

# AgSil® 32

# Soluble Silicate for Agriculture



## Properties: Specification

K<sub>2</sub>O%.wt 21.0 – 21.4

SiO<sub>2</sub>%.wt 31.7 – 32.3

200Litre **ASK FOR \$130 Off Coupon on your purchase**

**NEW SPECIAL PRICE! \$940 + GST**

Limited time **Bundaberg Area Recovery Special,**  
1000Litre special price - \$4,395 + GST delivered

**AgSil® Potassium Silicate offers growers these performance benefits in many agricultural applications:**



- Provides resistance to mineral and salt stress from toxic uptake of elements.
- Decreases climate stress from excess rainfall, drought, cold or heat.
- Improves strength, health, and vigour while reducing losses through fruit drop
- Stimulates photosynthesis and carbohydrate production
- Increases growth and yield through root expansion.
- Reduces effects of Phytophthora in avocados and increases boron uptake.

AgSil® potassium silicate helps plants to resist toxicity from manganese, aluminium, copper and iron, and increases tolerance to salt<sup>1</sup>. AgSil® potassium silicate also aids in resistance to drought by reducing water loss, and in some cases it may increase growth and yield<sup>1-7</sup>.

Application of AgSil® potassium silicate improves leaf erectness, reduces susceptibility to lodging in grasses, and improves photosynthesis efficiency<sup>1</sup>. For turf this can result in faster, healthier greens and athletic fields. Row crops, vine crops, ornamentals, and hydroponically grown plants can all benefit from potassium silicate supplementation.

A multi-year trial in avocados conducted in South Africa concluded: “The application of potassium silicate to trees as a **soil drench led to higher yields compared to the control treatment**. It is possible that increased tree health due to a lower root rot disease severity led to a lower flower/fruit drop, resulting in higher yields compared to the control treatment. Results from both total yield per tree and the number of fruit per tree indicate that Si x 3 is effective in, if not increasing yield and fruit number, sustaining tree health to a productive level.”<sup>6</sup> and “**CONCLUSION** - The application of potassium silicate to *P. cinnamomi* infected trees resulted in higher feeder root densities than the control method currently implemented to inhibit the effect of *Phytophthora* infection on avocado trees.”<sup>6</sup> This resulted in an increase in fertiliser uptake up to 40%, reduction in toxic minerals and overall health and root production increase over the control group. Three soil applied Potassium Silicate treatments was found to be more effective than treating by injection with phosphorous acid (most common treatment) as indicated: “Silicate treatment of *Pc* inoculated trees rendered a **better suppression of *Phytophthora* root rot than potassium phosphonate treatment**, and silicate treated trees yielded the highest root mass.”<sup>7</sup> “In the current study silicon application inhibited *Phytophthora* root rot to levels similar to, or better than those obtained by potassium phosphonate applications.”<sup>7</sup>

## REFERENCES to independent scientific literature and studies

1. Marschner, H., Mineral Nutrition of Higher Plants, Academic Press, 1995, pp. 417-426, 440-442.
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3. Miyake, Y. and E. Takahashi, “Effect of Silicon on the Growth of Cucumber Plant in Soil Culture,” Soil Sci. Plant Nutr., 29 (4), 1983, pp. 463-471.
4. Miyake, Y. and E. Takahashi, “Effect of Silicon on the Growth and Fruit Production of Strawberry Plants in a Solution Culture,” Soil Sci. Plant Nutr., 32 (2), 1986, pp. 321-326.
5. Miyake, Y. and E. Takahashi, “Silicon Deficiency of Tomato Plant,” Soil Sci. Plant Nutr., 24, 1978, pp. 175-189.
6. Bekker, T.F., Labuschangne, N., Aveling, T., and Kaiser, C. “Efficacy of water soluble potassium silicate against *Phytophthora* root rot of avocado under field conditions” pp. 46-47, South African Avocado Growers’ Association Yearbook 30, 2007.
7. Bekker, T., Labuschangne, N., Aveling, T., and Kaiser, C. “INHIBITION OF *Phytophthora* ROOT ROT OF AVOCADO WITH POTASSIUM SILICATE APPLICATION” 2007, ISBN No 978-956-17-0413-8.

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**APPLICATION RATES – For healthy trees:**

To enhance cell strength, health and vigour - 5 litres per hectare through Fertigation in May and August, alternate months September or December. 3 litres per h.a. foliar application with spreader-sticker and buffered to 6-7 pH at late bud cauliflower - prior to flowering inflorescence. Repeated when fruit at olive size.

**PROPOSED APPLICATION RATES – For weakened or PC effected trees as indicated by studies<sup>6-7</sup>:**

300ml of AgSil® 32 diluted in 20L of water to treat one mature tree once a month for 3 months (assuming 3 applications - 200 Ltr treats approx. 220 trees). Application timing, we suggest (in any order – 3 applications):

- 1) During autumn before trees become dormant, via soil drench.
- 2) During spring before flowering sets in heavy, via drench or foliar spray.
- 3) After fruit set, around pea size fruit, via drench or foliar spray.
- 4) Alternate timing available at seasonal root flush if autumn is not available, via drench.

Suggested Application timing Bundaberg Region: (1) May (2) Early August (3) Late September (Alt) December

Application notes: Studies indicate water soluble potassium silicate efficacy is dependent on remaining damp to improve mobility and prevent polymerization resulting in insoluble silicon compounds. Adequate irrigation or rainfall ensures optimal quantities of silicon are available for uptake. Study results show three successive treatments needed for optimal results with lasting effect following root mass regeneration. AgSil® application should be timed to coincide with root growth. Do not mix with Sulphur inclusive fertilisers or ammonia and urea products and always check compatibility before use.

Liquid silicates should only be used in tanks constructed of mild steel, stainless steel, fiberglass or plastic materials. Not suitable for prolonged use in aluminium or brass tanks, or fittings. **Not a Dangerous Good.** Keep separate from acids and ammonium salts. See MSDS for further information.

*This product is offered by Prime Orchards, your agribusiness consultant in conjunction with SuperPak and Avocado Ridge. We are a family business located in Childers, QLD and have been growing primarily avocados since 1984, along with other crops such as citrus, sugar cane, custard apples, and more.*

*We use this product on our orchards, and offer this special pricing based on our bulk purchasing power. We suggest using AgSil® 32 in situations where your property has received excessive rainfall, mineral accumulations reaching toxic levels, phytophthora have affected your trees or crop potential, or any stress where your plant health has deteriorated. Foliar and fertigation uses are also recommended for healthy trees in relation to flowering and fruit sizing.*

*We can assist you in determining your agribusiness and orchard needs to successfully integrate the agronomy, harvesting, management and needs of your farm with the profitability equation that suits your expectations. We are experienced in:*

- Project Development
- Packing and Marketing
- Harvest Management
- Optimal Fertilisation
- Canopy Management and Restoration
- Disease Management
- Irrigation Design and Needs
- Equipment Needs and Utilisation
- Tree Yields and Projections
- Budget Estimates and Cost Management
- Agribusiness Management and Direction
- Agronomy Advice and Referral



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