SOIL BIO-AGENTS

Long-lasting positive impact on soil health and plant growth

Improving the diversity and activity of beneficial soil microbes can assist in the creation of a more resilient and self-sustaining soil ecosystem, leading to improved soil fertility and plant health long-term. Additionally, the use of soil biological stimulation products can help to reduce the need for synthetic fertilisers and pesticides, leading to reduced inputs and costs, and a more sustainable and environmentally friendly farming system.

Microorganisms

Soil biological products typically contain a diverse range of beneficial microorganisms, including bacteria, fungi, and other microbes. The selection of microorganisms included in these products is based on their ability to perform important functions in the soil, such as fixing nitrogen, improving soil structure, and suppressing plant diseases. For example, the rhizobia bacteria are often included in these products due to their ability to fix atmospheric nitrogen, which can be taken up by plants and used for growth. Mycorrhizal fungi, on the other hand, form symbiotic relationships with plant roots, improving the plants' ability to absorb nutrients and water from the soil.

Nutrients

Essential nutrients support the growth and activity of the beneficial microbes in the soil. These nutrients may include sources of carbon, nitrogen and phosphorus, and are usually present in the form of organic materials such as compost and humic acids. By providing these essential nutrients, soil biological stimulation products can help to create a more favourable environment for the growth and activity of soil microbes, leading to improved soil health and plant growth.

Hunting for microbes

Looking at soil

For more information: 08 8942 8300 info@territorynrm.org.au www.territorynrm.org.au

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This project is supported by TNRM through funding from the Australian Government's National Landcare Program.

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Organic Matter

Soil biological products may also contain organic matter, such as plant extracts or compost, which serve as a food source for the beneficial microbes in the soil. These organic materials can also help to improve soil structure, water-holding capacity, and nutrient availability, leading to improved plant growth and health. In addition, the presence of organic matter in the soil can help to create a more balanced and diverse soil microbial community, which can provide a range of benefits for plants, including improved disease suppression and enhanced nutrient uptake.

The modes of action of soil biological products are complex, but can be broadly categorized into three main categories:

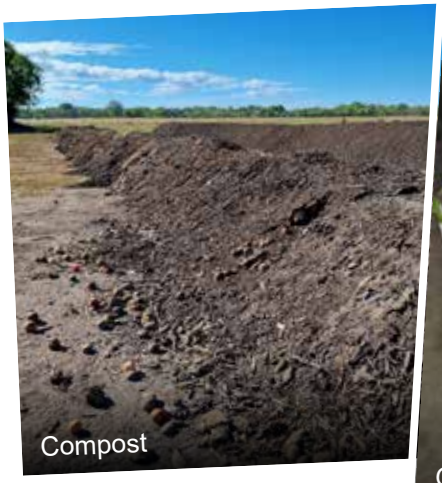
1. improving the growth and activity of beneficial soil microbes,
2. improving soil structure and water-holding capacity, and
3. suppressing plant diseases.

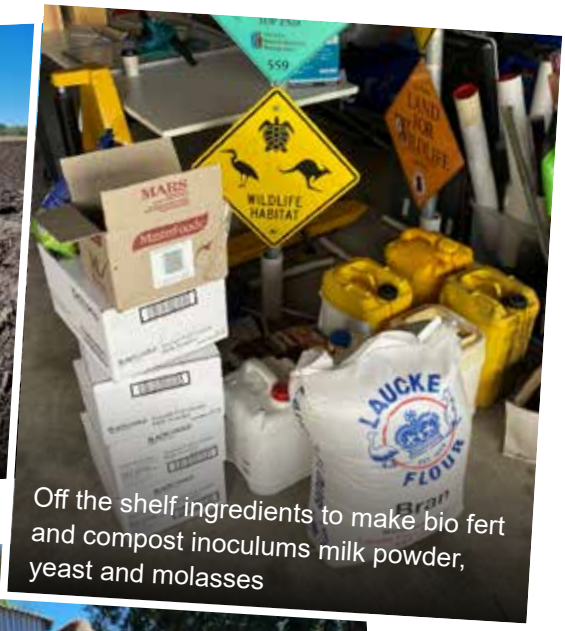
By improving the growth and activity of beneficial soil microbes, these products can help to create a more favourable environment for plant growth, leading to improved nutrient uptake, increased plant resistance to disease, and overall improved plant health. Improving soil structure and water-holding capacity can also lead to improved plant growth, as well as reduced soil erosion and increased water retention. Finally, the presence of a balanced and diverse soil microbial community can help to suppress plant diseases by competing with pathogenic microbes for resources and by producing compounds that inhibit the growth of plant pathogens.

Soil biological products can be used in conjunction with a range of other soil treatments and fertilisers, along with conventional and organic farming practices. However, it is important to carefully consider the potential interactions between these products, as well as to follow the manufacturer's instructions for application rates and timing. In some cases, the use of soil biological stimulation products may alter the composition of the soil microbial community, which can affect the effectiveness of other soil treatments.

Soil biological products are generally considered to be safe and environmentally friendly, as they contain natural microorganisms and organic materials. However, it is important to carefully consider the potential environmental impacts of these products, and to follow best practices for application and disposal. For example, some products may contain live microorganisms, and it is important to avoid the release of these microorganisms into non-target environments where they could pose a risk to other organisms.

It is also important to do your own research when looking to try a new product. Ask to see proof of replicated data. If you are currently using a product, it is always a good idea to select a control site (a site that is not treated) to see if the product is performing as advertised.


Compost



Off the shelf ingredients to make bio fert and compost inoculums milk powder, yeast and molasses


Nutrient Support Farmer Bluey mixing up home brew bio fert

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