

K Sol B[®]
Frateuria aurantia
BioFertilizer

APPROVED FOR USE IN ORGANIC AGRICULTURE

Introducing K Sol B[®]

K Sol B[®] is a biological fertilizer based on a selected strain of naturally-occurring beneficial proteo bacteria *Frateuria aurantia* (RCOF Strain). *Frateuria aurantia* is used as an effective soil inoculant.

K Sol B[®] contains vegetative cells of *Frateuria aurantia*. It is formulated as Wettable Powder with CFU count of 5×10^7 / g. K Sol B[®] is approved for use in Organic Agriculture.

A Historical Brief

Frateuria aurantia is named after the Belgian microbiologist Joseph Frateur. *Frateuria aurantia* was isolated from the plant *Lilium auratum* and from the fruit of the raspberry *Rubus parvifolius*. The earliest description of this bacteria has been done by Kondô and Ameyama in 1958.

Mode of Action

Carbon utilization: The bacteria contained in K Sol B[®] on application to the soil get activated and multiply by utilizing the carbon source of soil or exudates of the root and in this process secrete organic acids and enzymes.

Metabolite production: *Frateuria aurantia* produces organic acids and enzymes that help solubilize the fixed potassium into exchangeable form and make it assimilable by plants.

Method of Application

Seed Treatment: Mix 10 g. of K Sol B[®] with 10 g. of crude sugar in sufficient water to make a slurry and coat 1 kg of seeds. Dry the seeds in shade and sow / broadcast / dibble in the field.

Seedling treatment: Mix 100 g. of K Sol B[®] with sufficient quantity of water and organic manure to form a slurry. The seedlings are dipped in this slurry for 30 minutes prior to planting so that the bacteria get attached to the roots.

Soil application: Mix 3-5 Kg/ acre of K Sol B[®] with compost and apply to an acre of soil.

Drip Irrigation : Mix 3 Kg/ acre of K Sol B[®] in drip stream.

Target Nutrition

Potassium mobilization.

Crops

K Sol B[®] is suitable for application on Cereals , Millets , Pulses, Oilseeds, Fibre Crops , Sugar Crops , Forage Crops , Plantation crops ,Vegetables, Fruits, Spices , Flowers , Medicinal crops , Aromatic Crops , Orchards and Ornamentals.

Compatibility

K Sol B[®] is compatible with BioPesticides and other BioFertilizers.

Shelf Life

K Sol B[®] is stable for a period of 1 year from the date of manufacturing.

Mass Composition

CONSTITUENT	W/W %	FUNCTION
<i>Frateuria aurantia</i>	2.0%	Active
Carrier Powder – Talc/Dextrose/Lignite	q.s.	Inactive

BIOLOGICAL COMPOSITION

CONSTITUENT	CFU/g.	FORMULATION
<i>Frateuria aurantia</i>	5*10 ⁷	Powder

OTHER FORMULATIONS AVAILABLE

<i>Frateuria aurantia</i> CFU/ml	1*10 ⁸	Liquid
<i>Frateuria aurantia</i> CFU/g/ml	*10 ⁹	Powder/ Liquid
<i>Frateuria aurantia</i> CFU/g	1*10 ¹⁰	Powder
<i>Frateuria aurantia</i>		Lyophilized

Free from Salmonella, Shigella , E.Coli

Cautions for handling and use of product

- Mixing equipment is to be thoroughly rinsed with water and detergent before using the same equipment for formulating other fertilizers/ pesticides.

2. Surplus product may be disposed in crop lands
3. Do not eat / drink / smoke during application.
5. Direct incidence of K Sol B[®] may cause irritation and therefore it is recommended that the operator should use protective gear viz gloves, apron, mask, eye gear and hood.

Antidotes

In the case of ingestion: Symptomatic treatment

In the case of contact with Eyes: Flush with water liberally for 20 minutes.

Citations

There are many citations in public domain on effectiveness of *Frateuria aurantia* as a BioFertilizer

Commitment to Nature

- K Sol B[®] is approved for use in organic agriculture.
- K Sol B[®] is safe to use along with bio fertilizer inoculums like Agri Life Nitrofix[™] (Nitrogen Fixing bacteria) ; P Sol B[®] (Phospho bacteria) ; K Sol B[®] (Potash mobilizing bacteria); Zn Sol B[®] (Zinc mobilizing bacteria) :S Sol B[®] (Sulphur solubilizing bacteria) : Si Sol B[™] (Silica solubilizing bacteria) : Fe Sol B[®] (Iron / Ferrous solubilizing bacteria) : Mn Sol B[™] (Manganese solubilizing microbe) and Agri Life Agrivam[®] (Vesicular-arbuscular mycorrhiza)
- K Sol B[®] is safe to use along with botanical and microbial bio pesticides.
- K Sol B[®] can be used as an effective component in IPM/ INM programmes, thereby leading to a reduction in use of chemical fertilizers and creating a safer environment.
- K Sol B[®] does not lead to residue problems and doesn't cause resistance or resurgence problems.

Benefits from K Sol B[®]

- K Sol B[®] effectively mobilize unavailable potassium ions and make it assimilable by plants
- Natural Potassium solubilization improves both plant and soil health and also aids in soil remediation.
- The increase in the beneficial microbe population in soil improves soil health.
- K Sol B[®] is earthworm friendly , pet friendly , eco friendly and infant friendly