

Loveland offers an extensive range of seed treatment options

Loveland Agri Products has an extensive range of seed treatment options available for all crop types. Seed treatments are designed to improve germination and early plant vigour; however, good in-crop management, including foliar nutrition, is required to maximise yield potential.

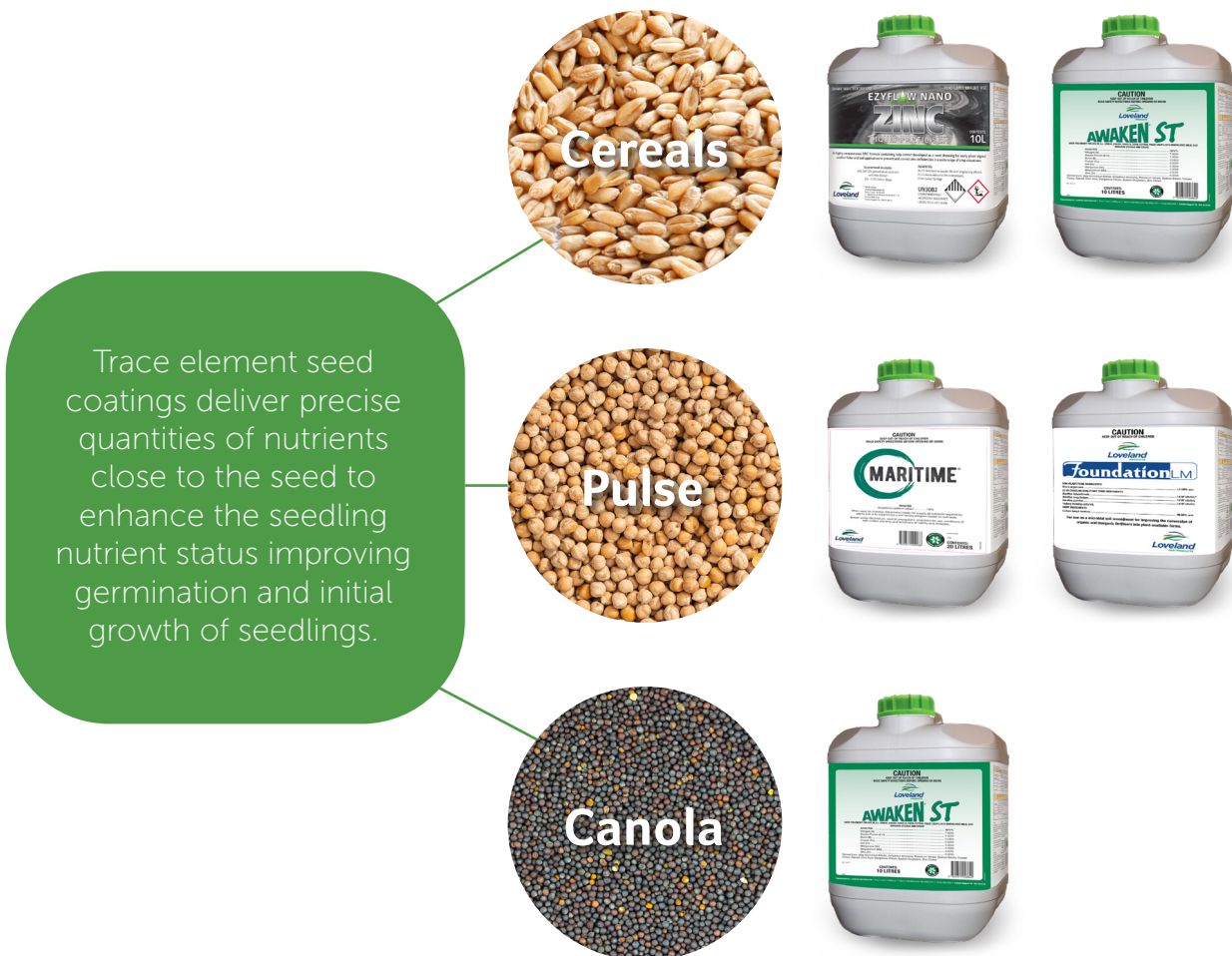
When considering which seed treatment suits your needs, please consider:

Nutrition: Providing essential plant nutrient for establishing seedlings- Right place, Right rate, Right time.

- o Other seed treatments to be applied at the same time will determine which nutritional product to select. When total liquid volume is a limitation, consider a higher analysis product.

Inoculant safety: Some nutritional seed treatments can be harmful to inoculant Rhizobia;

- o Bio stimulants or biocatalyst products are a good alternative to encourage early plant vigour, and good root growth and nodulation.



The Benefits of Nutritional Seed Dressings

Nutritional seed dressings

1. Are an easy and effective way to apply micro-nutrients for the emerging seedling.
2. Provide an early source of soil immobile trace elements that helps support root and plant growth.
3. Can improve leaf emergence and elongation rate, number of leaves, tiller appearance rate, plant height, crop growth rate, leaf growth rate, leaf area index and specific leaf area in wheat cultivars.



Grazing Barley treated with Ezyflow Nano Zinc (left), untreated right; Walgett 2020



Root Biomass with and without Awaken ST Seed Treatment. Cootamundra NSW 2016. Untreated left, Awaken ST treated right.



Awaken ST Nutrien Horsham trial site; 2019



Comparing plants grown from seed treated with Zinc. Untreated seed left, Zinc treated seed on right.

