

TWINN CROP TRIAL



Oil Seed Rape: Lincolnshire, UK, 2010

INTRODUCTION

This trial was performed to extend the findings of a previous trial in 2009 which showed that making the first application of TwinN to the young OSR crop in autumn was effective in setting up the young crop before winter to enable better growth in the following spring. In areas of the UK that lie in NVZ's (Nitrate Vulnerable Zones) applications of N are limited, which can effect crop vigour and yield. The 2010 trial was performed to confirm the capacity of TwinN to maintain high yields with reduced nitrogen fertiliser application.

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KEY RESULT

An independent trial in winter oilseed rape showed:

TREATMENTS

15/03/2010	30/03/2010	31/03/2010	8/04/2010	13/04/2010	Total N kgN/ha
18 Kieserite	0		0		0
40 D Top	50	TwinN	50	TwinN	140 + 2 TwinN
40 D Top	70	TwinN	70	TwinN	180 + 2 TwinN
40 D Top	100		80		220

RESULTS

Treatment kgN/ha	Yield T/ha	Yield change %
0.0	4.0 c	100
140 + 2 TwinN	5.5 b	139
180 + 2 TwinN	5.8 a	145
220.0	5.9 a	149
LSD (p=0.05)	0.32	-

Yield values with the same letter beside them are not statistically different.

Mapleton Agri Biotec Pty Ltd

137 Obi Obi Road, Mapleton Qld 4560 Australia

Phone: 1300 989 470 or +61 7 5445 7151

Email: TwinN@mabiotec.com

www.mabiotec.com

Mapleton International Ltd

EU, UK, USA & Africa

Phone: +44 1666 849415

Email: info@mapletoninternational.com

www.mapletoninternational.com

OR LOCAL DISTRIBUTOR

All other countries

Phone: +61 7 5445 7151

Email: TwinN@mabiotec.com

www.mabiotec.com

OR LOCAL DISTRIBUTOR

The OSR trial results in 2009 showed a moderate yield increase in the TwinN/reduced nitrogen fertiliser treatments with an autumn application of TwinN compared to the standard nitrogen application. This 2010 trial showed that reductions of nitrogen fertiliser are possible without significant yield decreases even when the first application of TwinN is made in spring. The 180 kgN plus two TwinN applications produced almost exactly the same yield as the 220 kgN treatment (5.8 versus 5.9 T/ha). A further reduction in nitrogen to 140 kgN plus TwinN resulted in a statistically significant 7% yield decrease.

The ability to maintain high yield with reduced nitrogen inputs using TwinN, particularly in NVZs, provides farmers with a useful tool to retain profitability while addressing environmental considerations and legislation. Reduced application of nitrogen fertilisers and use of TwinN also provides reduced carbon footprint and general improvement of soil quality and structure.

TRIAL SUMMARY

Trial performed and analysed by: The Arable Group (TAG)
Design: Randomised Block, 3 replicates per treatment

TRIAL DETAILS

Crop:	WOSR	Drill date:	08/09/09
Location:	Aby, Lincolnshire	Seed rate:	70 seeds m ²
Soil type:	Salop - Loam over clay	Variety:	PR46W21
Soil analysis:	P-13 K-112 , Mg-54 , pH-7.4 , OM-4.4 %	Drilled plot size:	12m x 2m
Previous crop:	Winter Wheat	Replicates:	x 3

Input type	Product	Product rate	Date
Herbicide:	Novall	2.25 l/ha	11/09/09
	Laser	0.75 l/ha	02/10/09
	Crawler	3.5 kg/ha	27/01/10
	Galera	0.35 l/ha	23/03/10
	Glyphogan	4.0 l/ha	14/07/10
Fungicide:	Folicur	0.75 l/ha	08/04/10
	Proline 275	0.55 l/ha	05/05/10
Insecticide:	Cypermethrin	0.2 l/ha	02/10/09
	Hallmark Zeon	75 ml/ha	10/04/10
Adjuvants:	Wetta +	0.1 l/ha	02/10/09