

# CropSIL®

*CropSIL® is a beneficial plant nutrient enhancer. CropSIL® is not a fertilizer or micronutrient. Produced from silicon that is virtually found in all soils, but not available to plants – until now. CropSIL® will strengthen the plant's cell walls producing stronger healthier plants with massive root systems and increased resistance to pests and disease. CropSIL can be used effectively in tank mix with other inputs. Very small amounts of CropSIL induces plant physiological process, as well as optimizing fertilizers, pesticides/fungicides and greatly improves water efficacy.*

## CropSIL®

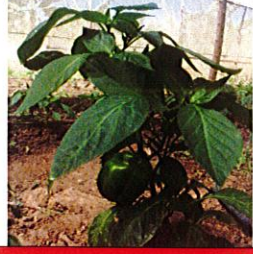
- Improves uptake of nutrients and transport through the plant.
- Strengthens cell walls, helping plants to resist attacks from fungi and mites.
- Increases chlorophyll production, leading to larger darker green leaves and improved erectness and light collection.
- Increases uptake of available CO2 and utilizes the enhanced metabolic processes to deliver higher yields.
- Better micro-nutrient and fertilizer management.
- Increase water use efficiency.
- Enhancing crop vigor, flowering, and nutrient value.
- Stiff stocks for reduce crop lodging.
- Reduce rates of fertilizers, fungicides, and pesticides, reduces cost per acre.
- Higher quality crops at harvest.

*CropSIL® is highly beneficial to plants at very low rates as a foliar spray or drip. CropSIL® can be mixed with chemical or organic fertilizers and nutrients.*

*CropSIL® has an important role in the uptake and vascular transport of micro-nutrients and can greatly improve the mechanical strength of the plant and its resistance to fungal diseases.*

*The addition of CropSIL® to nutrient solutions can greatly reduce the incidence and severity of fungal diseases including Botrytis (bud rot) and powdery mildew.*

*Recent research has demonstrated that raising the silicon levels in hydroponic solutions produced thicker, whiter, healthier root systems and increased yields. CropSIL® has also been shown to result in higher concentrations of chlorophyll per unit area of leaf tissue and better root system. This means that a plant can tolerate both lower and higher light levels by using more of the available light and better water management in drought.*



**CropSIL®**  
The missing Element in sustainable farming

Available in the following sizes:  
1gal, 2.5gal, 5gal & Totes

- Improves disease resistance.
- Strengthens plants.
- Increases weight and bulk.

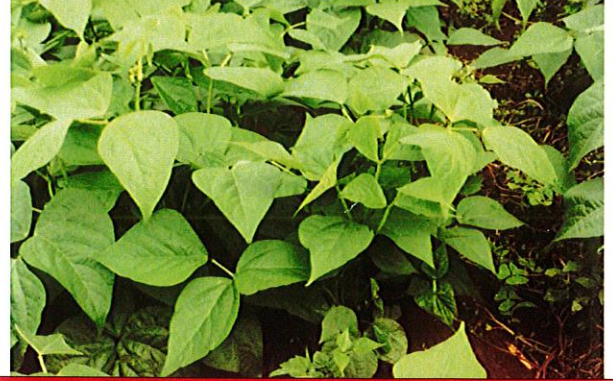


### Benefits to the grower:

- ✓ Increased yields and flower weight – because of the presence of CropSIL® in the plant cells producing healthier and resilient plants.
- ✓ Increased stem strength and rigidity – CropSIL® aids in maintaining better leaf orientation for light absorption which in turn enhances photosynthesis and growth rates.
- ✓ Increased tolerance to high salinity– silicon has been shown to reduce problems arising from nutrient toxicity and/or imbalance. Depending upon the type of pest issues, CropSIL® high level of plant available silicon has been shown to reduce the amount of pesticide and/or fungicide needed. This reduces the damaging impact of harmful chemicals used in farming.
- ✓ Increase cell strength helps resist penetration of fungal diseases –particularly mildews. When applied via foliar spray, CropSIL® accumulates around the points of fungal attack to physically resist fungal ingress.
- ✓ Increased leaf strength improves wilting resistance.



*CropSIL® helps to regulate the metabolism of carbon dioxide and enables the plant to make much more efficient use of available levels of micro-nutrients and CO2.*





# Instructions for use:

## CropSIL Seed and Cuttings Treatment

Place the seeds or (bare) cuttings into a bucket or container, containing a 2% CropSIL® solution and stir gently. Allow seeds or cuttings to soak for approximately 12-24 hours in solution or do a drench at time of planting.

**Solution:** Use a concentration of 1.5 teaspoon (0.25 fl. oz.) per gallon of lukewarm water.

**Soaking time:** Min. 6 hours, Max 24 hours. The optimum temperature should be maintained at 60°F to 80°F. Once seeds have been soaked in CropSIL® solution and fully absorbed as much water as it needs. The seeds will swell to a larger size, feel soft in texture, and appear a few shades lighter or darker in color, it means that the water has fully penetrated the seed through the skin/husk to cause germination in the embryo.

**Sowing:** Remove seeds from CropSIL® solution and sowing directly into growing medium. The soaking solution can be used as a drench for planted seeds.

## CropSIL® seedlings/sapling transplanting treatment

When seedlings or saplings are ready for transplanting, we must try to avoid **transplant shock**, by disturbing the roots system as little as possible.

- Disrupt or damage the roots as little as possible and take along as much of the roots as feasible
- water thoroughly after transplanting
- always make sure the root-ball stays moist when transplanting.

