

Silrich™
Biomass / Cellulose Digester
APPROVED FOR USE IN ORGANIC AGRICULTURE

Introducing Silrich™

Silrich™ is a BioFertilizer culture comprising of consortium of cellulose digesting micro organisms.

Silrich™ is available as a two step product viz. Silrich™ – A & Silrich™ – B. Silrich™ –A is a composting culture for digesting biomass and Silrich™ - B is an enhancement culture that enriches the decomposed biomass

Silrich™ digested Biofertilizer provides the plants with the essential Nitrogen , Phosphorus , Potassium, Silica, Iron , Sulphur and Zinc nutrition in an available form that can be easily assimilated by the plants.

Silrich™ helps in improving the Soil Organic Matter (SOM) content. This is usually a long term issue. It is a continuous ongoing process in nature. However, same can be drastically improved or accelerated for the current crop season by incorporation of BioFertilizers.

Commercially available bio fertilizers are expensive and therefore it is recommended that farmers produce their own inexpensive BioFertilizers. Press Mud of sugar factories is available for free and farmers may have to incur only transportation expenses of about Rs 300 per MT. Similarly cow dung / farm yard manure are available at Rs 100 – 200 per MT. Bio Waste from fruit / vegetable shops are available for free. Any bio mass available in the farm like paddy straw, sugarcane leaves, cotton stalks, mulberry dry plants etc can be utilised to make BioFertilizers using Silrich™ -A and B cultures in the field.

Mode of Action

Enzyme production : The composting microbes present in Silrich™ release cellulolytic enzymes and lignin degrading enzymes . These enzymes help in breaking the cellulose, hemi cellulose and lignin contained in the organic waste and make the nutrients contained in them available to the plant in an assimilable form.

Method of Application

The following steps need to be followed for making enriched organic manure using Silrich™ - A and Silrich™ - B

Composting method for Silrich™ - A

1. Pulverize the biomass which is to be made into a bed for treatment with Silrich™ cultures. A typical bed with dimensions of 10 metre length, 1 metre width and 1 metre height will need about 1 Tonne of Biomass.
2. Mix 1 Kg of Silrich™ – A and 1 Kg of Jaggery or crude sugar in 200 Litres of water.
3. Spread biomass in layers of 10 cm, sprinkle the Silrich™ – A liquid uniformly on the biomass. Repeat the same process of spreading biomass and sprinkling Silrich™-A liquid alternately until the bed height is 1 metre.
4. Cover the biomass heap with gunny bags. Drench the gunny bags with water
5. Observe the top of heap once in few days and if it is dry, drench water on gunny bags so that the heap maintains moisture of about 20 %.
6. The biomass gets digested in about 30 days.

Composting method for SILRICH™ –B for enhancement of digested Biomass to BioFertilizer

1. Invert the bed (which has been treated with Silrich™- A) on another bed thus making top layer of Silrich™ - A treated bed as the bottom layer of new bed which has to be treated with Silrich™- B.
3. Mix 1 Kg of Silrich™ – B and 1 Kg of jaggery / crude sugar in 200 Litres of water. Apply this 200 Litres to the digested biomass.
4. Spread digested biomass in layers of 10 cm, sprinkle the Silrich™ – B liquid uniformly on the biomass. Repeat this process by alternately spreading biomass and sprinkling Silrich™ –B liquid uniformly till the bed reaches a height of 1 metre.
5. Cover the heap with gunny bags. Drench the gunny bags with water.
7. Observe the top of heap once in few days and if it is dry, drench water on gunny bags so that the heap maintains moisture of about 20 %.
8. The digested biomass gets converted to valuable BioFertilizer in about 30 days.

Harvesting, sieving and packaging

1. Enriched organic fertilizer from Silrich™ – B treated bed is ready for harvesting in 30 days.
2. Shift harvested stock to shed having sieving system.
3. Sieve the harvested stock in sieves
4. Collect the sieved material below and make a heap and store.
5. Coarse materials / un decomposed biomass that is not sieved to be taken back to Silrich™- A treatment.
6. Sieved stock is Silrich™ enabled enriched organic fertilizer.
7. This can be bagged or stored for application to fields.

Crops

Silrich™ is suitable for application for 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

Silrich™ is compatible with BioFertilizers, and Bioesticides but NOT compatible with chemical fertilizers / pesticides .

Shelf Life

Silrich™ is stable for a period of 12 months from the date of manufacturing.

Mass Composition

CONSTITUENT	W/W %	FUNCTION
Cellulose & Lignin decomposing Microbial consortia	2.00%	Active
Carrier - Talc <i>Free from Salmonella, Shigella , E.Coli</i>	q.s.	Inactive

Cautions for handling and use of product

1. Avoid inhalation and skin contact during product application
2. Surplus of Silrich™ can be safely added to the biomass.
3. Do not eat / drink / smoke during application.
4. Direct incidence of Silrich™ may cause irritation and therefore it is recommended that the operator should use protective gear viz gloves, apron, mask , eye gear and hood.

Symptoms and Antidotes

Symptoms: Occasional symptoms include head ache and nausea

Antidote: In the case of ingestion: symptomatic treatment is advised. In the case of contact with Eyes: Flush with water liberally for 20 minutes. In case of Skin contact, wash the affected area with plenty of water and soap

Citations

Silrich[™] is a proprietary product and Agri Life and public citations of the same aren't available.

Commitment to Nature

- Silrich[™] 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)
- Silrich[™] can be used as an effective component in INM programmes, thereby leading to a reduction in use of chemical fertilizers and creating a safer environment.
- Silrich[™] does not lead to residue problems and doesn't cause resistance or resurgence problems.

Benefits from Silrich[™]

1. Silrich[™] treated BioFertilizer has organic N, P, K and trace elements in an exchangeable form.
2. Silrich[™] has bio fertilizers like Nitrogen fixing bacteria, solubilising bacteria for Phosphorus and mobilization bacteria for Potassium , Zinc, Sulphur and Bio Stimulants.
3. Silrich[™] treated biomass gets converted to useful bio fertilizer rich in organic nutrients. About 100 Kg of Silrich[™] treated BioFertilizer fixes about 20 Kg of atmospheric Nitrogen per acre of soil.
4. 100 Kg of Silrich[™] treated BioFertilizer is recommended for 1 acre of crop and the dose can be increased to 2000 Kg per acre as a soil amelioration product.