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## Mahadhan Silicon

i) What nutrients do they contain?

- Natural Amorphous Silica – SiO<sub>2</sub> -75%

ii) What are they & how do they help in crop nutrition?

- Plants typically absorb bio-available silicon as a silicate – generally known as monosilicic or orthosilicic acid.
- In the soil, Silica is generally abundant as mineral quartz and clays, but its abundance in soluble form (mono silicic acid) is highly variable.
- Plants take up silicon into their root and shoot tissue but it is not returned through shoot tissue, but it is returned through biodegradation.
- Silicon is deposited as silica in the plant cell walls, improving cell wall structural rigidity and strength, plant architecture and leaf erectness.
- In plants Si can stimulate nutrient uptake and plant photosynthesis, decrease susceptibility to disease and insect damage, alleviate water and various mineral stresses and decrease the toxic effects of aluminium.

iii) How do they benefit farmers?

- Silicon fertilisers also enhance the plants' ability to resist or tolerate biotic stress such as attack of insect pests and fungal attacks.
- Silicon fertilisers can help alleviate abiotic stresses due to acidity, salinity and toxicities.
- Silicon fertilisers can help reduce water loss and transpiration.
- Hence farmers fetch a healthy crop with more yield with more returns per unit area.

iv) What are the crops in which farmers could use them?

- Paddy, Sugarcane, fruits and Vegetable.