

The Reaction™ Range



- Reaction Liquid Fertilizers have been the market leaders in liquid fertilizers for over 20 years.
- Reaction products are not slurries or suspensions that can contain particles and / or impurities.
- Completely plant available.
- Translocated quickly and efficiently.
- Any run-off is readily absorbed by the plant roots.



Reaction Fertilizer Specifications & Analysis

		Rate	Reaction Vigour	Reaction Classic	Reaction Premium	Reaction HiYield	Rapid N Plus	Nitrophos	Super Sulphur
Nitrogen	N	%w/w	14	9	6	5	23	9	-
		%w/v	17.4	11.3	7.8	6.4	28.38	11	-
Phosphorus	P	%w/w	4	5	9	4	0.5	8	-
		%w/v	4.89	6.066	11.8	5.1	-	9	-
Potassium	K	%w/w	4	6	5	11	-	-	2
		%w/v	5.0	7.5	6.5	13.462	-	-	-
Sulphur	S	%w/w	-	-	-	-	-	-	14.65
		%w/v	-	-	-	-	-	-	19.34
Boron	B	mg/kg	200	200	200	200	-	80	-
Cobalt	Co	mg/kg	75	75	150	75	-	70	-
Copper	Cu	mg/kg	200	200	250	200	-	150	-
Iron	Fe	mg/kg	200	200	200	200	-	-	-
Magnesium	Mg	mg/kg	100	100	100	100	-	65	-
Manganese	Mn	mg/kg	100	100	100	100	-	100	-
Molybdenum	Mo	mg/kg	-	-	-	-	200	100	-
Nickel	Ni	mg/kg	-	-	-	-	6945	-	-
Selenium	Se	mg/kg	50	50	50	50	-	50	-
Zinc	Zn	mg/kg	200	200	200	200	29	220	-
Seaweed		Yes	Yes	Yes	Yes	Yes	Yes	Yes	-

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Reaction Range: The brand that is triated and proven

- 1. Major Fertilizing Elements:** N (nitrogen), P (phosphorus), K (potassium). These elements are sourced from the highest grade of chemicals which eliminate the impurities normally found in fertilizer grade chemicals. This ensures complete solubility and maximum efficacy. S (sulphur) is available separately.
- 2. Minor (trace) elements:** Mg (magnesium), Mn (manganese), Zn (zinc), Fe (iron), Mo (molybdenum), Co (cobalt), Cu (copper), B (boron), Se (selenium). To ensure easy plant uptake and complete solubility and stability, chelated minerals are used in preference to other sources.
- 3. Soil Food Web Activators:** The vital link between the soil and the plants which you harvest or graze your stock upon, is referred to as the soil food web. Many Reaction blends now include ingredients to foster and enhance this food web.
- 4. Organic base:** Ascophyllum nodosum seaweed from the world's largest producer forms the base and catalyst for the total mix. Clean, totally soluble, and rich in natural growth promotants (Cytokinins, Auxins, Gibberellins and Betains). These natural growth promotants, combined with those added, trigger and stimulate the plants own growth mechanisms and nurture the soil.
- 5. Pure Liquid:** Unlike many products, which are in fact slurries or suspensions that contain particles or impurities, Reaction Multiblend Liquid Fertilizers are true liquids. They are completely plant available from the time they are applied and easily translocated into the plants system. Any run off is readily absorbed by plant roots.

Independent Trials continue to prove that Reaction fertilizers grow more grass

- Annual pasture yields obtained using Reaction fertilizer were similar to or better than yields using typical solid fertilizers.
- The overall difference on dry matter yield, averaged over all sites was significant: around 20% extra yield in favour of Reaction fertilizer.
- Yield differences occurred throughout the year and were not limited to any month or season, nor were they limited to a short period following application.

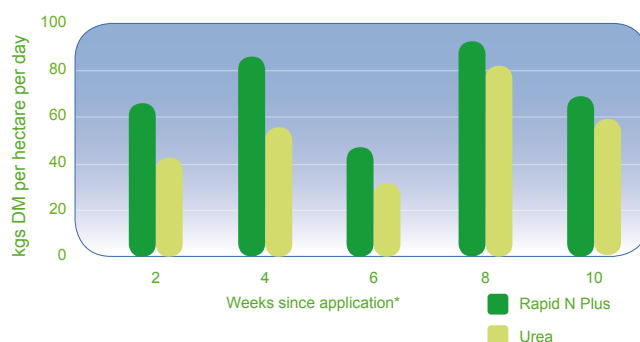


Rapid N Plus is especially developed to grow more grass on the shoulders of the season. Rapid N Plus is a quality nitrogen fertilizer with an organic base and nitrogen enhancers with activating agents for increased nitrogen efficiency. Easy to mix. Easy to apply.

Rapid N Plus is formulated to give fast and proven results with:

- Two forms of nitrogen (immediate and sustained response)
- Seaweed - stimulates the grass
- Gibberellic acid - increases dry matter production
- Elicitor - works with urease enzyme to provide nitrogen efficiency
- Phosphate and zinc for energy.

Application Rates: Rapid N Plus should be applied at 7 - 15 litres per hectare.



Qualigrass



Qualigrass™ is a complex mix of organic substances with nitrogen, magnesium, copper, selenium and iodine. Formulated to balance the pastures mineral status, in favour of the dietary needs of cows, especially in the critical weeks before and after calving.

The Qualigrass concept.

