

UK Soil Scientists Increase Wheat Yields Through Better Use Of Nitrogen

PRINCETON, KY.

It's important for wheat producers to get the most efficient use of their nitrogen inputs to keep costs down and improve crop productivity. University of Kentucky College of Agriculture soil scientists have conducted studies on the effectiveness of remote-sensing nitrogen applicators and have developed an algorithm to use in the equipment that has proven to increase yields in Kentucky.

Remote-sensing technology uses sensors to measure crop canopy conditions and apply the appropriate amount of nitrogen to a particular area as the tractor passes through the field. This technology helps ensure the areas that need nitrogen get it and cuts down on unnecessary applications in areas of the field with sufficient amounts, rather than producers making a blanket application across the field based on the field's average nitrogen needs.

Since this is new technology, only two states, Oklahoma and Virginia, had algorithms for the machine. Neither worked for Kentucky. With funding from the Kentucky Small Grain Growers Association, Lloyd Murdock, UK extension soils specialist, developed one for the state.

"I'm excited that we're making this technology work for farmers," he said. "It has increased nitrogen efficiency and yields during field trials the past two years."

In field trials, the algorithm has increased yields by an average of 3.9 bushels per acre. The total amount of nitrogen used has remained about the

same, but is now varied over a field with some locations receiving more or less than others. With these averages and taking into account current wheat prices, producers can expect to get a return of about \$20 per acre.

Murdock is working with Kentucky growers who have remote-sensing technology to help them input the algorithm into their equipment. He'll also lead a discussion about this during the 2012 UK Wheat Science Group's Winter Wheat Meeting Jan. 10 at the James R. Bruce Convention Center in Hopkinsville. △

