AGRI FACTS™

Create Greater Profits With Long-Term Fertility Planning

Short-sighted management strategies reduce long-term profits in crop production. Most people feel insulted if they are accused of being short-sighted. That's because it makes sense to plan for the future rather than simply react spontaneously to the events and issues of the day. It's no different in nutrient management where decisions should be based on long-term plans but with attention given to the immediate needs of the current or next crop.

Fall Fertilization

What crop are we actually fertilizing for? The answer many would give is the next Spring crop. For nitrogen, that clearly is the correct answer since the crop impacted most is the crop following application. However, numerous long-term studies show that for other nutrients the residual responses are usually greater than the first-year response. Ignoring future response by focusing only on the needs of the next crop can be a costly strategy . . . one that never allows the realization of a soil's full yield potential. Research shows that soils with insufficient nutrient fertility often will not yield as well as fertile soils, no matter how much fertilizer is applied prior to planting. Long-term strategies that maintain optimum fertility are the most successful.

Soil testing is the single most important tool for long-term strategic planning for phosphorus and potassium because it reflects the residual effect of past fertilization. At the same time, it allows the establishment of an optimum soil test level that becomes the target of long-term planning. That target soil test level is influenced by numerous factors, including soil yield potential, crops to be grown, farmer cash flow situation, land tenure arrangements, and several others. Computerized decision aids that consider these factors in defining optimum soil test levels are available. One such program available from the Potash & Phosphate Institute is called PKMAN.

Another important tool for long-term planning is a complete set of up-to-date crop production records for each field. It is impossible to accurately develop a plan that takes you from where you are to where you want to be if you don't know field history. Crop yields, potential yield reducing factors, fertilizer applied, past soil test levels, placement and tillage history, soil map, and other factors become useful data in formulating a plan.

Knowing the variability in soil properties and crop performance across fields allows management to take another giant leap forward in developing long-term management plans. For example, recent research shows that the more variable soil fertility is within a field, the higher the optimum soil test levels will be for the field as a whole. New technology such as on-the-go combine yield monitors, grid soil sampling, and variable rate fertilizer application are additional tools that immensely facilitate the planning, implementation and refinement of crop management.

Benefits of long-term strategies that hold soil nutrient availability at carefully determined optimum levels:

- Increased yield and income stability.
- Greater flexibility in fertilizer placement.
- Flexibility to adjust to price and cash flow fluctuations.
- Earlier harvest and lower moisture content in grain at harvest.
- Increased potential for successful conservation tillage.
- Reduction in yield losses due to compaction.
- Greater long-term nitrogen use efficiency.

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