



Biotechnica

First in Bioagronomy

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BIOSilicate



Biologically available silicon for plant growth and resilience

BioSilicate is a unique liquid silicon product that delivers silicon nutrition in combination with humates so that the silicon is stable and rapidly absorbed by plants.

Improved silicon nutrition

Silicon is not considered an 'essential' plant nutrient as it is not required for primary growth. However, plants use silicon in their defensive mechanisms/structures in order to fight off a range of stresses; both abiotic (environmental) and biotic (pests and diseases). Grass plants actively build up silicon levels in specialised silica cells called 'phytoliths', which make their tissue abrasive and so dissuade herbivores from grazing the foliage. An astonishing 41% of the dry weight of the bamboo *Sasa veitchii* is silica (SiO₂). Silicon can also bind with toxic pollutants in plant cells so that they cannot harm metabolic processes.

The man-made atmospheric increase in CO₂ concentration since the Industrial Revolution is thought to have reduced silicon content in the tissue of grasses and this could be an issue for plant protection in cereal crops and bamboos in the future as the concentration of CO₂ in the air is predicted to continue to rise for some time.

Why choose BioSilicate?

While silicon is one of the most abundant chemical elements in any soil, the vast majority is locked into the particles as insoluble silica inaccessible to plants. Therefore addition of silicon-containing products to crops can have a dramatically positive effect on their growth and health.

The unique feature of **BioSilicate** is that our soluble silicon is combined with humates which both improves the delivery of silicon and add their own beneficial effects on plant growth and health (see **BioHumate** technical data sheet or webpage for more details).

Benefits seen in cereal crops and turf:

- Stronger stalks and stems reducing lodging
- Better photosynthesis from extended leaves and extra chlorophyll
- Reduced heat and drought stress
- Better resistance to penetration by fungal pathogens
- Better resistance to sucking insects such as aphids
- Improved resistance to high salts or heavy metals such as aluminium

For fruit and vegetable crops you will find many of the above effects, plus:

- Fruits stay longer on the plant and build more sugars
- Fruit and vegetables have a longer shelf life and fewer second grade specimens
- Fruits are tastier and less likely to split even after freezing.

Application protocols

Prior to use check compatibility with any other products used at the same time. We advise not to mix **BioSilicate** with trace element (Fe, Zn, Cu) fertilizers or any acidic products. Spot-check on a small area before foliar treatments. Always add **BioSilicate** to water and mix well.

Irrigation

Apply 0.5 litre / 1000 litres of water at each watering.

Foliar applications

Apply 0.35 litre / ha diluted into 600-700 litres of water. Add a suitable wetter (e.g. **PanBuster**) at manufacturers recommended levels.

Timing of applications

Foliar applications can be made from the signs of first growth until harvest/dormancy.

Golf greens

Apply monthly during the playing season at 0.3 litre / green diluted in 25 litres of water.

For specific crop protocols speak to your Biotechnica representative.

Precautions

This product is intended for professional agricultural and horticultural use only.

Wear suitable eye and skin protection when handling the concentrate. Wash off any skin contact thoroughly with soap and water.

Harmful if swallowed. . If swallowed seek medical advice immediately and show this container or label.

In case of contact with eyes, rinse immediately with plenty of clean water (at least 15 minutes) and seek medical advice.

Storage

Store in a cool dry place, away from heat and free from freezing.

Keep sealed in container.

Keep out of the reach of children.

Store away from acids in an approved chemical store.

Secure from unauthorised use including children, wildlife and pets.

Handling

Wear suitable protective clothing, gloves and eye/face protection.

When mixing or exposed to spray, wear full protective clothing including; facemask, eye shields, gloves and footwear. Consult Safety Data Sheet (SDS) for further information.

For more information on any of our products see www.biotechnica.co.uk