agrichem
fluid focus
product information
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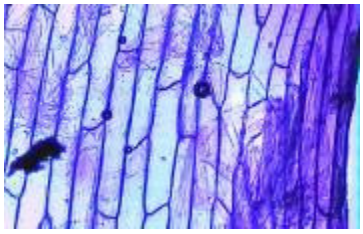
Silica – the nutrient that increases resistance

Having trouble with biotic and abiotic stresses? Would you like to increase your plants resistance against common fungal diseases? Are you looking for an environmentally friendly way to fight against pests? Did you know that silica applications increase shelf life?

www.plantpath.cornell.edu

Stand SKH is a high concentration, clear brown liquid containing 20% silica, 15% potassium and 1% humic acid. The nutrients in Stand SKH are completely soluble and plant available. Humic acid is added to increase plant uptake of the nutrients.

Whilst Silica is the second most abundant element in the biosphere (28%), it generally has poor bio-availability. Whilst Silica is not considered to be an essential element for plants it does have several beneficial effects when applied in plant available form.



Cell walls
www.faculty.clintoncc.suny.edu

Silica polymerizes into glass-like platelets in the plant cell walls below the cuticle and is also deposited in epidermal cells, especially around trichomes and guard cells. Traditionally this feature of silica was thought to have an effect in increasing plant's resistance against pests because it acts as a physical barrier.

Research shows that Silicon treatment of cucumbers induced defense reactions in the plant, including the production of fungitoxic flavonoids. These metabolites apparently have a toxic effect on the pathogen (Fawe at al.). Similar results were discovered on Arabidopsis; one of the model organisms used for studying plant biology (Ghanmi at al.).

There are several fungal diseases suppressed by silica treatments, in crops ranging from tomatoes to avocados. Increased resistance against different fungal diseases has been proven in trials in Australia and all over the world by Agrichem and other organizations.

Dr Chris Akem, senior plant pathologist of DPI&F, has compared environmentally friendly products against Powdery Mildew on **capsicums**. The trial showed that all trialled products, including Stand SKH were effective in combating Powdery Mildew, and had comparable effect to that of sulphur. Less defoliation was observed with Stand SKH than sulphur.

In New Zealand, Stand SKH was trialled against sulphur in a heavily Powdery Mildew infected **vineyard**. Stand SKH was applied at 1% every 10-14 days in a total of eight applications. Under this extremely high disease pressure where almost 60% of control bunches were infected, Stand SKH and sulphur were equally effective against the disease. The key advantage of Stand SKH applications is that there are no potential Hydrogen Sulphide residue issues in the ensuing wine.

Andrew Bauer, Crop Tech's senior agronomist in Bundaberg uses Stand SKH in several situations:

"I undertake the SAP & Quick soil recommendations for the laboratory at Crop Tech in Bundaberg. I use Stand SKH on a number of crops, as I believe silicon greatly assists disease resistance in crops, including powdery mildew in **tomatoes** *and* **cucurbits**, *like* **rockmelons**. *Another situation I use silicon for, is to reduce the effects of toxic iron and manganese levels."*

Andrew Bauer

Stand SKH is also a successful product overseas:
in Kenya, Nyaribo Farm's senior agronomist, Solomon, ran a trial on runner **beans** with Stand SKH:

"I under took a trial to control Powdery Mildew using 300ml Stand SKH / 100L water. The treated area was clean of Powdery Mildew & I will now use Stand SKH over the whole farm."

Erin, Agrichem's On Farm General Manager with Solomon

Trial data worldwide also shows that silica can increase crop yields and enhance shelf life. It also acts as a deterrent to some insect pests and enhances resistance to diseases. Stand SKH should be applied weekly as a foliar during high risk periods. At the first sign of any disease or insect, use the appropriate registered pesticide. Silica should be applied via fertigation for metal toxicities in the soil, sodium, nematodes and heat stress.

Disclaimer: Stand SKH is not a registered pesticide and does not have any label claims.