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

From Scientific Staff of the
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A FERTILITY ASSESSMENT CHECKLIST FOR WINTER

Times are turbulent and crop production risks are ever higher. How does your crop nutrition program fare in this environment? Here are some things to check during the winter months.

Past Performance. Look at trends in yield levels over time. The longer you can go back the better. Trends reflect growing conditions as well as management decisions. Experts have shown that genetics and fertility are dependent on one another. Proper nutrition does two important things: 1) provides its own degree of stress tolerance, and 2) makes it possible for the plant's genetics to fully express themselves, which may include additional stress tolerance.

Context. The fertility program that is adopted on a piece of ground can be compared to other fertility programs. University Extension recommendations are publicly available on university websites and have a scientific basis. They are intended to be used as guideposts, recognizing that local conditions require tailored management. Particular items to check are soil test levels, nutrient rates, and recommended sampling.

Nutrient budgets. For immobile nutrients such as P and K, compare how much of each nutrient has been applied to how much has been removed through crop harvest. Look backward. A good reference point is the date of the last application. From that date, sum nutrient removal for each crop grown since then. If removal exceeds application rate, soil test levels are expected to decline. In contrast, if removal is less than application rate, soil tests levels are expected to increase. For information on nutrient removal rates, consult university Extension publications or visit >www.ipni.net/northcentral/nutrientremoval<.

Soil fertility records. For immobile nutrients, soil test levels are a primary factor in making fertilization decisions. Be sure records are current. If your information is dated or non-existent, soil testing provides a tremendous return on the investment. Results provide the information needed to make an informed decision. Without them, money can easily be wasted.

Planning. Put a plan in place to monitor the next crop's fertility status. There are a variety of tools already available and ready for use that are typically underutilized: tissue testing, visual deficiency symptoms, chlorophyll meters, and stalk nitrate testing to name a few.

This winter, time spent evaluating current fertility practices can lead to improved approaches that help us calmly react to these turbulent times and reduce the risks we can manage.

—TSM—

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