

Trial Title: Fungicide timing response monitoring in winter barley

Centre Morley, Sutton Scotney & Caythorpe
Variety Venture

Trial Code WB14-510

Objective: To record and monitor the yield responses to each of the component spray timings within a fungicide spray programme on barley.

NAC theme: Long term monitoring

Summary: This National Agronomy Centre (NAC) experiment forms part of an ongoing trial series recording the yield response to fungicide input and spray programme components in winter barley. The field experiments are being undertaken at Morley (Norfolk), Sutton Scotney (Hants) and Caythorpe (Lincs). In 2013/14 mean responses over the three sites was 0.27 t/ha (T0), 1.85 t/ha (T1 and T2) and 0.54 t/ha (T3).

Table 1. Treatment listing

Treatments							
	Nov	GS 25	GS 30-31	GS 33-39	GS 39-49	GS 59-61	Comment
1.	Unt	-	-	-	-	-	Untreated
2.	-	-	Kayak + Proline (0.8 + 0.3 l/ha)	-	Siltra (0.4 l/ha)	-	Standard programme
3.	-	-	Kayak + Proline (0.8 + 0.3 l/ha)	-	-	-	T1 alone
4.	-	-	-	-	Siltra (0.4 l/ha)	-	T2 alone
5.	-	Kayak + Proline (0.4 + 0.125 l/ha)	Kayak + Proline (0.4 + 0.175 l/ha)	Siltra (0.2 l/ha)	-	Siltra (0.2 l/ha)	Stretch sequence
6.	-	Kayak + Proline (0.4 + 0.125 l/ha)	Kayak + Proline (0.4 + 0.175 l/ha)	-	-	-	Stretch sequence T1
7.	-	-	-	Siltra (0.2 l/ha)	-	Siltra (0.2 l/ha)	Stretch sequence T2
8.	Proline (0.25 l/ha)	-	Kayak + Proline (0.8 + 0.3 l/ha)	-	Siltra (0.4 l/ha)	-	Aut T0 fb T1 + T2
9.	-	Proline (0.25 l/ha)	Kayak + Proline (0.8 + 0.3 l/ha)	-	Siltra (0.4 l/ha)	-	Spring T0 fb T1 + T2
10.	-	-	Kayak + Proline (0.8 + 0.3 l/ha)	-	Siltra (0.4 l/ha)	Siltra (0.2 l/ha)	T1 + T2 + T3
	LSD						
	CV (%)						

- This experiment forms part of a longer term National Agronomy Centre (NAC) funded trial series running at Morley (Norfolk), Sutton Scotney (Hants) and Caythorpe (Lincs) over several seasons. This records the yield response to fungicide input and spray programme components in winter wheat (Table 1).
- With regard to the following data interpretation, the 'T1 + T2' response is based on comparison of treatments 2 and 1; the 'T3' response is based on comparison of treatments 2 and 10; and the T0 response is based on comparison of treatments 2 and 9 (for a spring applied T0).

