

## BORON IN AGRICULTURE



Boron is an essential micronutrient for growth and development of healthy plants.

Function of boron in plants:

- Essential for maintaining a balance between sugar and starch and functions in the translocation of sugar and carbohydrates.
- Important in pollination and seed production.
- Necessary for normal cell division, nitrogen metabolism and protein formation.

Boron is an essential element for plants' development, growth, crop yielding and seed development by helping the transfer of water and nutrition in plants. Though plants' boron requirement is very low in amount, their growth and crop yielding are severely affected when there is boron deficiency in the soil.

Borax decahydrate and borax pentahydrate are most widely used borates as boron fertilizer. Sodium borates can be used directly into the soil or by spraying onto plants successfully because of their good solubility. Colemanite which is a naturally occurring calcium borate is used especially in sandy soils because of its low solubility and it remains in soil longer than sodium borates.



Disodium octaborate tetrahydrate (Etidot-67) which is specially made for agricultural applications is the most preferable boron product in agriculture since it has much better solubility compared to the conventional boron products like borax decahydrate and borax pentahydrate.

Borates, in one method of application in fertilizing, are given to the soil directly in the solid form and dissolved in humid conditions then



taken by plants' roots. They are also applied by spraying over the leaves since some plants intake better through their leaves or in some cases spraying is a better way of fertilizing. The amount of boron to be given into soil as fertilizer varies according to plant type, method of application, the amount of rain, and soil's lime and organic material contents.