Alternative nutrition products: Do they work?

The aim of this trial was to investigate a number of organic and inorganic fertilisers on wheat yield.

Summary
Alternative nutrition products have been tried at several trial sites over two years. There have been no yield responses to any of the products in these trials.

Background
New products, claiming high nutrient value, come on the market at an alarming rate. Making a judgement on whether these products work is not easy. The Birchip Cropping Group in collaboration with the Avon-Richardson Cropping Group have been evaluating some of these products for a number of years. The results presented in this article were from work undertaken at Marnoo by the Avon-Richardson group and by the BCG at Birchip

Method
At the Marnoo site, Meering wheat was sown on May 26 with MAP at 40kg/ha. The alternative products (Table 3.12) were applied at the four leaf stage of the wheat crop.

Results
There were no significant differences in yield at either site compared to the control from any of the alternative products used in these trials (Table 3.12).

Table 3.12 Wheat (Meering) yield of alternative nutrition products (Marnoo site)

	Rate	Cost $/ha	Yield t/ha
Control - MAP	40 kg/ha	17	4.49
Trisert NB	20 L/ha	40 + 17	4.70
RUM 5L	5 L/ha	20 + 17	4.52
RUM 5L + 5L *	5L+5 L/ha	40 + 17	4.48
Natrakelp	5 L/ha	30 + 17	4.40
Vitec	10L/ha	28 + 17	4.40
Nitrasulf	5 L/ha	22 + 17	4.54
Crop Extra	0.4 L/ha	8 + 17	4.55
Significant difference:			**NS**

* two applications of RUM (the second at the end of tillering)

This trial at Birchip was located on the long-term sodic site and looked very poor all year. The yields were low with some frost damage (Table 3.13).

Table 3.13 Wheat (Ouyen) yield of alternative nutrition products (Birchip site)

Product	Application method	Rate	Yield (t/ha)	Protein	Screenings
MM1		40kg/ha	0.82	13.2	5.2
MM1		80kgha	1.08	13.0	4.9
SC 27	Seed dressing	9L/t	1.02	13.2	5.4
RUM	Seed dressing + soil	4mL/kg + 5L/ha	0.85	13.1	4.9
E2001	Soil	95L/ha	0.76	13.2	5.6
Urea (topdress)		30kgN/ha	0.82	13.3	6.0
Pivot Green N	Foliar	30-40L to 60-100L water	0.78	13.1	6.5
Top Foliar	foliar	10-15L/ha	0.93	12.9	6.2
Trisert NB	Foliar	20L/ha	0.96	13.1	5.8
Vitec	Foliar	10L/ha	0.97	12.9	5.6
Natrakelp	Foliar	5L/ha	1.45	13.1	5.6
Comcat	Foliar	100g/ha	0.78	13.1	6.5
Significant difference			**NS**		

Interpretation
The alternative nutrition product trials were undertaken at Marnoo and at Birchip. There were no effects on yield compared to the control at either site from any of the products.

Commercial Practice
Before investing in alternative nutrition products on your farm it would be prudent to undertake on farm trials or demonstrations using the proposed product. Test strips of these products on your farm will clearly demonstrate whether these product add value to your operation or not. An additional treatment in these test strips could be spending the same amount as on the alternative product, on established fertilisers to observe a benefit or loss from the additional cost.

Table 3.14 Product descriptions

Product	Description	Contact
MAP		Pivot dealer
MM1		
Urea		
SC 27	Highly concentrated live microbial solution with bacteria indigenous to Australian soils. Microbes were specially selected to improve N-fixation, P uptake, enhance plant and root development and residue decomposition. It claims to reduce the effects of crop pathogens such as rhizoctonia, fusarium and take-all. Seed dressing or spray application.	Creative Land Management, Stuart King 03 5039 6234
RUM	Bacterial worm extract with micronutrients.Has been known to increase crude protein in plant tissue and increase grain protein when applied at the boot stage. Seed dressing, bare soil, and foliar (early tillering and boot stage) applications.	Wormoil Australia, Swan Hill 1 800 240 624
E2001	Organic liquid compost concentrate that stimulates rapid bacteria and fungi development to improve N and other nutrient availability. It is recommended that conventional fertiliser be applied with it. E2001 can provide 130kgN/ha/4 month period, which is equal to 1kgN/ha/day.	Dean Baring, Shepparton, Vic 03 5821 2802
Pivot Green N	Liquid nitrogen fertiliser for injection into fertigation equipment, for crops not sensitive to biuret or ammonium damage	Pivot dealer
Top Foliar	Liquid nitrogen fertiliser to supplement soil applied fertilisers. It will maintain healthy growth by providing a steady supply of nutrients to plants during stress or when conventional methods are not practical.	Pivot dealer
Trisert NB	Slow release triazone based nitrogen liquid fertiliser.	Multifert Agencies, Werribee, Vic
Crop Extra	plant extracts, cytokinins, enzymes	Robert Hampton 018 416705
Vitec	It is 95% pure liquid fish and contains a wide spectrum of major nutrients and trace elements in organic form that acts as an organic fertilizer and soil revilatiser. Two application methods of bare soil or foliar (before flowering).	Frank McCabe, Lake Boga 03 5037 2304
Natrakelp	Liquid seaweed, foliar or soil application	Organic Crop Supplies, Daryn Jones 03 5334 0381
Nitrasulf	A valuable source of sulphur, also contains nitrogen as a plant supplement to assist absorption.	
Comcat	A plant communication process that enhances growth and resistance of cultivated plants against pathogens by active non-toxic biological substances.	Diko Becker, North Carlton 03 9347 3401