

Perennial ryegrass can successfully be over-sown

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Grass and legume pastures are the basis of the dairy industry in the Southern Cape. Irrigated perennial ryegrass, Tall Fescue, Cocksfoot, red and white clovers were traditionally planted as pastures for dairy farming. The main problems experienced with these pastures were that the clover component decreased and the grass component, especially the Fescues, increased over time resulting in a grass pasture with low animal production.

Research at Outeniqua experimental farm focusing on over-sowing practices has shown that the same techniques used to over-sow kikuyu with ryegrass can be used to over-sow perennial grasses. The trial was carried out under irrigation and grazed by dairy cows. During May in the second year after the pasture was established, perennial ryegrass and annual ryegrass were over-sown into Fescue, Cocksfoot, perennial ryegrass and white and red clover at 10 kg/ha by with a Aitcheson-planter.

The results have shown that perennial ryegrass over-sown with annual ryegrass has a higher winter and spring production compared to a pure perennial ryegrass or Fescue stand. The summer and autumn dry matter (DM) production of Fescue is also higher than that of Perennial ryegrass. However, if the perennial ryegrass is over-sown with perennial ryegrass in May the summer and autumn production of perennial ryegrass is the same as that of a Fescue pasture over-sown with perennial ryegrass.

The seasonal DM production of perennial ryegrass fertilized with nitrogen was similar to that of a mixture of perennial ryegrass/clover over-sown with perennial ryegrass without applications of nitrogen. The seasonal DM production of perennial ryegrass over-sown with annual ryegrass and fertilized with nitrogen was higher than that of a mixture of perennial ryegrass/clover over-sown with annual ryegrass without nitrogen applications.

This research has shown that perennial ryegrass can be persistent under a good management system. It can be over-sown with perennial or annual ryegrasses and can also be over-sown with perennial ryegrass if planted in a mixture with white and red clovers. However, the results have also shown that the dry matter production rate of perennial ryegrass based pastures is very low in comparison with Kikuyu over-sown with perennial or annual ryegrass. In comparison with previous research, where white clover growth has been reported to decrease over time and has not been persistent in nitrogen fertilized grass pastures, a dramatic change in the seasonal growth, persistency and spreading of white clover into nitrogen-fertilized grasses, has taken place. Improved management and reported climate change are the most rational explanation for this phenomenon.

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