Silicon: The Unsung Hero – Harness Its Volume!

Unleash Peak Plant Performance: The Power of Silicon and Micronutrients

In the tireless quest to push agricultural yield and quality ever higher, farmers frequently pour their attention into the “big three” of nitrogen, phosphorus and potassium. Certainly, these macronutrients are of major importance, but a closer look shows the vital functions of silicon and the wide range of micronutrients.

In many cases, these overlooked components are not just additives but are integral to plant vitality, resistance and overall, to your farm's bottom line.

The Role of Silicon (Si)

Although it is not classified as an essential element in all plants, silicon is a boon for many, including cereals, sugarcane and horticultural crops. Its benefits are manifold.

Plants that have silicon incorporated in their cell walls have an extra layer of protection because this hard mineral strengthens cells the way it would strengthen steel. This “silicon armor” provides outstanding protection from different biotic (diseases) and abiotic stresses (drought or lodging).

Now imagine a plant that is more drought tolerant because of a usage of less water by the plant through reduction in transpiration, lodging resistant with stronger stems, and naturally more resistant to fungal diseases such as powdery mildew and rust. Additionally, silicon can alleviate heavy metal toxicity and promote (P) uptake, leading to improvement in plants vigorousness.

The Importance of Micronutrients

In addition to silicon, micronutrients are essential, but in lower amounts. They are the gears in this sophisticated plant machinery. These are zinc (Zn), magnesium (Mg), iron (Fe), boron (B), manganese (Mn), copper (Cu), molybdenum (Mo) and chlorine (Cl).

Each has a designated unique non-substitutable function, whether it’s about assisting the activity of an enzyme or the formation of chlorophyll or making photosynthesis and transference of nutrients possible. A lack of one single micronutrient may result in dwarf growth, yield reduction and crop quality deterioration, which emphasize their indispensable roles.

Specialized Formulations for Synergy

Here are some specialized mixes that perfectly demonstrate the silicon/micronutrient synergy that maximizes plant health, performance and yield.

Siltac Platinum probably includes new silicon formulations, which may have an increased uptake or crop-specific advantages. Products like this are designed to enhance the structural benefits of silicon to support the added demands of flowering while improving the plants' ability to protect itself from environmental stress.

Siltac G 100 may be a granular form of silicon, for convenient application and slow release. This provides a consistent supply of this good element throughout the growing season. Its specific form and silicon level would impact its optimum application and effect.

To supplement silicon's wide-range benefits, specialty micronutrient supplements target specific deficiencies. Zinc EDTA Chelated -12% is a perfect example of what an incredibly effective micro deliver. Zinc, essential for enzyme activation, hormone balance and carbohydrate metabolism, may also be deficient in many soils. The "EDTA Chelated" part is key here; the chelation process protects the micronutrient from potential negative reactions in soil, keeping it accessible and more easily taken up the roots of the plant. A 12% zinc profile is indicative of a strong, available supply of this essential mineral.

Likewise, Mg EDTA Chelated -6% furnishes magnesium in an effective form. Magnesium is also the most crucial of all elements to photosynthesis as it is the atom at the centre of a molecule of chlorophyll. As with zinc EDTA, its chelated profile facilitates efficient delivery and uptake in crops, enabling farmers to address deficiencies readily and realize the full genetic potential of their crops.

With the strategic use of premium silicon products and chelated micronutrients in their nutrient programs, growers can grow healthier, stronger, and higher yielding crops. This integrated perspective, realizing the in-depth interaction of silicon and those vital micronutrients, is the foundation for the sustainable and productive agriculture.