This trial was funded by NIAB TAG National Agronomy Centre Initiative

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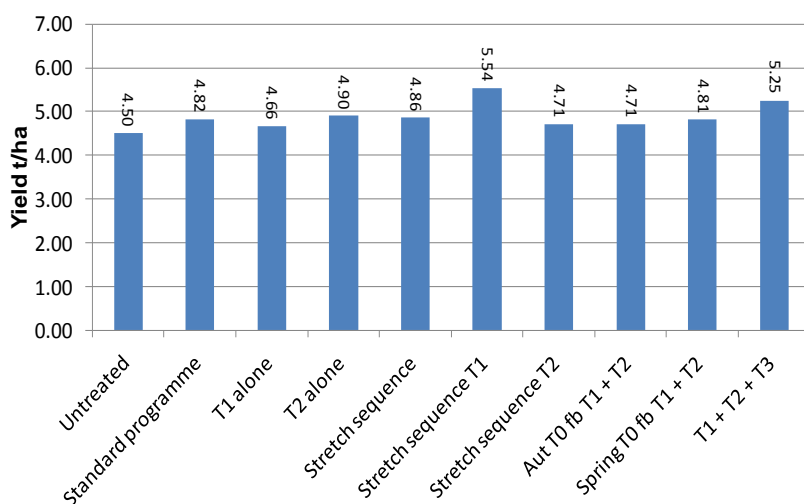
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- At Morley (Norfolk):
 - The main diseases present were net blotch and rust with around 2% and 1.5% present respectively on leaf 3 in untreated plots (treatment 1) in late May (23rd May).
 - Yield differences between treatments in this study would suggest yield responses of 0.0 t/ha (T0), 0.32 t/ha (T1 and T2) and 0.43 t/ha (T3) were apparent in 2014 (Figure 1).
- At Sutton Scotney (Hants):
 - The main diseases present were Rynchosporium and Ramularia, with levels around 5% and 67% recorded on leaf 1 in untreated plots (treatment 1) and 2% and 5% in the 'standard programme' (treatment 2) on the 9th June 2014.
 - Yield differences between treatments in this study would suggest yield responses of 0.22 t/ha (T0), 1.65 t/ha (T1 and T2) and 0.25 t/ha (T3) were apparent in 2014 (Figure 2).
- At Caythorpe (Lincs):
 - The main diseases present were Rynchosporium, with levels around 25% and 30% recorded on leaf 1 and 2 respectively in untreated plots (treatment 1) and 1% and 2% in the 'standard programme' (treatment 2) on the 9th June 2014.
 - Yield differences between treatments in this study would suggest yield responses of 0.62 t/ha (T0), 3.56 t/ha (T1 and T2) and 0.95 t/ha (T3) were apparent in 2014 (Figure 3).
- Summary data and the mean responses over the sites are presented in Figure 4. In 2013/14 mean responses over the three sites were 0.27 t/ha (T0), 1.85 t/ha (T1 and T2) and 0.54 t/ha (T3). This National Agronomy Centre (NAC) study remains ongoing and this dataset will be used within any wider cross site and season analysis.

Figure 1. The effect of fungicide programme and spray components on yield (t/ha); Morley



Morley (spring) T0; 0.0 t/ha, T1&T2; 0.32 t/ha, T3 0.43 t/ha



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Morley LSD 1.14 t/ha CV: 13.5%

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Figure 2. The effect of fungicide programme and spray components on yield (t/ha); Sutton Scotney