**Solution:** Use a concentration of 1.5 teaspoon CropSIL® per gallon of water

**Dip roots:** Gently dip roots into solution or give a root drench once re-planted.

## 4 spray schemes for CropSIL® over growing cycle

1. First spray: 3 real leaves have appeared
2. Second spray: 2-3 weeks after spray 1
3. Third spray: 2-3 weeks after spray 2
4. Fourth spray: *optional*; ± 2-3 weeks after spray 3

## Sprays Solution: 64 oz/acre/growing season

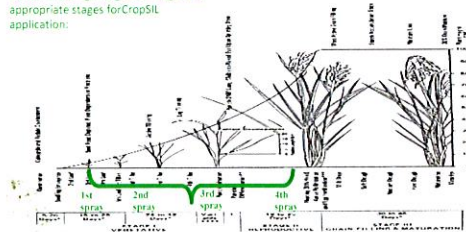
**First spray:**  
1.5 tsp. (0.25 oz.) per gallon.

**Second spray:**  
1.5 tsp. (0.25 oz.) per gallon.

**Third spray:**  
1.5 tsp. (0.25 oz.) per gallon.

**Fourth spray (optional)**  
1.5 tsp. (0.25 oz.) per gallon.

A chart showing rice growth stages and appropriate stages for CropSIL application:



4 CropSIL spray applications – Starting from tri-leaf stage

## CropSIL FAQ:

### *Is CropSIL® a fertilizer, pesticide, or fungicide?*

CropSIL® is **not** a fertilizer, pesticide, or fungicide. CropSIL® is recognized as an organic supplement or plant enhancer, that facilitates the plants to manage and optimize the usage of water, inputs like micro-nutrients and plant physiology processes.

### *If silicon makes up 45% of the earth's crust, why is it so important, how come we have managed without it for so long?*

Silicon was not considered an essential element in farming, like calcium and NPK for instance. Because silicon can be found in all soils and plants will grow without it. However, silicon is now being recognized as having a great deal of benefit to organic and (sustainable) farming and horticulture. The silicon available in soils is not always sufficiently accessible for plants and it reacts directly once it is in the plant. Silicon is now categorized as a beneficial element, which means it brings significant assistances to any type of plant in any stage of growth. Until as recently as the late nineties the benefits of silicon was not really recognized but new research has underlined the value of silicon to plants and has changed our ideas about how much plants need Plant Available Silicon.

### *So, what are the benefits of using CropSIL®?*

Most importantly, CropSIL® is incorporated directly into the cell walls, interacting with cellulose and lignin, to greatly add strength to the architecture of the plant. This process begins as soon as CropSIL® is used and continues throughout the life of the plant. Stems become thicker and leaves become more erect and take on a darker green color, improving their light collecting potential and thus boosting photosynthesis. Every process in the plant is enhanced by CropSIL® – which means stronger more vigorous growth, better resistance to pests and disease and improved yields, brix's, and biomass. Prevents lodging of grains.

### *How can CropSIL® enhance resistance to pests and disease?*

Recent research into the benefits of silicon on plants have shown that plants in hydroponic systems seemed more prone to various diseases, and even to attack by sap sucking pests, like mites and aphids, than plants in soil. The answer seems to include the fact that silicon is, usually, missing from hydroponic nutrients but present in almost all soils. The current theory is that it is the sheer mechanical strength of the cell wall that resists intrusion from pests and pathogenic organisms. It has become very common for commercial growers to use silicon against mildew moulds and mites. CropSIL also activates the plant's own defense mechanisms. The use of CropSIL® allows for the reduction in the use of chemical pesticides and fungicides.

### *How can CropSIL® enhance water and fertilizer usage by plants?*

Drought is one of the major causes of abiotic stress and induces a range of negative effects – reduced yields, lower chlorophyll in the leaves and reduced CO<sub>2</sub> assimilation. CropSIL increases a plants drought resistance by reducing unnecessary moisture loss and optimizing uptake. CropSIL® treated plants xylem cells are reinforced by silicon and the plants roots system is increased by up to 30%. The stronger cell walls and increased root system optimizes the use of both water and fertilizers used in farming. Commercial growers are also able to reduce the amount of chemical fertilizers by up to 20%.

### *Can CropSIL be mixed with other chemical or organic inputs?*

CropSIL® can be mixed with other chemical and organic inputs. However, because CropSIL is an alkaline solution with a high pH we recommend that the any mixture should be used immediately and not left to sit for any extended period. It can be added to diluted nutrient solutions without reacting, but it will, of course, raise the ph. There is an advantage to the grower in keeping it separate because it allows better control of the amount added – which can be varied, according to crop and season.



## Other Organic Products:

**CropSIL®**—Plant Available Silicon acts as a bio-stimulant, induces in a plant, physiological processes (mono and dicots), aiding and optimizing fertilizers, pesticides and fungicides usage.

**GoMite®**—Natural plant stress relief based on phytohormone and enzymes (odorific and bitter compound) from plant essential oils. A broad spectrum natural preventative addresses various plant stress factors

**ProVia AP®** —A unique biostimulant that promotes plants growth and enhances crop productive.

**TenSIL®** —A natural sustainable soil amendment, turf health enhancer from organic origin. For nutrient optimization, which results in reduce fertilizer usage.

**Edagum®**— liquid organic fertilizer is a rich spectrum of plant nutrients including naturally occurring humic acids an organic fertilizer, bases on humic substances and other plant beneficial compounds.