

BLACK SOLDIER FLY FRASS



RECOMMENDATIONS ON THE USE OF BSF FRASS (ORGANIC FERTILIZER) FOR VEGETABLE PRODUCTION

BACKGROUND

The Black Soldier Fly frass (BSFF) is the by-product of BSF larvae farming, consisting of larval excrement, shed exoskeletons (chitin and exuviae), and residual organic matter.

It serves as an excellent organic fertilizer for vegetables and crops.

As a nutrient-rich organic fertilizer, it improves soil health, enhances microbial activity, and promotes plant growth.

The BSF frass contains nitrogen, phosphorus, potassium, and beneficial microorganisms, making it an excellent alternative to synthetic fertilizers.

Its use supports circular economy by recycling waste into valuable products.

The BSF frass may suppress plant diseases due to the presence of bioactive compounds, microorganisms and chitin-rich compounds.



Application of the BSF frass to the field.



Mixing of the BSF frass with the soil.



Packaged BSF frass



Lettuce grown with BSF frass

APPLICATION OF BSF FRASS

General Application Instructions

Apply BSF frass as a basal fertilizer by incorporating it into the soil 14 days prior to transplanting.

Recommended field application rate: 4 tons per hectare (≈ 1.9 kg per 4.8 m^2 plot).

For nursery seedbeds: Mix 2 kg/m^2 of well-decomposed, sieved BSF frass into the top 10–15 cm of soil.

Tomato

Best Treatment: 100% BSF Frass and 75% BSF Frass + 25% NPK

Effect: Highest yields up to 28.32 t/ha ; improved growth and early flowering.

Recommendation: Apply BSF frass alone or with small amounts of NPK for enhanced productivity.

Lettuce

Best Treatment: 75% BSF Frass + 25% NPK

Effect: Highest biomass yield (18.31 t/ha) and best plant growth.

Recommendation: Combine BSF frass with minimal NPK for leafy vegetables in warm climates.

Amaranth

Best Treatment: 100% BSF Frass

Effect: Highest yield of 92.5 t/ha and superior vegetative growth.

Recommendation: Use pure BSF frass for optimal leafy biomass and nutritional quality.

Nightshade

Best Treatment: 75% BSF Frass + 25% NPK

Effect: Yield up to 11.91 t/ha ; highest leaf number and nutritional values.

Recommendation: Blend BSF frass with moderate NPK input for best results.

Onion

Recommendation: Apply 4 t/ha BSF frass pre-planting, optionally blended with NPK depending on soil fertility.

PROTECTIVE MEASURES



Protective Gear

- ❖ Wear appropriate protective gear such as gloves, long sleeves, and a mask to prevent direct contact with the frass.



Hygiene

- ❖ Wash hands thoroughly after handling BSF frass.



Storage

- ❖ Store BSF frass in a dry and well-ventilated area to prevent mold growth.
- ❖ Keep it in sealed containers to avoid spills and contamination.

For Purchase of the BSF Frass,

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