Magnum or Bicep Lite II Magnum pre-emergence herbicides in conjunction with qualifying Garst, Golden Harvest or NK Seeds corn hybrids. Incentives for early-season weed control in NK Soybeans are also available through the AgriEdge Soybean Program.

In multi-year Syngenta trials across the Midwest, pre-emergence application of Lumax and Lexar herbicides generated a 15 bu/A and 18 bu/A increase in corn yields, respectively, compared to a straight, early post-emergence glyphosate application.

Yield increases could be even higher this year, notes Steiner. "Last year's wet weather and herbicide delays have encouraged a large build-up of weed seeds in the soil bank that are just waiting for warm weather and moisture to take off."