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GRASS WEEDS

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GRASS WEEDS

Welcome to our virtual meeting



Grass weeds: Ryegrass at Doncaster Virtual Meeting 2020 (afternoon session) This meeting will start at 15:00

This webinar will be recorded via Zoom and the recording will be emailed out to attendees and published on our website after the event.

What are we going to cover?



GRASS WEEDS

- Housekeeping
- Doncaster – the site and the season
- Competitive cropping to limit seed return
- Residual chemistry; mixing and timing for best control
- Application: Pre and post-em application advice including nozzle selection for best efficacy
- Q&A



Housekeeping



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- Please send questions via the Q&A function – they will be answered at the end
- We will send a link out to everyone for more information
- 2 BASIS points available
- Sit back, relax, and enjoy!



Objective: Maximise grass weed control through an integrated approach



GRASS WEEDS



COMPETITIVE CROP

Increase the crops ability to out-compete the weed

CROP SPECIES

DRILL DIRECTION

Georgie Wood
Field Technical Manager



DIRECT CHEMICAL CONTROL

Kill the weed using chemicals

Ai CHOICE

PRE-EM STACKING

TIMING & SEQUENCES

Andy Cunningham
Field Technical Specialist



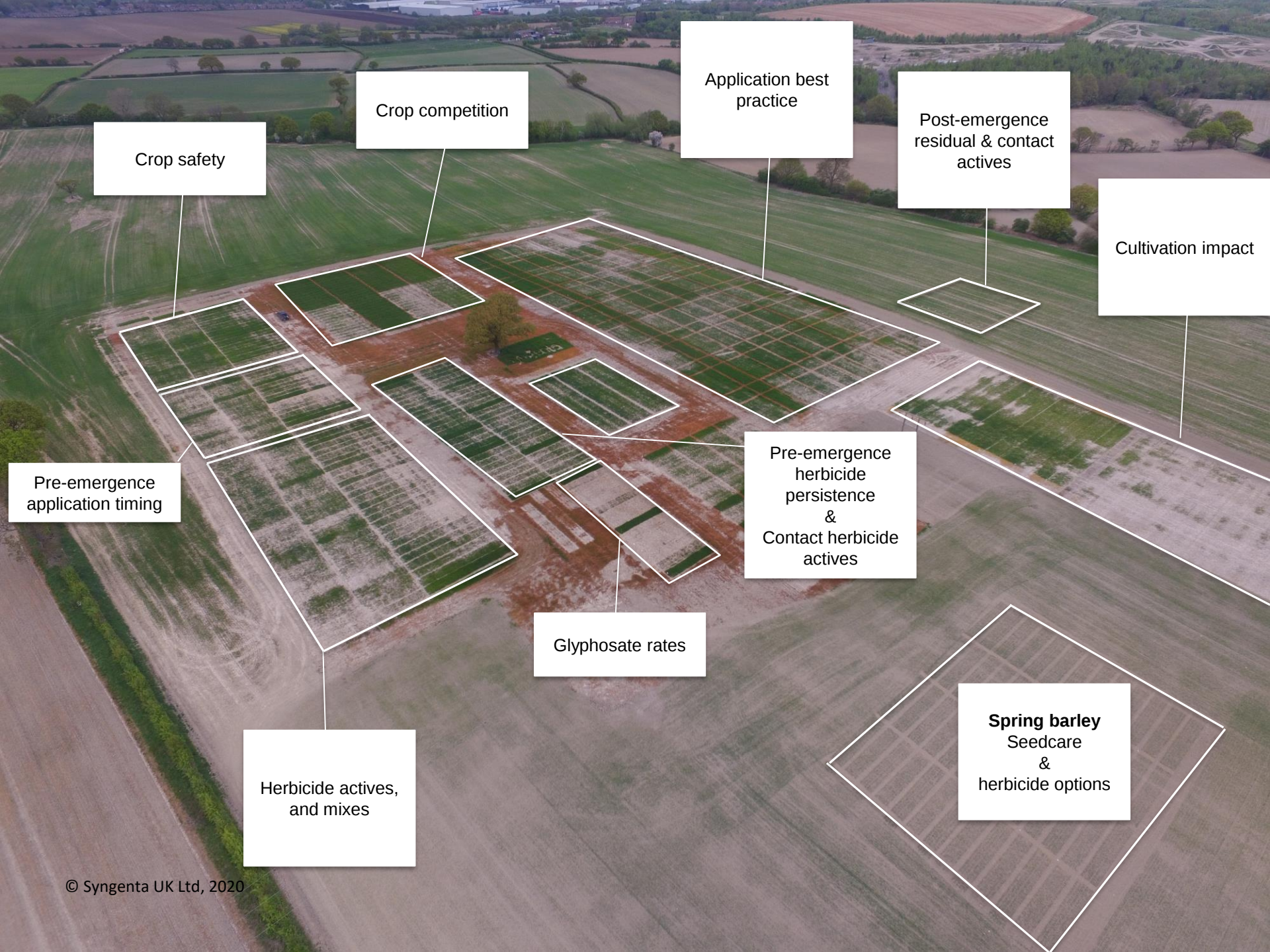
APPLICATION

Maximise the benefit of chemical control

EFFECT OF WATER RATES,
FORWARD SPEED
AND BOOM HEIGHT

NOZZLE CHOICE

Harry Fordham
New Farm Technology Lead



Crop safety

Crop competition

Application best practice

Post-emergence residual & contact actives

Cultivation impact

Pre-emergence application timing

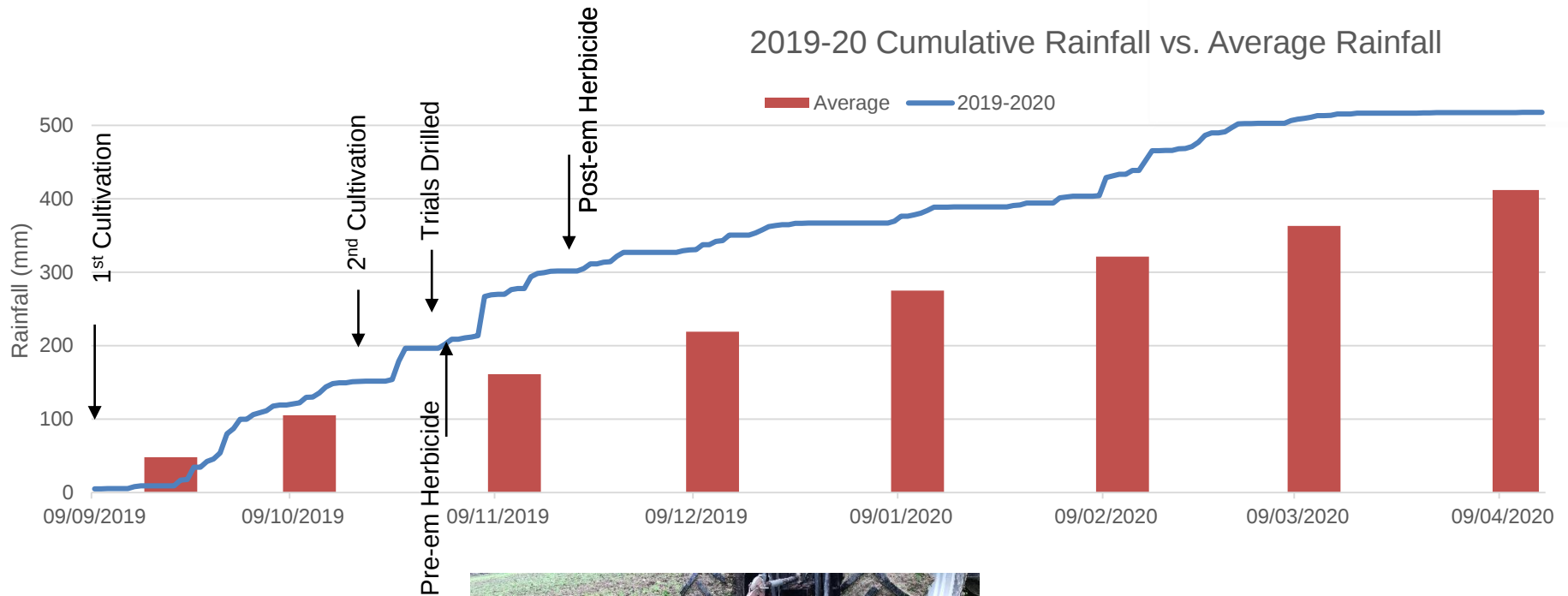
Pre-emergence herbicide persistence & Contact herbicide actives