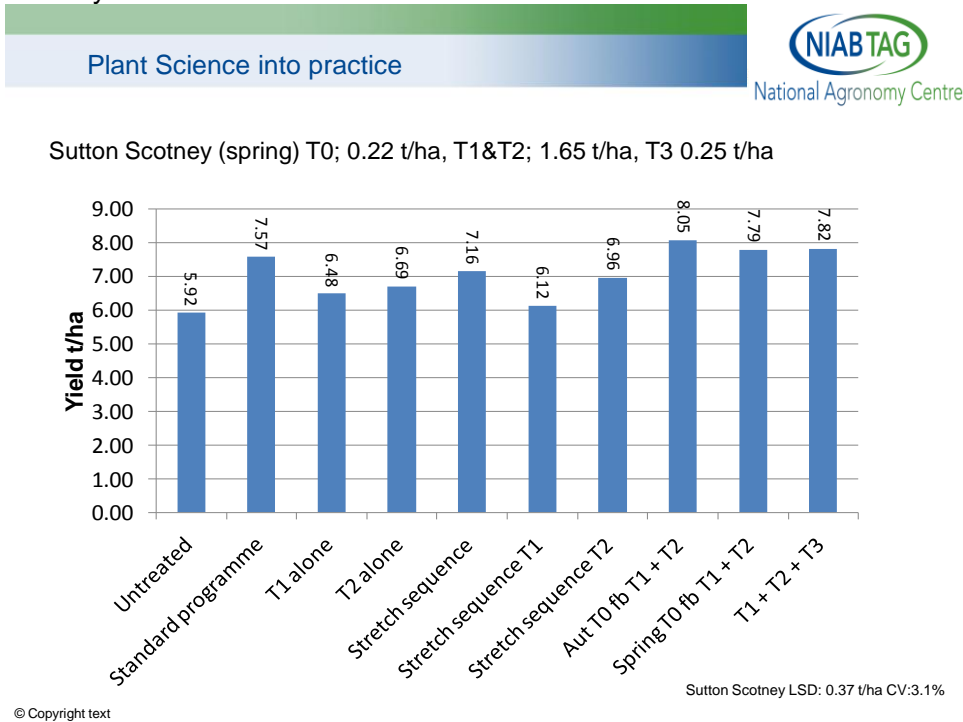
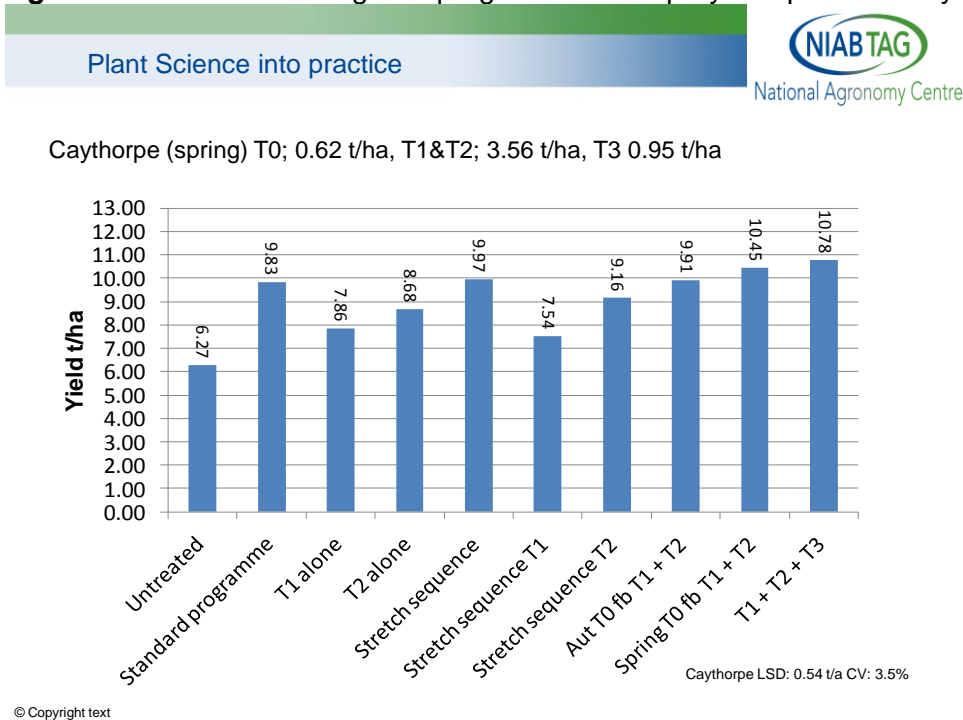


Figure 3. The effect of fungicide programme and spray components on yield (t/ha); Caythorpe



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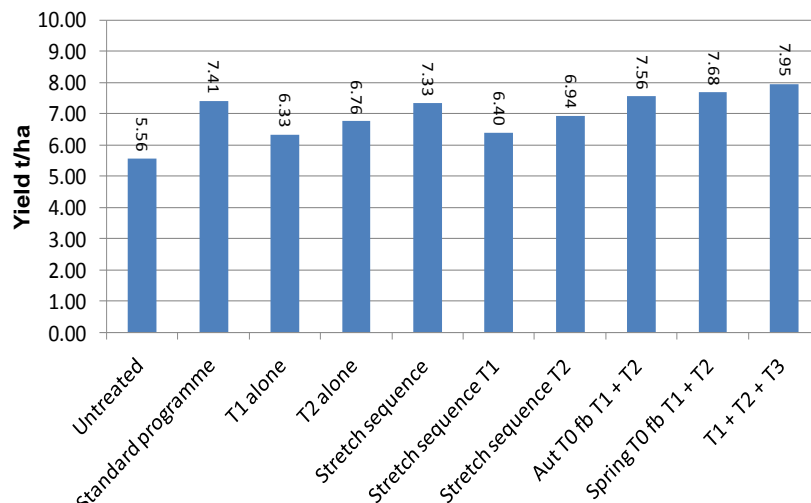
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Figure 4. The effect of fungicide programme and spray components on yield (t/ha); mean of sites



