switch AG fertilisers

TECHNICAL PRODUCT GUIDE

Lucerne MAXX

LUCERNE RECOVERY SUPPORT

Targeted phosphorus and potassium foliar nutrition for lucerne regrowth, persistence and forage production.

Prepared for: Switch Ag

Product focus: Lucerne grazing, hay and silage systems

Document date: 30/09/2026

Executive Summary

Lucerne MAXX is a purpose-built foliar nutrient and biostimulant for lucerne systems. With nitrogen less of a priority (assuming good nodule development), Lucerne MAXX focuses more specifically on nutrients needed for energy transfer, nitrogen fixation, water regulation, carbohydrate movement and regrowth after cutting or grazing.

The formulation retains the organic acid and complex-carbohydrate platform used in Pasture MAXX but substantially changes the nutrient balance. Lucerne MAXX is better aligned with the nutritional demands of a high-removal perennial legume. Lucerne MAXX should be positioned as a foliar supplement within a complete fertility program. It is not a substitute for replacing the nutrients removed in hay or silage.

Why Lucerne Requires a Different Feeding Strategy

Repeated cutting removes substantial P and K and forces the crop to repeatedly rebuild leaf area from crown and taproot reserves. Lucerne MAXX was developed to reduce the stress associated with repeated cuts and supplement the nutrition removed from each cut.

Phosphorus is relatively immobile, and its uptake is impacted by several soil related conditions. When phosphorus is limiting, lucerne can show weaker root development, reduced nodulation and less efficient nitrogen fixation. The crop may also be less able to convert atmospheric nitrogen into productive growth.

- **Intensive Energy Demand:** Lucerne fixes atmospheric nitrogen through its rhizobial relationship, reducing the need for nitrogen-led foliar feeding once a productive stand is established. The addition of bacteria and fungi inoculums contained in Lucerne MAXX, help to support a soil environment conducive to nodule forming biology.
- **Energy Support:** Lucerne MAXX provides ATP-driven energy focus that supports root activity and the high energy requirement of biological nitrogen fixation. Supported by root stimulants contained in the base formulation.
- **Physiological Support:** Potassium supports enzyme activation, stomatal regulation, water balance and movement of carbohydrates from leaves to crowns and taproots.
- **Crop Metabolism:** Zinc, boron, copper and cobalt broaden the trace-element support for active growth and plant metabolism.

Product Analysis Comparison

Pasture MAXX and Lucerne MAXX use the same organic acid and complex-carbohydrate base. The nutrient balance changes to match the crop: Pasture MAXX is nitrogen-led, while Lucerne MAXX is phosphorus- and potassium-led.

Nutrient	Pasture MAXX	Lucerne MAXX
Nitrogen N	9.71%	1.28%
Phosphorus P	-	5.12%
Potassium K	3.25%	8.67%
Sulphur S	2.11%	0.17%
Zinc Zn	1.50%	1.09%
Boron B	0.20%	0.44%
Iron Fe	1.11%	-
Magnesium Mg	0.45%	-
Manganese Mn	1.15%	-
Copper Cu	-	0.10%
Cobalt Co	-	0.07%

Both formulations also contain organic acids and complex carbohydrates. A dash means the nutrient was not listed in the supplied product analysis; it does not mean a laboratory result of zero.

Why Phosphorus and Potassium Become Limiting

Nutrient Removal in Cut Lucerne

The headline values used for the Lucerne MAXX technical sheet are approximately 3 kg P and 22 kg K removed for each tonne of lucerne dry matter cut and removed. These figures sit within the range reported by Australian pasture and fertiliser guidance.

Australian reference	P removed	K removed
MLA lucerne fodder rule of thumb	3 kg/t DM	22 kg/t DM
Agriculture Victoria lucerne/clover hay range	2.5 to 3.5 kg/t DM	20 to 30 kg/t DM
MLA More Beef from Pastures example	2 kg/t DM	24 kg/t DM

Values are elemental P and K per tonne of dry matter cut and removed. They are not P2O5 or K2O values. Nutrient export under grazing is lower because much of the consumed nutrient is returned in dung and urine.

Timing and Application

Lucerne MAXX is best positioned when the crop has enough active leaf area to receive a foliar application and is entering a period of strong regrowth or nutrient demand.

Crop window	Application position	Rate
After cutting or grazing	Allow active leaf area to redevelop, then apply during early regrowth.	10 to 20 L/ha
Peak spring or summer growth	Apply ahead of strong demand where P or K supply is marginal.	10 to 20 L/ha
High-removal hay or silage	Integrate with the soil replacement program; use soil and tissue testing to guide repeat applications.	10 to 20 L/ha

> Lucerne MAXX provides a practical nutritional bridge between soil fertiliser events in high-removal grazing, hay and silage programs. The stress alleviating and root stimulating properties go a long way to support the energy demands associated with repeated cuts.

Strategic Use and Application

Role Within the Fertility Program

Soil-applied fertiliser remains responsible for building and maintaining the paddock nutrient bank. At the recommended foliar rate, Lucerne MAXX cannot replace the total P and K exported in high-yielding hay or silage. Its role is to support crop function at critical times and help maintain nutrient supply to active tissues when root delivery is temporarily restricted.

Technical note: Lucerne MAXX is a foliar supplement and should be integrated with soil fertility, irrigation, grazing and cutting management. Final rates, compatibility and use directions should remain consistent with the current product label and SDS.

References

1. Meat & Livestock Australia. Make the most of lucerne. Crop-removal rule of thumb: 3 kg P and 22 kg K per tonne DM cut. Link
2. Agriculture Victoria. Keeping pastures productive. Lucerne/clover hay range: 2.5 to 3.5 kg P and 20 to 30 kg K per tonne DM. Link
3. MLA More Beef from Pastures. Pasture nutrient applications. Example equivalent to approximately 2 kg P and 24 kg K per tonne lucerne hay DM. Link
4. Berg WK, Brouder SM, Cunningham SM and Volenec JJ. Potassium and phosphorus fertiliser impacts on alfalfa taproot reserves. Frontiers in Plant Science 12:715936. Link
5. Berg WK et al. Phosphorus and potassium effects on taproot C and N reserve pools and long-term persistence of alfalfa. Field Crops Research 272:301-308. Link