

Cost effective...

Consistent cost effectiveness of Latitude

- Latitude is cost effective wherever take-all is a problem
- The benefit of Latitude will depend on seed rate

Cost benefit depends on seed rate

Seed rate		Latitude cost (£/ha)	Yield needed to cover cost (t/ha)	Gross margin from Latitude (£/ha)
(No./m ²)	kg/ha			
150	75	14	0.08	85
200	100	19	0.10	80
250	125	23	0.13	76
300	150	28	0.16	71
350	175	33	0.18	66
400	200	37	0.21	62

Latitude delivers year-on-year

Year	Yield Response (t/ha)	Gross margin from Latitude (£/ha)
2001	1.41	231
2002	0.76	114
2003	0.62	88
2004	0.69	102
2005	1.00	156
2006	0.29	29
2007	0.28	27
2008	0.65	94
2009	0.25	22
2010	0.22	17
Mean	0.66	88

Latitude increases winter barley yield and quality

- Latitude protects winter barley from take-all
- It delivers an average yield benefit of 0.4t/ha
- Latitude also improves specific weight and reduces screening losses

Seed rate		Latitude cost (£/ha)	Yield needed to cover (t/ha)	Gross margin from Latitude (£/ha)		
no/m ²	Kg/ha			0.25t/ha yield	0.4 t/ha yield	0.6t/ha yield
200 (Hybrids)	100	18.74	0.13	16.3	37.3	65.3
325 (Conventional varieties)	150	28.11	0.2	6.9	27.9	55.9

- Assume Feed barley = £140/t, TGW 46g, Latitude £187.4/t
- Malting barley premium would increase these gross margins
- Average Latitude response = 0.25 t/ha from 79 European trials over 5 yrs. Average response = 0.4t/ha from 5 years UK trials, highest response 0.64t/ha



Source: 120 Monsanto and independent trials, 2001-2010
 Average Latitude response = 0.55 t/ha (basic seed treatment = 9.03t/ha)
 Feed wheat = £180/t
 Latitude price = £187.4/t

Source: AICC Independent trials 2001-2010

Where: Feed wheat price = £180/tonne,
 Latitude = £187.4/t, tgw = 50g,
 Seed rate = 250 seeds/m²

Protect first wheat yield and quality

- Significant take-all can also occur in first wheats following:
 - Non cropped land
 - Spring cereals
 - Fallow
 - Where couch or other perennial grasses are present

Important information

Approved crops:

- Winter and spring wheat
- Winter barley

Guidelines for use

- Use in situations where take-all is likely
 - Second and third wheat
 - Winter barley following a cereal
 - Earlier drilled crops
 - First wheat after non-cropped land or a spring cereal
- Integrate Latitude with cultural control methods to reduce disease
 - Don't sow too early (October is optimum)
 - Combine Latitude with a suitable wheat variety
 - Use appropriate seed rates
 - Correct pH and nutrient (P, K, Mn, Cu) deficiency
 - Correct soil problems and consolidate seedbeds
 - Apply spring nitrogen early (early February is optimum)
- Be aware that take-all symptoms will be seen in high disease situations
- The likely build up of resistance to Latitude is low but cannot be excluded. As a precaution do not treat more than three consecutive cereals crops in any one rotation

Application rate and information

- 2 litres / tonne
- Specific gravity = 1.059 kg/l
- Co-apply with a basic seed treatment for seed-borne disease control
- Latitude is compatible with the following seed treatments when co-applied to seed:
 - Anchor, Austral Plus, Beret Gold, Beret Multi, Celest Extra, Deter, Kinto, De Sangosse New Manganese Solution, Maxi-phi, Radiate, Raxil Deter, Raxil Pro, Redigo, Redigo Deter, Redigo Twin, Redigo Twin TXC, SeedsMan, Take Off, Tripod, Tripod Plus.

Drilling instructions

- Check drill calibration before use
 - Drill seed at 2.5 - 4cm depth into a well prepared and firm seedbed
- Avoid poor seed bed conditions (e.g. very dry, fluffy, cloddy, capped or water-logged seedbeds)

Seed storage

- Ideally, drill Latitude treated seed in the season of purchase
- Latitude does not adversely affect the germination of stored seed
- Because it is normally co-applied with a basic seed treatment always check the germination prior to using over-year seed