Pasture nutrients simply do not match the dietary needs of cows at certain times of the year, especially at the critical transition period before and after calving. Magnesium, copper, selenium and iodine levels are low during winter. Potassium levels climb rapidly as temperatures warm up in early spring. Qualigrass is based on the simple idea that it is better to improve the quality and palatability of pasture, rather than tolerate poor utilisation of deficient pasture and make up the deficiencies with supplements or injections.

Qualigrass:

- **Helps prevent ill-thrift, scouring, and poor reproduction.**
These can be symptoms of copper deficiency, which is a constant pressure on New Zealand dairy cows. Their copper requirement is greatest in late pregnancy, when feed intake is about half that of lactation. Qualigrass lifts copper, selenium and iodine levels in pasture.
- **Reduces the risk of milk fever.**
Qualigrass is rich in anionic salts to improve the DCAD ratio of pasture and help induce the cow to commence mobilising bone calcium.
- **Helps prevent staggers.**
Low levels of magnesium and high levels of potassium are implicated as the main culprits causing grass staggers. Qualigrass programmes raise magnesium levels in pasture and reduce the luxury uptake of potassium by grasses.
- **Improves pasture utilisation.**
Winter pasture is typically less palatable and efficient in magnesium, copper, selenium, iodine, and other trace elements. Spring pasture is always too high in potassium. Qualigrass turns poor pasture into good pasture and avoids the need to make up the deficiencies with injections of supplements.

- **Grows more feed.**

Qualigrass contains 15% nitrogen and gibberellic acid, which boosts grass growth. In the trials the extra grass growth alone paid for the product. Qualigrass attacks the two key objectives of animal nutrition - giving them enough to eat and improving the nutrient quality of their feed.

Transition risks

80% of disease in adult cows occurs in the four weeks either side of calving. It is during that period that cows undergo major hormonal and physiological changes as they switch from pregnancy to lactation. The immune system is strained and they are most susceptible to metabolic diseases such as milk fever, staggers and ketosis. These eight weeks are the primary focus of the Qualigrass programme. Six to seven weeks before calving, a pasture test should be carried out and it's mineral dietary value should be analysed. A significant amount of magnesium sulphate is normally added.

Typical application

15 – 20 litres of Qualigrass per hectare, 10kg magnesium sulphate with 2kg salt sprayed on the pasture the cows with graze. Grazing of treated pasture should begin the day after spraying.



Complimenting the Reaction Range

Animal health

Product	Product Description	Application Rate	
Tracemol Lift	Tracemol Lift™ is a unique formulation of essential minerals, trace elements, electrolytes, protein, carbohydrates and vitamins blended in a seaweed base.	Can be administered daily in small doses or in larger doses every 21 days.	
TopTrace Dairy	Specifically designed for dairy cows and includes high doses of Copper, Iodine, Selenium and Cobalt in a blend of seaweed for improved efficacy. The synergistic combination of these elements assists animal health.	Lactating Cows	10ml per day
		Dry Stock	7ml per day
		Young Stock	3 - 5ml per day
Nickerol	Levels of Nickel, a trace element, are generally low in NZ pastures. Cows need 30 - 50 times more Nickel per day than they are currently accessing.	Cattle: 10 ml per cow/day.	
		Adult Sheep: 5 ml per animal (once or twice a year).	

Trace Elements, EDTA chelates and mineral concentrates

Product	Description	Form	Element concentration
Boron	B	Concentrate	150g/litre
Cobalt	Co	Chelate	90g/litre
Copper	Cu	Chelate	120g/litre
Manganese	Mn	Chelate	60g/litre
Zinc	Zn	Chelate	130g/litre
Magnesium	Mg	Concentrate	60g/litre

Additional products

Product	Description	Application Rate
Super Seaweed	A natural organic growth stimulant with small amounts of major and minor fertilizing elements. Containing more than 25% w/w soluble solids, Super Seaweed is formulated from Norwegian Ascophyllum nodosum to Algea Research Foundation Standards.	Varies between 5 and 8 litres per hectare. Consult your Omnia Specialist for application rates.
Super Sulphur	Super Sulphur is a quality 19% sulphur fertilizer designed for use with other Reaction multiblends.	Varies between 5 and 20 litres per hectare and should be added to the Omnia product of your choice after the addition of the recommended water rate. Consult your Omnia Specialist for application rates.
Terraboost	Humic substances result from the breakdown of organic matter. Terraboost is a concentrate derived from Humus and will enhance biological activity in the soil, increase worm activity, enhance cation exchange and stimulate root growth and development. When combined with Reaction seaweed based multiblends you have an economical combination product.	Varies according to crop, purpose, frequency and base fertility. Consult your Omnia Specialist for application rates.
Millennium 3	Millennium 3 is a completely natural BIO-GRO registered concentration of fish and seaweed. Typical major element content is N 3.0%, P 0.7% and K 0.6%, but as it is a natural product there will be some variation between batches. Millennium 3 is also rich in natural amino acids, vitamins, sugars, oils and other organic compounds. Millennium 3 works rapidly if foliar applied, but is also very suitable for ground application.	Varies according to crop, purpose, frequency and base fertility. Consult your Omnia Specialist for application rates.
MagPhos	MagPhos is a mineral concentrate containing 60g/L magnesium in an organic complex for the rapid correction of magnesium deficiencies.	Varies according to crop, purpose, frequency and base fertility. Consult your Omnia Specialist for application rates.

Specific application rates are best determined in consultation with your Omnia Specialist.

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* Cammock Trial