Mean: (spring) T0; 0.27 t/ha, T1&T2; 1.85 t/ha, T3 0.54 t/ha



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Field details & overall applications to crop

Trial name:	Fungicide timing response monitoring in winter barley
Crop:	Winter Barley
Location:	Caythorpe, Lincolnshire
Trial code:	WB14-510
Soil type:	Elmton 1
Soil analysis:	P-23 ppm, K-259 ppm, Mg-59 ppm, pH-7.9, OM-4.8%,
Previous crop:	Spring Barley
Drill date:	24/09/13
Seed rate:	350 seeds m ²
Drilled plot size:	12 x 2m
Replicates:	X 3

Individual applications to crop

Input type	Product	Product rate	Date
Herbicide:	Crystal	2.0 l/ha	15/10/13
	Hurricane	0.1 l/ha	15/10/13
	Ally Max	30 g/ha	31/03/14
Fertiliser:	Sulphur Gold 29 % N 20 % SO ₃	44 N + 12 kg S kg/ha	19/02/14
	Ammonium nitrate 34.5 %	80 kg N/ha	02/04/14
	Ammonium nitrate 34.5 %	60 kg N/ha	28/04/14
Insecticide:	Hallmark	50 ml/ha	15/10/13
	Hallmark	50 ml/ha	13/11/13
PGR:	5C Cycocel	2.25 l/ha	24/03/14
	Moddus	0.1 l/ha	24/03/14
	Terpal	1.0 l/ha	24/04/14

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Field details & overall applications to crop

Trial name:	NAC Fungicide Timing
Crop:	Winter Barley
Location:	Sutton Scotney
Trial code:	WB14-510
Soil type:	Andover Series 1
Soil analysis:	P-18ppm, K-178ppm, Mg-37ppm, Ca-3701ppm, S-6ppm, Mn-108ppm, pH-7.8
Previous crop:	Winter Oilseed Rape
Drill date:	01/10/2013
Drilled plot size:	2 x 10m
Replicates:	3
Harvest date:	18/07/2014

Individual applications to crop

Input type	Product	Product rate	Date
Herbicide	Crystal	4l/ha	01/10/13
	Spitfire	1l/ha	10/04/14
	Oxytril	1l/ha	10/04/14
PGR	3C Chlormequat	1.25l/ha	09/04/14
Insecticide	Hallmark	75ml/ha	03/10/13
Fertiliser	Double Top	50Kg N/ha	21/03/14
	Nitram 34.5% N	100Kg N/ha	01/05/14

Field details & overall applications to crop

Crop:	Winter Barley
Trial ID:	WB14-9040
Location: Name and 6 fig grid ref	Owers, Morley, Norfolk
Soil type:	Ashley series, sandy loam
Soil analysis:	P-27.2 mg/l, K-107 mg/l, Mg-60 mg/l, pH-7.8
Previous crop:	Spring Barley
Drill date: dd/mm/yy	29/09/13
Drilled plot size: m2	25.2
Replicates:	X 3

Input type	Product	Product rate	Date
Herbicide:	Trooper	2 l/ha	06/10/13
	Herold	0.3 l/ha	06/10/13
	Adigor	0.6 l/ha	04/04/14
	Axial	0.3 l/ha	04/04/14
Fertiliser:	Liquid N 22+S	58 kg N/ha (SO3 32 kg/ha)	11/03/14
	Liquid N 27+S	80 kg N/ha (SO3 14 kg/ha)	03/04/14
	Epsa Top	4.7 kg/ha	08/05/14
PGR:	Agrovista 3 see 750	2 l/ha	04/04/14
Insecticide:	Groove	1 l/ha	04/04/14

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