

Variable rate fertilizer application/effect on '09 crop selection

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As we continue working with our farm clients on crop selection for 2009, one thing keeps jumping out at me. Fertilizer is the largest component of cost on our major crops other than soybeans. Fertilizer costs on milo is in the \$80 per acre range while cotton, rice and wheat is around \$200 per acre and corn is a whopping \$400 per acre, more or less. I've pretty much eliminated cotton and wheat from my planting intentions next year unless we see some big price changes, so that leaves soybeans, rice, corn and milo to choose from.

When you start thinking about the cost of fertilizer you soon realize the \$80 to \$400 budget item is in reality a piggy bank that you can use whenever you want to. What brought this idea to mind was when we were going through the crop planning software with a client and he made the comment that the \$400 fertilizer costs for corn was about right

assuming you use a single fertilizer application rate as most farmers do, but then went on to say that they used variable-rate fertilization on their corn with little or no yield loss and their cost was around \$275 per acre. The \$125 per acre savings they are realizing is certainly no small change. On a 1,000 acre farm this would make a difference of \$125,000 to the bottom line. This would also change the perspective of crop selection since a \$125 per acre difference in cost would make corn more competitive with soybeans. The benefit of crop rotation has long been recognized and this makes rotation more feasible.

Over fertilization can cause as much damage as under fertilization in many cases, so for optimum cost savings it is important to know the soil nutrient makeup of your fields. A typical field will have areas where no fertilization is needed and other areas that are substantially deficient of nutrients. Soil sampling and variable rate application can help you maximize the benefit of your fertilizer.

We keep hearing about using catfish ponds for production with little or no fertilization needs, but after talking with a reputable lab that has soil sampled some of these ponds, we are convinced that

there will still be need for substantial units of phosphorus and nitrogen on this acreage. In fact, because the recommended nitrogen rate is normally much higher for heavier soils, production of corn, for instance, may not be as profitable in fish ponds as it would be on lighter soils.

Perhaps one of the most overlooked areas of fertilization is the role of lime. Since soil acidity affects plant growth and relative nitrogen efficiency, it is important to monitor the pH of your soils. While sandy soils tend to be more sensitive to pH, substantial yield losses can occur in clay soils with very low pH. In reviewing research, substantial yield loss occurs at a much lower pH in heavy soils than in sandy soils. It would appear single rate application of lime on fields that adjoin streams where the high side of the field is sandy loam and the lower end is dark soil would be a very inefficient use of resources and dollars. Again, soil sampling and variable rate application of lime can make you money in these situations.

I am convinced variable rate fertilization can save money, although the studies I have seen would indicate the savings is much less than outlined above. It is interesting to note that the studies I have seen

were done prior to the big jump in fertilizer costs, so it stands to reason that the savings would be greater than indicated in those studies.

The objections we hear most about using variable rate application are the hassle of soil sampling, mapping, and application. Most reputable labs now are geared to identifying and mapping variable rate needs and applicators have much better equipment for applying material. Nothing comes without a price, but if you can save \$20 to \$40 per acre using variable rate application that is an improvement of \$80,000 to \$160,000 on a 4,000 acres operation. The key is to hire a reputable lab and applicator who will work with you to achieve your goals.

If you would like a free copy of our crop planning software, call (662) 887-4557 or e-mail dstallings@bairdandstallings.com. **DBJ**

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