EZYFLOW NANO ZINC

The practice of adding zinc to seeds favours uniformity of application and places the element in immediate contact with the first emitted roots (Barbosa-Filho et al., 1982). This makes nutritional seed coating a good option as an addition to, or alternative for, trace elements applied with granular fertiliser.

Micro nutrients applied to seed gives the crop an immediate source of nutrition from the point of germination. Consider the following scenario:

MAP Zinc Fertiliser Granule

25cm row spacing; 50 kg/ha
MAP+Zn = 50 granules per meter of row

- 100 gm zinc over 50 points
- 15-20% water soluble
- Risk of Zinc Phosphate precipitates
- Spread between the seeds

Zinc Seed treatment

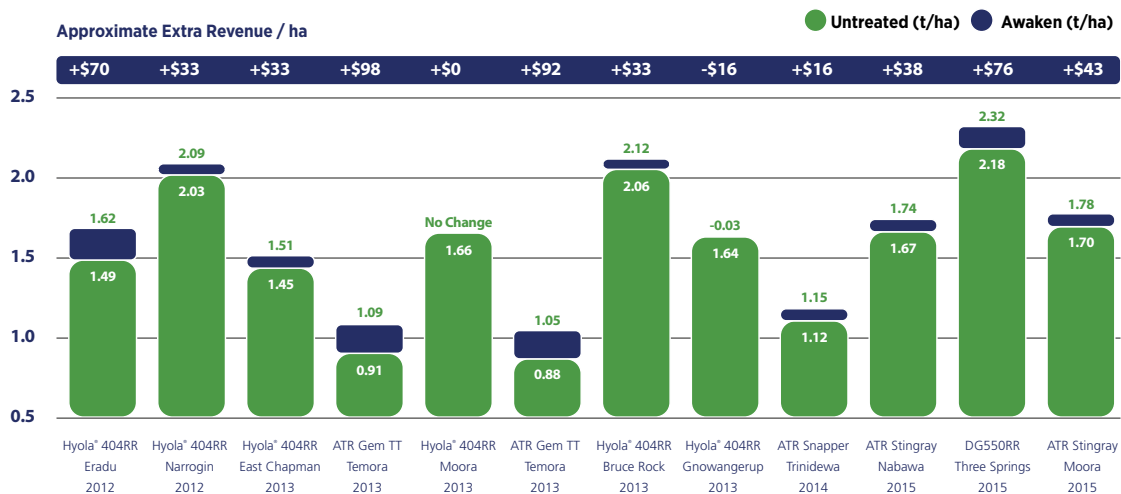
25cm row spacing; 25,000 seeds/kg @
50kg/ha = 120plant/m² = 30 plants per
meter of row

- 65g zinc over 30 points
- 100% water soluble
- Concentrated at the seed
- Compatible with fungicides and insecticides



AWAKEN[®] ST

In replicated canola trials conducted by Nutrien Ag Solutions over four years, crops grown from Awaken ST treated seed were compared to crops grown from seed with no Awaken ST. A positive yield increase was observed in most treated versus untreated crops leading to a very strong return on investment, as the graph below demonstrates.



Product	Description	Application Rate (L/T)
Awaken ST	Awaken ST is powered by Zinc Ammonium Acetate (ZAA) with potash, and a balanced micronutrient package including: Zinc, Boron, Copper, Iron, Manganese and Molybdenum to maximise the yield potential of your crop	3.75-5
Ezyflow Nano Zinc	EzyFlow Nano Zinc is a highly concentrated liquid trace element formulated using micronised particles to improve nutrient uptake and aid in early plant vigour. EzyFlow Nano Zinc contains kelp extracts making it a highly effective germinator for vigorous root and early leaf growth	1-4
Foundation LM	A biologically derived formulation which is a suitable option for use in pulse and legume crops when rhizobium inoculants are applied. Foundation LM supports increases in root volume and length, nodule number and weight and increases in distribution of nodules along the root system	2-3
Maritime	Maritime has a high concentration of key bio-active compounds providing superior stress mitigation, improved seed germination, plant growth and nutrient uptake. Maritime contains plant growth promoting metabolites which increase tolerance to physical stressors (including salt stress), increase nutrient uptake efficiency and improve microbial diversity and soil health around the germinating seed.	2
Foundation LM and Maritime combination	Combined benefits provided by biocatalyst and bio-active compounds for improved seed germination and stress mitigation for germinating seeds	1.5-2L FLM 1.5-2L Maritime

Literature supporting nutritional seed treatments

*Trace element seed coatings deliver precise quantities of nutrients close to the seed to enhance the seedling nutrient status. Application of zinc on seeds has effect on germination and on initial growth of seedling, as well as favours physiological quality of the seeds produced (Santos, 1981).

*Zinc seed treatments promote vigorous seedlings which improve morphological traits such as, leaf emergence and elongation rate, number of leaves, tiller appearance rate, plant height, crop growth rate, leaf growth rate, leaf area index and specific leaf area in wheat cultivars. Seed treatments with zinc significantly improved the grain yield and other yield related traits in wheat (Nazia Hassana et al; 2019).

Speak to your Nutrien Ag Solutions or CRT agronomist about the nutritional seed dressing options available from the Loveland Agri Products range or visit www.lovelandagriproducts.com.au for more information.

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