

Phosphorus and Lucerne Project

Year 1: 2025-26 season

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Executive summary – 30 June 2026

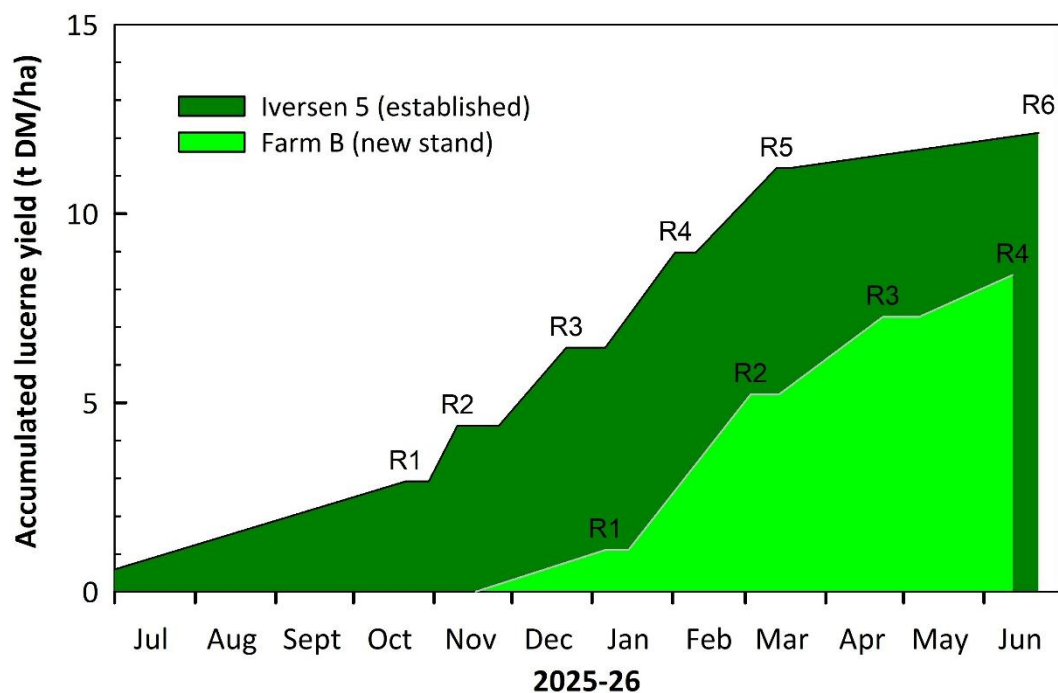
The 2025-26 season saw the installation of four new experiments in the Phosphorus and Lucerne Project – one in North Canterbury (Farm A) and three in Marlborough (Farms B, C, D) – and the continuation of the original experiment in Iversen 5 at Lincoln University (mid Canterbury).

This spring, two additional experiments will be installed on Farm E in mid-Canterbury.

Despite concerns about the lack of rain in Marlborough in late spring 2025, the two new lucerne stands at Farms B and D did establish.

At all sites there was no effect of the superphosphate rates on lucerne DM/ha at each rotation, or accumulated lucerne DM yields as the season progressed.

The following graph shows the accumulated lucerne DM production (t/ha) during the 2025-26 season at Iversen 5 (6 grazing rotations) and a newly established stand at Farm B (4 rotations, note R2 cut for conserved feed):



The following summarises yield and growth at each site during the 2025-2026 season:

- Iversen 5 (four-year-old stand, Lincoln University): produced 12.1 t lucerne DM/ha. Growth rates ranged from 72 to 134 kg DM/ha/d during the late spring and early autumn.
- Farm A (2-year-old stand, North Canterbury): 6.3 t lucerne plus 3.4 t chicory DM/ha for the season. Lucerne growth rates ranged from 13 to 44 kg DM/ha/d.
- Farm B (new sowing, Marlborough): 8.4 t lucerne DM/ha since late November 2025. Growth rates of 88 kg DM/ha/d in February/March decreasing to 31 kg DM/ha in June.

- Farm C (2-year-old stand, Marlborough): 4.6 t lucerne/ha since late November 2025. Growth rates of 19 kg DM/ha/d.
- Farm D (new sowing, Marlborough): 2.9 t lucerne DM/ha since late November 2025. Growth rates ranged from 11 to 26 kg DM/ha/d.

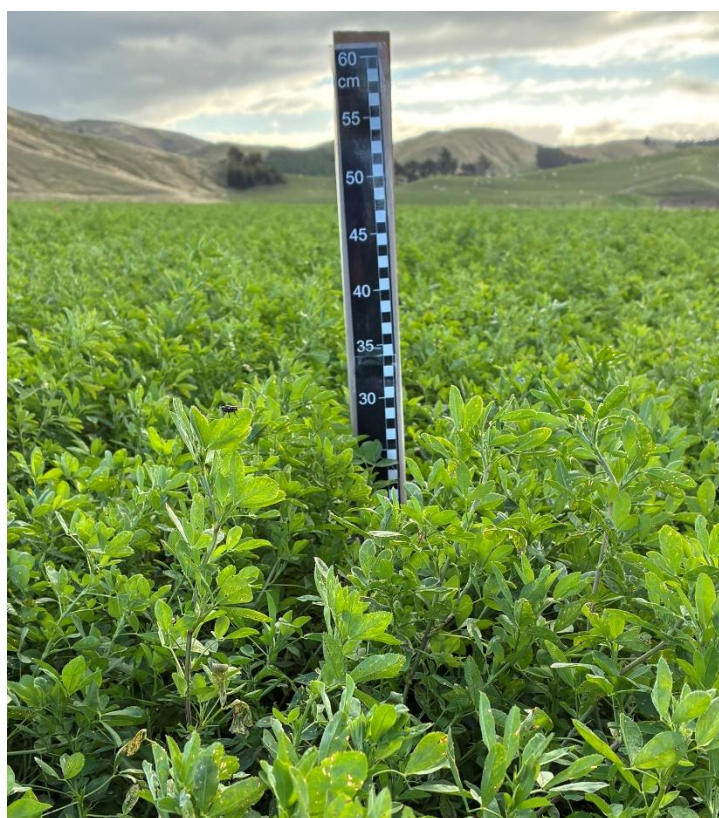
Lucerne forage quality was analysed by NIR for metabolizable energy (ME), crude protein, and fibre; and by ICP for mineral content including phosphorus concentrations (P%). At each site, Rotation number had the biggest effect ($P < 0.001$) indicating that forage quality variables and P% differ significantly as the season progresses. In general, forage quality was highest early in the spring season, characterised by higher ME, protein content and digestibility with lower fibre (ADF and NDF).

Lucerne herbage P% values were generally not affected by the superphosphate application rates. At two sites there was an indication that superphosphate at 400 kg/ha elevated herbage P% compared with the control.

This research project is funded by:



Lucerne at a grazable height of 30 cm (April 2026)



Information about this project is available on the Dryland Pastures Research website:

<https://drylandpastures.com/research-projects/phosphorus-and-lucerne/>