

Soybean Management by Application of Research and Technology (S.M.A.R.T.) Program

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“We’re out there doing it and showing them that it can be done.”

—Alan Blaine

Ben Downing from Leflore County took pride in his 50 bushel per acre yield every year on his 900 acre soybean farm, but when some of his neighbors began boasting of yields of 60 to 70 bushels per acre after enrolling in a new program, he decided to take a chance and try it himself. In 2001, after he enrolled in the SMART program, his yield increased—by as much as 15 bushels per acre.

Initiated in 1992, the Mississippi SMART (Soybean Management by Application of Research and Technology) Program has almost consistently increased growers’ yields to surpass the state average. For 2005, for instance, the state average yield was 17.4 bushels per acre less than the average yield per acre for SMART fields, according to the 2005 SMART Annual Progress Report. The program was modeled after a similar project in Arkansas, to coax more producers to use pest control methods other than pesticides.

Growers who commit to be in the SMART Program have to be dedicated. Not only does the program require them to use a pest control method other than pesticides on an entire field, but participants must also agree to stay in the program for two years.

“We’re talking about total changes,” said Alan Blaine, program coordinator for the SMART Program.

When a grower enrolls in the program, Blaine or one of the other program coordinators discuss the changes the grower must make. Most of them involve making variety selections based on soil types, irrigation and pest problems, planting earlier in the spring, tilling or subsoiling in the fall, and weekly or biweekly scouting. Blaine said that they have discovered that earlier planting dates, proper variety selection and correct irrigation schedules seem to have the most success.

But they don’t promote a one-size-fits-all program. In fact, often a grower must employ several different techniques in the same field, depending on the crop and other soil and environmental conditions. Blaine’s team recommends field management techniques and creates a management plan with input from the grower.

When Blaine evaluates a field, he looks at the “big picture” rather than focusing on specific problems. His choice of team members grew out of his “big

picture” thinking, a decision that he said helped the program start off running.

“One of the best things I did when I started was I retained the expertise of a retired entomologist and a plant pathologist,” Blaine said. “They helped us get going along quickly.”

Having a plant pathologist complemented their understanding of pest problems with suggestions about variety selection and irrigation. And moving planting dates earlier in the spring had a tremendous impact on yield.

“Fifteen years ago, we used to plant a maturity level 5, 6 and 7,” said Blaine. “Now we plant maturity level 4 and 5, and 80 percent of it is from group 4. We also moved up the planting dates so that 80 percent of the crop is planted by the 10th of May, whereas before, we didn’t used to plant *until* May 10.”

By the conclusion of the two-year program, most growers have fewer pest problems and more crop yield. In 2005, the average yield for a SMART Program farm was 17.4 bushels per acre more than the average yield statewide. The popularity of the program speaks to its success as well: when it began in 1992, only 5 growers participated. In 2005, the number of participants was up to 19. Since the program’s inception, a total of 320 fields have enrolled in the SMART Program.

“They go to the coffee shop and tell their neighbors about what they’re doing,” Blaine said. “We’re out there doing it and showing them that it can be done.”



Extension soybean production specialist Alan Blaine, right, checks the progress of a Cahoma County soybean variety trial.