K-Mag®

# Nutrient Management

## Importance of Nutrient Management Planning

***K-Mag benefits***

*Supplies essential nutrients often overlooked by traditional NPK programs*

*Virtually 100% water-soluble – K, Mg and S are immediately available to crops*

*No risk of fertilizer burn thanks to low chloride levels and a low salt index*

*Helps boost yields without affecting soil pH*

*Typical broadcast rates are 150-300 lbs/A, but soil analysis should direct usage. Additional K may be required.*

When developing a sound soil fertility program, the old saying certainly rings true: "You have to know where you've been to know where you're going."

Crop production records and experience, along with a current analysis of soil fertility levels, will help growers set realistic yield goals for their fields. Achieving those goals then requires forethought, planning and an understanding of basic agronomic tools and principals. For instance, growers should be familiar with the concept of balanced soil fertility, which provides crops with all the needed crop nutrients – not just one or two – at the right time and at the right rates. It is well documented that the shortage of just one nutrient can shortchange crop yield and quality.

Additionally, knowing which fertilizers to apply, and the best methods for doing so, can further increase profitability.

Obtaining this range of information is integral to developing a successful nutrient management plan that optimizes yields on every acre.

**The essential nutrients**

To produce at optimum yields, crops must have an adequate supply of all 17 essential plant nutrients. While carbon (C), oxygen (O) and hydrogen (H) are supplied by the air or water, thirteen other nutrients are delivered to plants via the soil.

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Plants require large amounts of the three primary nutrients: nitrogen (N), phosphorus (P) and potassium (K). They also require secondary nutrients - sulfur (S), calcium (Ca) and magnesium (Mg) – and micronutrients, such as zinc (Zn), in smaller amounts.

**Fertilizer sources**

Few crop inputs pay greater dividends than fertilizers. Research shows that between 30 and 50 percent of crop yields are attributed to fertilizer alone.

K-Mag provides three essential nutrients in the highly available sulfate form. Available in PREMIUM, GRANULAR and STANDARD grades, K-Mag provides 21-22% potassium ($K_2O$), 10.5-11% magnesium (Mg) and 21-22% sulfur (S).

Also known as langbeinite, potassium magnesium sulfate, or double sulfate of potash, K-Mag is sourced from ore beds deep beneath the earth's surface, where an isolated lake of ocean water once existed. Langbeinite, an evaporite mineral, is one of the most soluble salts in the ocean.

**Soil testing**

The single most important tool for long-term planning is an accurate soil test, a diagnostic tool that identifies nutrient deficiencies or excesses that may interfere with optimal crop growth. The results of a soil test provide an indication of the residual effect of past fertilization. In addition, it can be used to establish a target soil test level for long-range planning. Numerous computerized decision aids that consider all the necessary factors involved in defining an optimum soil test level are available.

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**Crop production records**

Up-to-date crop production records on each field can serve as a useful fertilizer tracking device. Compiled field history data makes it possible to accurately develop a plan that is both realistic and measurable. Crop production data, such as yields, fertilizer applications, past soil test levels and soil maps, should be recorded regularly.

**Precision management**

Precision agriculture tools can help growers take a closer look at soil fertility conditions and improve fertilizer-use efficiency. Field average management tends to over-apply nutrients in low-yielding areas of the field and under-apply in high-yielding areas. By taking advantage of on-the-go combine yield monitors, grid soil sampling and variable rate fertilizer applications, farmers can cost-effectively apply needed nutrients.

Ensure your crops have all the nutrients they need to thrive. For more information on proper soil fertility and fertilizer, visit back-to-basics.net.

Contact us today to learn about adding K-Mag to your balanced soil fertility program!

***kmag.com***

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