

Silicon is an essential mineral element for some plants and is beneficial for all higher plants. It can function as an essential trace element in metabolic roles and also accumulate in large quantities in certain tissues, cells and cellular components to enhance physical attributes of plants.

Silicon may provide mechanical protection in the epidermal root cells acting as a barrier against pathogen and parasitic invasion. Silicon associates with calcium and pectin in the intercellular wall spaces in the roots providing rigidity and protecting against lodging, this is so important in small grains. This also provides rigidity of leaves improving photosynthetic activity. It reinforces the walls of the vessel cells in the xylem, preventing compression under conditions of high transpiration thus improving sap circulation.

In trace amounts, silicon forms silicon – enzyme complexes which function in metabolic roles in photosynthesis and respiratory processes. It has important roles in the formation of new leaves, pollination, fruit formation and fruit storage. Significant increases in yield, have been attributed to the addition of silicon to the feed schedule.

**Bulettproof** Si 5% has additional natural components including amino acids and Ascophyllum nodosum, facilitating an enhanced uptake, translocation, and effectiveness. It also provides an elicitor and promotes positive growth regulation.

Summary of Beneficial effects of Bulletproof Si 5%

**Physical Action** 

- 1. Reduced water loss due to cuticular processes.
- 2. Resistance to fungal attack.
- 3. Increased resistance to lodging and pests.
- 4. Structural rigidity.

Metabolic & Physiological Roles 1.Elicitor action against stresses. 2.Enzyme – Si complexes that enhances photosynthetic and respiratory processes. 2.Los formation

- 3.Leaf formation.
- 4. Pollination and fruit set.
- 5. Increased fruit quality and storage.
- 6.Reduces leaching of phosphorus in sandy soil.
- 7. Plant tolerance to high levels of Mn and Fe.