The first choice for take all control

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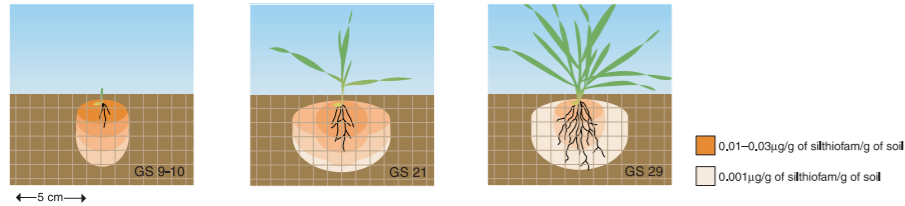
For more information contact your local distributor. Monsanto Helpline 01954 717575
 Email: technical.helpline.uk@monsanto.com. Website: www.monsanto-ag.co.uk
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 Use fungicides safely. Latitude® is a registered trademark of Monsanto Technology LLC.
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Latitude protects roots from take-all

- Moves rapidly off the seed and slowly through the soil
- Creates a zone of protection
- Controls the primary infection in the autumn
- Reduces subsequent disease development
- Maintains root efficiency
- Increases nutrient and water uptake



Latitude increases second wheat yield and quality

- Latitude is the only specialist treatment for take-all
- It improves yield wherever take-all is a problem
- Latitude delivers an average yield response of 0.5t/ha
- Specific weight is increased between 1 and 5 kg/hl

Highest yielding second wheats

NABIM Group 1	NABIM Group 2	NABIM Group 3	NABIM Group 4
Gallant 100	Ketchum 105	Cocoon 102	Beluga 106
Solstice 98	KWS-Sterling 102	Tuxedo 102	KWS-Santiago 106
	Battalion 102	Invicta 101	JB Diego 105
	Panorama 102	KWS-Target 101	Oakley 105
	Kingdom 101	Warrior 101	Conqueror 104
			Duxford 104
			Grafton 104
	Einstein 100	Scout 100	Istabraq 104
	Cordiale 100	Robigus 98	Glasgow 103
	KWS-Podium 99	Claire 96	Gravitas 103
			Cassius 103
			Denman 103
			Viscount 103
			Stigg 102
			Humber 101
			Gladiator 101
			Alchemy 99

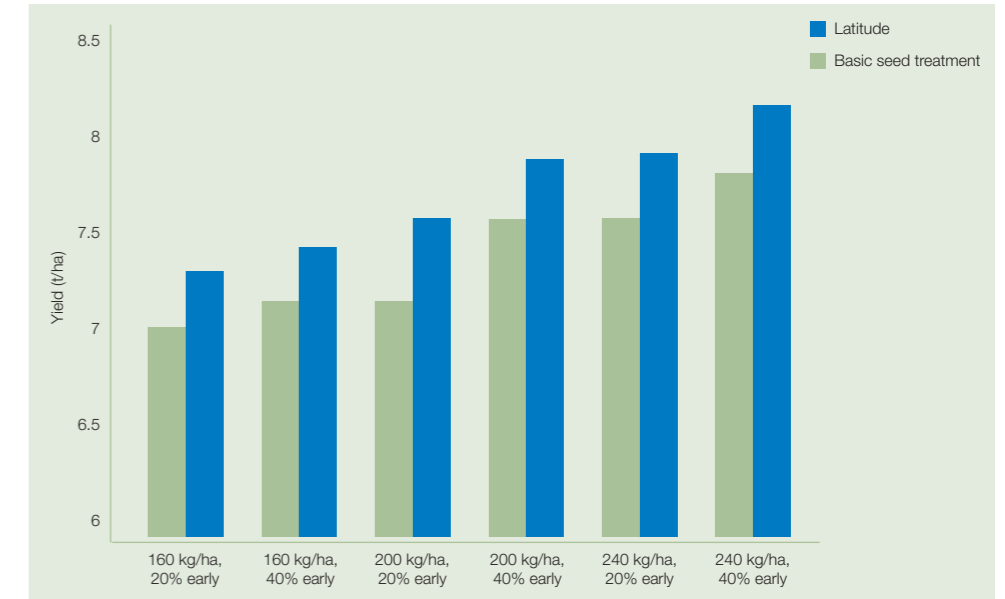
Source: HGCA Recommended list www.hgca.com
 Rotation position data for second, third and continuous wheat
 Numbers indicate yield relative to control varieties, where treated control yield = 9.4 t/ha

Choosing the correct variety

- No variety is resistant to take-all
- Choose a variety based on its performance over several years
- Consider end market and premiums
- All varieties respond in a similar way to Latitude treatment
- Some varieties should be avoided (e.g. Robigus)

