



Lumen® is a liquid enzyme additive developed for use with liquid fertilisers or as a stand-alone product. Lumen enhances the uptake of water and broad nutrient acquisition by plant roots with resultant improvements in soil and plant health, growth and yield.

Lumen is a concentrated liquid formulation containing a unique blend of two powerful enzymes that, once applied to the soil, trigger trillions of continuous catalytic reactions.

The enzyme lipase breaks down lipids in soil organic matter, releasing bioavailable nutrients and water for the plant while stimulating native microbial activity. At the same time, mannanase targets exudates around the root tip, creating soil conditions that promote vigorous root development.

Designed for broadacre, row, and horticultural crops in both dryland and irrigated systems, Lumen fits seamlessly into liquid soil fertiliser programs. Whether at planting or side-dressing, it drives strong growth through the crop's most critical stages of nutrient demand. With the flexibility of multiple applications, Lumen continues to support crop performance throughout the season.

In summary: Lumen delivers the right enzymes, in the right place, at the right time. It enhances fertiliser efficiency while continuously unlocking nutrients from soil organic matter and residues ensuring your crop gets more from every hectare.

THE ADDITIONAL POWER OF 2 ENZYMES IN LUMEN

Lipase	Mannanase	Product offer
• Converts lipids within organic matter into soil available nutrients for plant root uptake • Increases natural soil microbial based activity • Improves soil health	• Breaks down exudates around outer layer of root tips • Creates soil conditions ideal for plant root growth • Allows the plant to uptake more water and plant available nutrients (that the lipase enzymes aided in providing)	• Stand alone enzyme additive for mixing in solution with soluble fertilisers • Dilute concentrate commercial formulation packed ready for use

Directions for use

- Lumen is for soil application.
- Lumen is designed for use on all soil types.
- Lumen can be applied to dry soil if planting dry and will be available when the seed germinates.
- Lumen should be used as soon as possible once opened.

Situation	Use Pattern	Rate	Critical Comments
Broadacre			
Banded or in furrow application on broadacre crops	In-furrow at planting, banding preplant, or delivery near planting bed for all broadacre or row crops.	16–24 mL/ha	Apply as a total in-furrow spray volume of 30 L to 140 L/ha using fertilizer and/or water carrier.
	Fertiliser coating	16–24 mL/ha	Spray product evenly onto granulated fertiliser and mix in an auger or other mechanical mixer. See product label for recommended rates and volumes.
Sugarcane	Plant and ratoon	25 mL/ha	Apply at planting or on ratoon cane when stool splitting occurs to apply nutrition.
	For side-dressing when applied within 15 cm of the plants.	25 mL/ha	When side-dressing apply with liquid fertiliser solution in spray volume of 30 L to 140 L/ha.
Horticulture			
All horticulture crops	At planting, in-furrow with starter fertiliser or water (or both).	50–100 mL/ha	Apply as a total in-furrow spray volume of 30 L to 140 L/ha using fertiliser and/ or water carrier.
	Vegetative stages through dripline application with fertiliser or water (or both).	50–100 mL/ha	Dilute in sufficient application volume to apply through drip or micro- sprinkler irrigation. Apply a sufficient quantity of irrigation to extend product through the root zone. Refer to mixing and compatibility statements for order of mixing.
	Nursery application to container grown seedlings, cuttings and transplants.	40 mL/100L	Sufficiently irrigate nursery stock to best allow solution to saturate the soil/substrate.
	For side-dressing when applied within 15cm of the plants.	50–100 mL/ha	When side-dressing apply with liquid fertiliser solution in spray volume of 30 L to 140 L/ha.

Compatibility:

Check chemical mixture compatibility using a jar test using all products in proper proportion to establish physical compatibility prior to application. This product is non-phytotoxic and compatible with many commonly used in-furrow treatments including fertilisers, insecticides, pesticides, fungicides, micronutrients and bio-stimulants.

Can be mixed with most NPK fertilisers with a pH between 4.5 and 9.0 as well as water carrier solution. Half fill mix tank with water and begin agitation. Add products in this order, mixing thoroughly after each addition: pesticides, fertilisers, adjuvants then Lumen. Fill tank with remainder of water and continue agitation until solution is completely mixed.



Elemental Enzymes®, founded in 2011 and based in St Louis, USA is a life sciences company that creates novel enzyme, peptide and natural solutions that improve soil health, plant health, performance and yield. Our technology and product solutions are applied through seed treatment, foliar applications, tree injection, in-furrow soil treatments, fertiliser coating and fertigation.

Elemental soil enzymes

Think of them as factories for your soil, able to continuously produce the desired nutrient for a number of weeks.

Enzyme definition

A protein produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction.

What we do

All of our soil enzyme products perform chemical reactions with the same enzymes that are naturally secreted by plants and/or microbes to do the tasks we want them to do, i.e. convert soil-borne complex molecules into smaller, easier absorbable/digestible molecules.

We just supply them readily, in a higher concentration and more widely distributed throughout the rhizosphere than what microbes and/or the plant root can achieve on their own.

Priming the soil

Soil enzymes are applied with fertiliser at planting time. Enzymes get to work immediately, quickly and continuously for a number of weeks creating their specific chemical reactions. The enzymes release and make available nutrients in the area near the seed important to growth. The seed germinates into a rich area of nutrients resulting in better seed emergence and establishment.