IPNI Plant Nutrition TODAY
Better Crops, Better Environment...through Science

From Scientific Staff of the
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CONSIDER THE SOURCE

Crop production in today's world is changing at an incredible rate. Crop and input prices have both shifted in ways that even a few years ago would have been unimaginable. For example, according to government statistics (National Ag Statistics Service of USDA) the average price of anhydrous ammonia in the spring of 2003 was $0.23/lb N. By the spring of 2008, 5 years later, it had doubled to $0.46/lb N. Similarly, the September prices received for corn from 2003 to 2008 went from $2.13 to $5.17/bu, and for winter wheat over the same period it went from $3.25 to $6.63/bu. Moreover, the costs for P and K fertilizer increased at staggering rates over a period of a few months.

Many have observed that the optimal rates of N have really not changed much over the past few years since the ratio of fertilizer to crop prices remains near the same. It still takes N to produce yield for non-leguminous crops, and yield, up to a point, is what produces profit. Likewise, P and K are no less important in crop nutrition than they ever were, even though prices are higher. A recent issue of *Better Crops with Plant Food* magazine (available online at **http://www.ipni.net/**) had several articles addressing these issues. The thing that has changed is the initial outlay and amount of risk involved.

Among the considerations for best nutrient management decisions is fertilizer source or type. There are many source considerations to take into account in sound nutrient management planning. For example, when it comes to N fertilization and placement, most of us are familiar with the idea of loss potential for N applied inappropriately. Coverage of this extensive topic is beyond the scope of this brief piece; however, there is a wealth of information available from many sources on this topic.

Another and separate consideration for source or type concerns claims about non-traditional products that one sees from time to time. Some manufacturers claim that their sources (N-P-K) can be used at greatly reduced rates without yield reductions. While there have been many technological advances in the fertilizer world that have the potential to improve fertilizer efficiency, none have yet to trump fundamental agronomic principles.

So, the point of all this is to always evaluate unusual claims for fertilizer sources under the lens of sound crop nutrition principles. Use caution in accepting hard-to-believe claims, but at the same time don't discount the many significant advances that have been made that have the potential to legitimately improve fertilizer management options. Examples of these include coated fertilizer technologies, and nitrification and urease inhibitors. Check with local certified crop advisers or extension professionals for more information, as an extensive coverage of legitimate enhanced efficiency technology is not possible in this brief format.

It is as important as ever these days that advisers and growers make sure that best management practices (BMPs) are used in nutrient management programs. The principles of BMPs account for the use of the right fertilizer source, with the right placement, at the right rate and right time. Remember, there are no magic bullets when it comes to sound nutrient management. And if a product's claims sound too good to be true, they very likely are.

—WMS—

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Abbreviations in this article: N = nitrogen; P = phosphorus; K = potassium.