



Fortified Resilience

STRENGTHENING CELL WALLS & ENDURANCE

**Ancient
Strength.
Modern
Defense.**

- Fos-Sil™ is a **bioavailable monosilicic acid-derived** silicon proven to strengthen cell walls, increase plant rigidity, and enhance resistance to physical damage from wind, rain, and pest feeding.
- Fos-Sil directly stimulates the plant's natural immune response by harnessing salicylic acid - key to its unique formulation - to activate Systemic Acquired Resistance (SAR), triggering a **lasting defense response** that helps plants better withstand future stress.
- Fos-Sil increases disease resistance, improves water use efficiency under drought or salinity stress, and enhances photosynthetic performance, resulting in healthier, more productive plants.
- Fos-Sil enhances nutrient uptake and transport within the plant by improving root function and facilitating better movement of essential nutrients throughout the plant.

30% REDUCED FROST DAMAGE

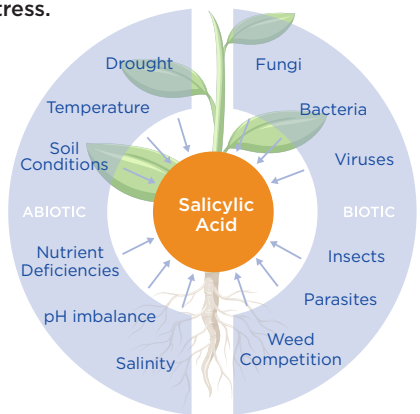
Source: Zhang, H., et al. (2012). Salicylic acid improves cold tolerance in sweet cherry by enhancing antioxidant systems. *Scientia Horticulturae*, 134, 72-80.

20% IMPROVED FRUIT FIRMNESS & SHELF LIFE

Source: Yuan, Z., et al. (2017). Salicylic acid enhances postharvest quality and shelf life of sweet cherries. *Postharvest Biology and Technology*, 124, 74-82.

Systemic Acquired Resistance (SAR) Activation

Fos-Sil activates SAR through salicylic acid, priming the plant's immune system for faster, stronger responses to future stress.



Salicylic Acid activates SAR to prime the plant's immune system for **long-term defense**, strengthening its ability to recover and respond to subsequent environmental or pathogenic pressure.

Better Silicon - Better Resilience

Monosilicic acid is the only form of silicon that is bioavailable and readily absorbed by plants.

	 Monosilicic Acid (Fos-Sil)	 Potassium Silicate	 Calcium Silicate
Activates Plant Defense Pathway (SAR)	●		
Enhances Stress Tolerance (Biotic & Abiotic)	●		◐
Improves Nutrient Uptake & Transport	●	◐	
Strengthens Cell Walls	●	◐	◐
Readily Absorbed	Directly	Delayed	Distant

40-50% INCREASED DISEASE TOLERANCE

Source: Ding, L., et al. (2013). Effect of salicylic acid on the control of apple scab and other diseases in apple orchards. Plant Disease, 97(3), 343-348.

Source: Zhao, J., et al. (2014). Effects of salicylic acid on the control of fruit rot in cherries. Journal of Plant Pathology, 96(3), 529-537.

FREQUENTLY ASKED QUESTIONS

How does Fos-Sil™ improve plant resilience?

Fos-Sil stimulates the plant's natural immune response by activating the Systemic Acquired Resistance (SAR) pathway, which upregulates key defense genes and stress-responsive mechanisms. This enhanced immunity helps crops withstand both biotic stresses (like diseases and pests) and abiotic stresses (such as drought and extreme temperatures), resulting in more resilient, productive plants—even under challenging conditions.

Why is monosilicic acid a superior form of silicon?

Monosilicic acid is the only form of silicon that is bioavailable and readily absorbed by plants. Once absorbed by the plant, it is deposited as silica in the cell walls, strengthening their structure and forming a physical barrier. This enhanced cell wall integrity makes plants more resistant to physical damage caused by wind, heavy rainfall, and pest feeding. Stronger plants are less prone to lodging and other forms of mechanical stress, resulting in healthier, more stable crops.

How does Fos-Sil enhance crop yield and quality?

The inclusion of salicylic acid in the Fos-Sil formulation uniquely enhances its ability to activate the plant's natural defense mechanisms, specifically the Systemic Acquired Resistance (SAR) pathway. While calcium and potassium silicates primarily focus on strengthening cell walls, Fos-Sil not only boosts cell wall integrity but also improves nutrient uptake, stress tolerance, and overall plant health - offering a more comprehensive range of benefits.

What role does salicylic acid play in the Fos-Sil formulation?

Salicylic acid is well-supported by extensive research for its ability to strengthen plant resilience under stress. It helps crops better tolerate drought, salinity, and temperature extremes by enhancing the plant's physiological stress-response mechanisms. Fos-Sil also improves water use efficiency, allowing plants to maintain function and growth even under low-moisture conditions. Fos-Sil is a valuable tool for maintaining crop health and yield during periods of environmental stress.