MANAGEMENT PROFILE

Little Is "Typical" About Approach to Crop Production

Kim Drackett
Randy Bales

Lewisville, Indiana

Fairholme Farms Inc.

- Continuous no-till
- Corn, soybeans
- Swine farrow-to-finish

Both Kim Drackett and Randy Bales describe 1,850-acre Fairholme Farms as "a typical eastern Corn Belt operation," but their management approach is, and long has been, anything but typical.

For example, the operation began 2.5-acre grid sampling in the 1950s. At the time, they variable-rate-applied fertilizer by simply driving a gear slower with the tractor and fertilizer spreader in areas that needed more nutrients.

Drackett then worked with other farmers to form a local Maximum Economic Yield group, and together the group enlisted a local retailer to invest in variable-rate application equipment. In 1992, the farm's first yield data was collected. In 1997, after working with a crop consultant and Purdue University to complete a statistical evaluation of what size soil test grid captured the variability in their soils, they switched to sampling on a 1-acre grid.

VARIABLE-RATE PROGRAM BASED ON CALCULATED SOIL TEST

Today, the operation soil-samples on a 1-acre grid every six to eight years. Fairholme Farms' zone management–based variable-rate crop nutrition program is built using a beginning soil test and a soil test value calculated between soil tests by combining the base soil test with nutrient applications and crop removal rates from yield data. While sampling on a 1-acre grid is costly, the expense is spread over more years, and the resulting nutrient management process has helped eliminate variability in soil test levels.

"So much of crop risk management is reducing variability," says Drackett. "Since we have the data and have used this approach for so many years, I believe we've dramatically reduced the variability in our soil test levels across each field, and as a result, have reduced the probability that P, K or pH will be the limiting factors to grain yield.

"For optimum productivity, our goal is to maintain phosphorus at 25 ppm and potassium at 150 to 200 ppm, depending on the cation exchange capacity (CEC). When soil test data indicates nutrient levels need to be brought up, we work on a four-year build program for P, K and lime," Drackett adds. "Our typical process is to apply these nutrients at a build rate, plus one year's removal for both corn and soybeans. Application is done every other year, prior to corn." After four years, if things appear to be going well, they switch to a maintenance program, occasionally pulling a few soil samples to confirm their beliefs.

INVESTING RESOURCES WISELY PAYS OFF

Drackett and Bales also plant on a variable-rate basis, with plant population ranging from 26,000 to 35,000 plants per acre. This allows these farmers to invest resources where they will produce the most bushels. Nitrogen (N) for corn on 150 high-management acres near the swine operation is supplied using irrigation water from the two-stage lagoon system. And while all other acres typically receive anhydrous ammonia as a sidedress application, the fortuitous addition of a real-time kinetics (RTK)-guidance auto-steering system in early 2010 allowed application of anhydrous preplant.

"We've experienced several years when it has been wet in the month of June, making it hard to get sidedressing done," says Bales, who oversees crop planning and operations. "If we hadn't been able to apply N prior to planting, we probably would have been dripping liquid N between the rows with highboys." Because the farm has the equipment and labor to apply anhydrous, Bales estimates the ability to complete timely application plus the savings on application cost may have paid for their investment in the RTK-guidance technology.

GETTING BETTER AT EVERYTHING

Since 1981, Fairholme Farms has worked with its crop consultants, Purdue University and the University of Illinois, to complete numerous on-farm trials. This has helped them achieve a five-year average yield of 165 bu/acre on corn and 59 bu/ac on soybeans. While Drackett and Bales are always game to try something new, they like to have proof it works.

With their experience in crop production and from what they've seen through previous on-farm research, the duo is convinced reaching the industry's 300-bushel yield goal will require everything coming together.

"We are going to have to get better at everything," says Drackett. "We'll need more plants per acre, better soil tilth, more balanced nutrition, and better hybrids and varieties. On the nutrient side, we will need to use fertilizer formulations as well as technologies that provide nutrition throughout the entire growing season. Finding what works is why we've been doing on-farm research so long and why we will continue to do so."