

# Grid Sampling and Lime Real-World Results

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In the world of agronomy, soil fertility is without question one of the key tenets of growing productive crops. Soil sampling and analysis is the standard by which we measure or quantify soil fertility parameters. Sampling methods vary from simple to complex, starting with composite sampling and ranging to grid sampling on the more intensive end.

Grid sampling is not a new concept — in some areas of the country, it has become standard practice. In this corner of the world, however, it has been tried in a few places, but for the most part, it has not been widely adopted. I would venture to say the primary reason is the lack of availability of application equipment. At the most, commercial spreaders may have had capability to spread one product variable rate, requiring multiple passes to apply phosphorus and potash fertilizers. AGChoice has made the commitment to precision application over the past couple of years by purchasing multiple-bin spreader trucks for dry fertilizer application of up to four products in one pass. Now we can apply DAP, potash, zinc, and sulfur in one pass to meet the nutrient prescription for each field.

I was hired as a precision specialist in early 2012 to assist in growing the grid sampling and variable rate application program. We have been fortunate to have tremendous acceptance and adoption of the program with our customers. With the high cost of inputs and the potential of the seed hybrids and varieties, it just makes sense to try to be more accurate in spending our fertility dollar.

One of the most commonly asked questions I get is “Does it pay??” For me, any soil fertility discussion needs to start with soil pH. When we grid sample, we can then apply variable rate ag lime to correct soil pH. This is the place we need to start, and it is also where we can see immediate payback.

The standard application of ag lime for many years has been around two tons per acre made as a flat or blanket application. As the acres and data come across my desk, I feel it is important to analyze what results we have seen in the past couple of years. I am still in the process of crunching numbers, but the following data comes from over 10,000 acres worth of grid sampling done right here in southeast Kansas and a bit across the line in Missouri.

## **AGChoice Variable Rate Lime Savings**

***Lime, variable rate***  
(60 ECC or 480 ENM)

### **SUMMARY OF DATA**

Total Acres Grid Sampled:	10,508.86
Average Tons Lime/Acre:	0.76
Percentage of acres where variable rate lime pays for cost of grid sampling (Lime only, no spreading, at \$13/ton delivered cost)	86.6%

You can see that almost 87% of acres sampled will save the grower enough money in lime to pay for the 4 year Intensive Soil Sampling program. The other 13% will most definitely see increased productivity and herbicide response, as they have a high need for lime application. The average lime application rate is only 0.76 tons/acre. I am consistently surprised to see fields with one corner that needs no lime, and another corner that might call for three tons/acre.

In summary, I am proud to offer to our growers a program that will provide immediate benefit. It takes a little extra doing, but the harvest is definitely worth the investment. I would anticipate continued growth of the program, which will lead to more availability of precision application equipment as well. If you have any questions about how this program can fit your operation, ask at your local AGChoice or contact me at 620-238-2813 or [jsutterby@mfa-inc.com](mailto:jsutterby@mfa-inc.com).