

Using bio-stimulants

Feeding the micro-organisms on your farm...



More and more farmers in Australia are looking to use biological stimulants such as humates, seaweed and molasses in their management of crops and pastures. This fact sheet explains the types of biological stimulants and provides some general guidelines for using them successfully...

What are bio-stimulants?

Bio-stimulants are substances that when applied to the soil, pasture or crops feed and stimulate the micro-organisms (such as bacteria and fungi) that are found in the soil and on plant surfaces.

Just like plants, animals and people, micro-organisms need energy, nitrogen and a range of nutrients. The ingredients of different bio-stimulants supply these needs for microbes.

Some products such as molasses, which has a high carbon content (sugars), provide mainly energy to micro-organisms. Other bio-stimulants like fish emulsion may provide nitrogen and essential trace elements to the micro-organisms.

A wide range of other biochemical compounds beneficial to micro-organisms such as humic acids, carboxylic acids and fats may also be present.

Why use bio-inoculants?

Micro-organisms are vital for nutrient cycling and help maintain soil and plant health. For example some fungi assist in the uptake of Phosphorous and Zinc nutrients to plants. Others control pathogens on leaf surfaces and around plant roots.

Many modern farming practices such as using high salt fertilisers and agricultural chemicals can reduce the number and effectiveness of the micro-organisms in the soil and on plants.

Without healthy micro-organism populations soil health cannot be maintained, plant health and yields decline and disease may increase.

Bio-stimulants, when used correctly, can help micro-organisms function effectively in your farming system. Bio-stimulants provide a food and energy source to help micro-organisms establish and thrive. In turn these *bugs* help improve nutrient retention and cycling, soil & plant health and disease resistance on your farm.

Micro-organisms need a source of readily available carbon along with nitrogen and other nutrients.

Many agricultural chemicals will adversely impact on microbial populations. Use chemicals sparingly.

Micro-organisms need moisture and moderate temperatures to survive.

Common bio-stimulants

Common bio-stimulants include seaweed, fish emulsion and molasses. Other products include worm juice, humic acids & fulvic acids.

How & when to use them

Bio-stimulants can be used whenever you are stimulating the micro-organisms in your soil or on your pastures and crops. They may be used when you are using biological inoculants or fertilisers. They can also be used to encourage the micro-organisms already in your soil and on your plants.

Ausmin has a range of biological stimulants that can assist you in your change to a biological way of farming...