AgScience
Limited

A New Way Forward

High Country Field Day Information

The soil microbiome is a game changer according to a recent United Nations Food & Agriculture Organisation review.

> *"All evidence suggests that the microbiome, an emerging concept referring to the complex ecosystems made up of and by bacteria and other microorganisms, has powerful explanatory value for matters related to human, plant and planetary health".*
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> *FAO 27 June 2023*

Managing the soil microbiome can improve productivity, protect soils and water and enhance environmental resilience.

New Zealand research presented at the 25th International Grasslands Congress in Kentucky in May showed a 60% increase in low-fertility high country pasture yield with bio activated phosphorus. Biostimulant addition increased production by an additional 60%. Biostimulant applied alone increased production by 17%.

A previous 4 year trial in a medium-fertility Southland Sheep and Beef farm showed adding humate to urea increased grassland production by 9 - 13%. DNA analysis by Lincoln University showed changes in grassland productivity was directly related to fertiliser and bio-stimulation of soil microbial diversity.

A five year study in a high-fertility Canterbury Dairy farm showed adding humate to urea, the most widely used nitrogen fertiliser, increased pasture production by 13 %. It also consistently decreased topsoil winter nitrogen leaching over three seasons, averaging a 61 % reduction.

In a current Southland study humate addition reduced nitrogen leaching by up to 15% this winter.

The research was funded by a public/private partnership between Callaghan Innovation and industry, Southern Humates and BioAg NZ. It has been published in, or submitted to, scientific journals.

The microbiome presents a new opportunity for advancing agriculture.

A field day presenting this research will be held on the 13th December, 10 am to midday, Glenbrook / West Edge Stations, 2132 Twizel-Omarama Road, State Highway 8.

Effect of bio-activated phosphate and bio-stimulant on Mackenzie basin dryland grassland, December 2022.