Manage crop nutrition

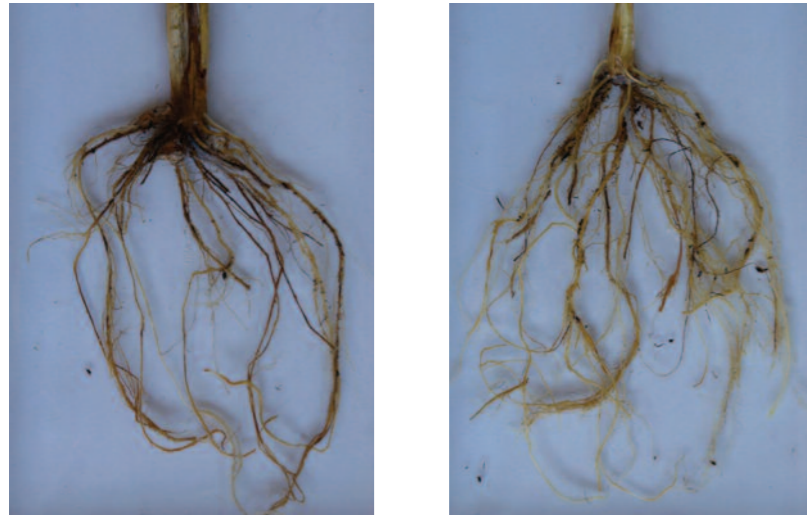
- Applied nitrogen can help to offset the effects of take-all.
- Early nitrogen is also beneficial
- Latitude increases yield under all nitrogen regimes
- Latitude increases nutrient uptake and nitrogen use efficiency
- It also improves water uptake and the ability of the crop to withstand late-season drought



Source: HGCA Link Project (TAG), mean of 3 sites over 3 years

The most effective tool for take-all management.

Large difference between untreated and treated

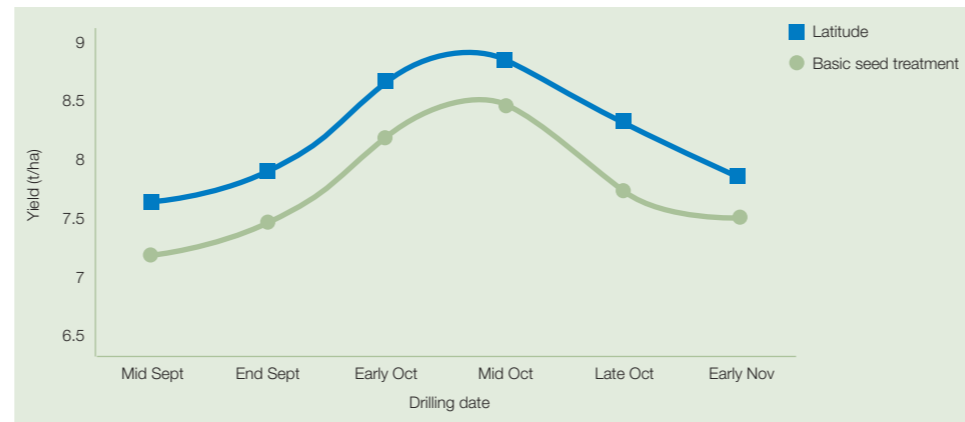


Untreated

Treated

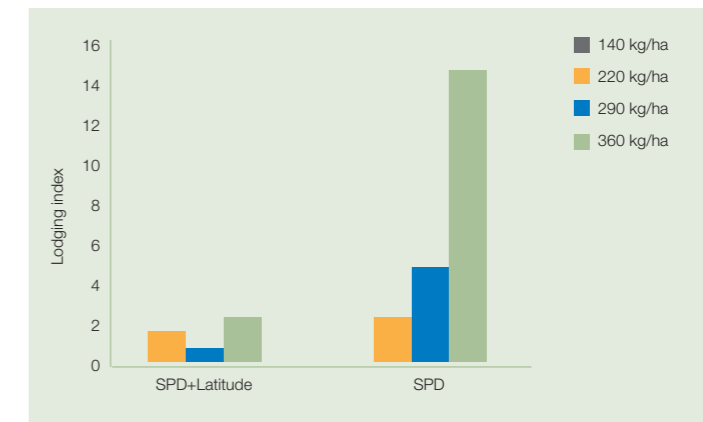
Choose the correct time to drill

- Latitude allows second wheat to be drilled earlier into better seedbed conditions
- Earlier drilling significantly increases the risk of disease but even late crops are affected
- The optimum drilling date for second wheat is during October
- Low seed rates may help to reduce infection



Source: Monsanto and independent trials

Effect of Latitude on lodging



Source: ADAS. 2009. Nitrogen Use Efficiency trial. Var. Battalion

