



Study reveals humates boosts nitrogen benefit

A long term field trial in Southland has found using humates in combination with urea fertiliser will lift pasture production by 10-15% above urea use alone.

The results of the extensive five year field trial have recently been published in prestigious international science magazine Nature, and have been welcomed by Southern Humates owner Malcolm Sinclair, Managing Director, Southern Humates.

“This trial has represented a significant investment in time and funds for us. The fact it extended over five years has meant it has cost more than the usual one year trial, but it has delivered results that can give farmers and industry assurance there are real, sustained benefits from humate use in pasture systems,” he said.

He said having the trial’s results accepted by Nature magazine was a huge endorsement that validated the trial and the product’s quality.

Humates form as organic compounds sourced from the seams of some lignite deposits, and consist of complex organic chemicals created by the long term break down of plant material.

It has historically been claimed humates can boost soil fertility through altering soil bacterial populations, increasing the ability of plants to uptake nutrients through their root systems.

The trial was based on the application of five different combinations of urea-humates by weight, ranging from zero humates to 20% of urea weight on the Matura property.

The total urea applied ranged from 160kg to 260kg a hectare per treatment. The dry matter of the pasture grown in each sampled plot was measured for its growth at regular intervals throughout the trial’s duration.

Sinclair said he felt it had been important to invest in a validated, long term trial in order to provide farmers with information they could trust about humates, and to prove the anecdotal evidence supporting humates’ value was based on proven yield data.

The trial predictably found use of straight urea increased production. But with the addition of humates that production increase was boosted further by the addition of 10% and 20% humates by weight.

The 10% addition generated 9% additional dry matter production a year above that generated by urea alone. The 20% humate addition generated a 10% increase in production.

These increases were similar to those reported in other ryegrass-clover humate trials conducted around New Zealand for shorter periods. Importantly the study found the effect of humate addition was consistent and persistent.

This was particularly strong in early spring periods when nitrogen levels can be limited, and the 10% addition delivered a 31% lift in pasture production over standard urea application and the 20% a 41% boost.

Sinclair said it was important that the results from the trial not be applied to all humic products, of which there are several on the market.

“Variation in the composition and activity of humic products has long been recognised for the inconsistency in plant responses that can be reported. We have worked to deliver a consistent product over the years, and the results reflect that level of quality.”

Adding humates to urea also proved to increase the longevity of the urea, with a late summer application continuing to generate positive pasture responses for a full seven more months.

The report authors suggested coating urea with a bioactive humic layer could open up opportunities for making nitrogen use more sustainable as the planet grapples with nutrient runoff and groundwater contamination.

The study found humates may deliver an environmental benefit by reducing the amount of nitrogen available for leaching, through helping plant root systems and microbiomes better contain the nutrient.

“This study has validated what many farmers have thought about humates over the years.

“As suppliers of humates we take a lot of value in knowing our product is delivering benefits that can not only enhance farm productivity, but also play a part in helping make nitrogen fertiliser use more sustainable.

“Having this work published in Nature magazine is a huge thumbs up for our product, and for New Zealand farmers choosing to use it,” said Malcolm Sinclair.



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