Glyphosate rates

Herbicide actives, and mixes

Spring barley
Seedcare & herbicide options

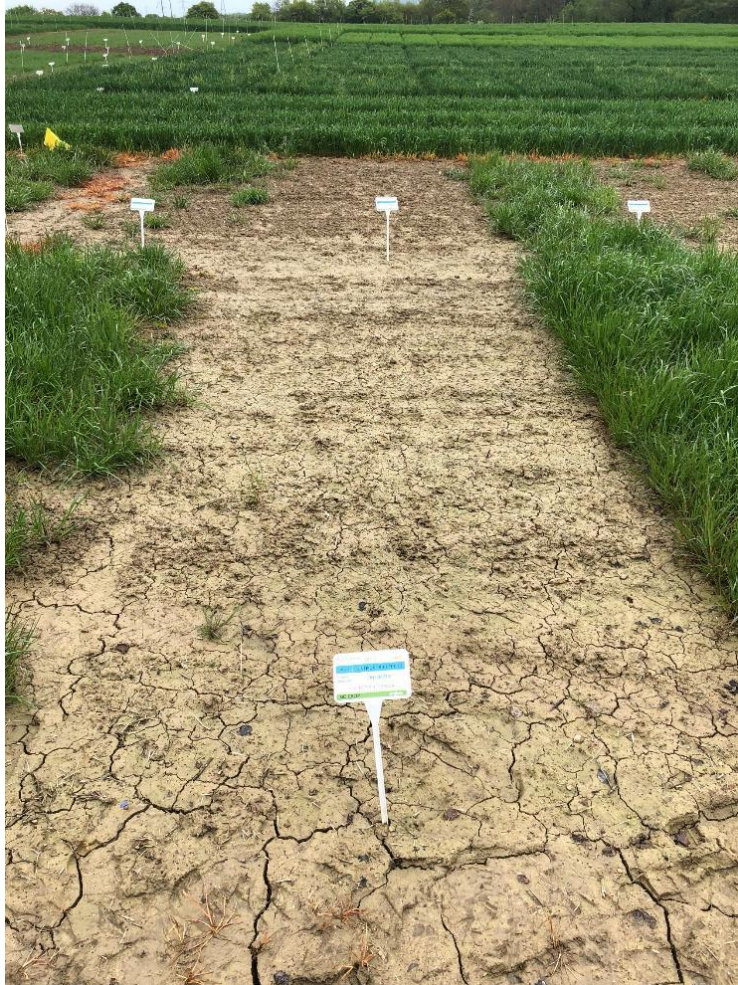
Doncaster drilling 2019



Ryegrass emergence at Doncaster was 99% in autumn 2018



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**Plot sprayed off 27th Nov
(to show how much more germinates)**

**Visual control
99%
(5 plants/m²)**

Autumn germinating Italian ryegrass
produces 23x more seed than spring
germinating
(Reverte, R. A. 2010)

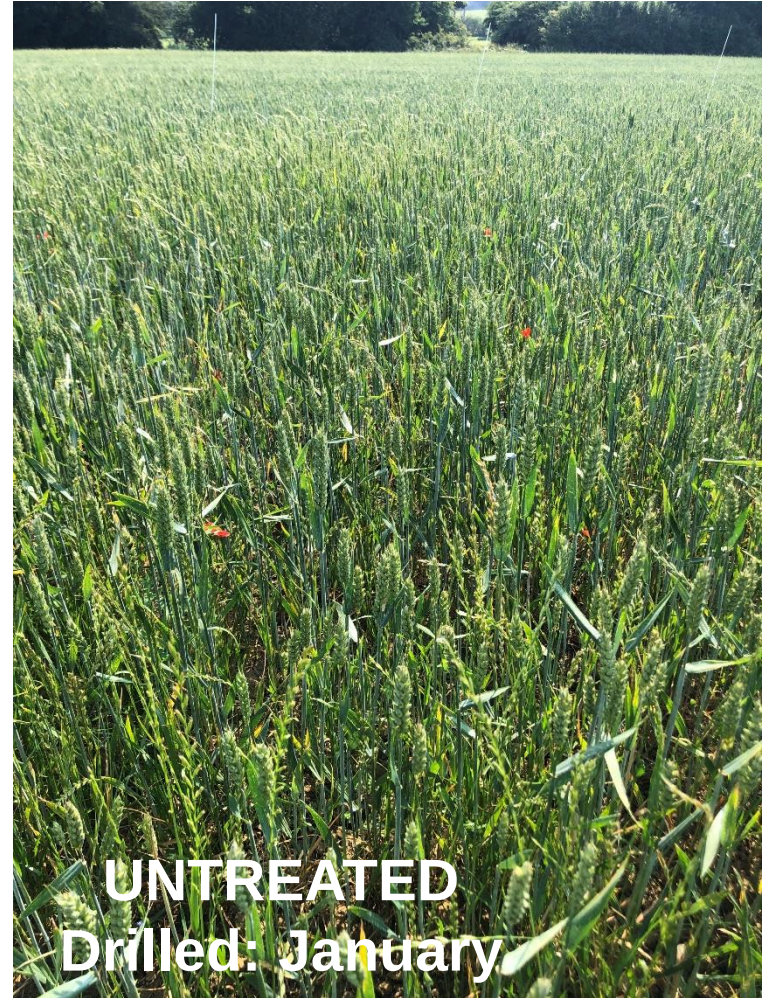
Ryegrass emergence at Doncaster was 80% in autumn 2019



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UNTREATED
Drilled: October



UNTREATED
Drilled: January



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COMPETITIVE CROP

Increase the crops ability
to out-compete the weed

CROP SPECIES

Bazooka (Hybrid Winter Barley)

Now then. It's difficult to find any ryegrass above that!!!



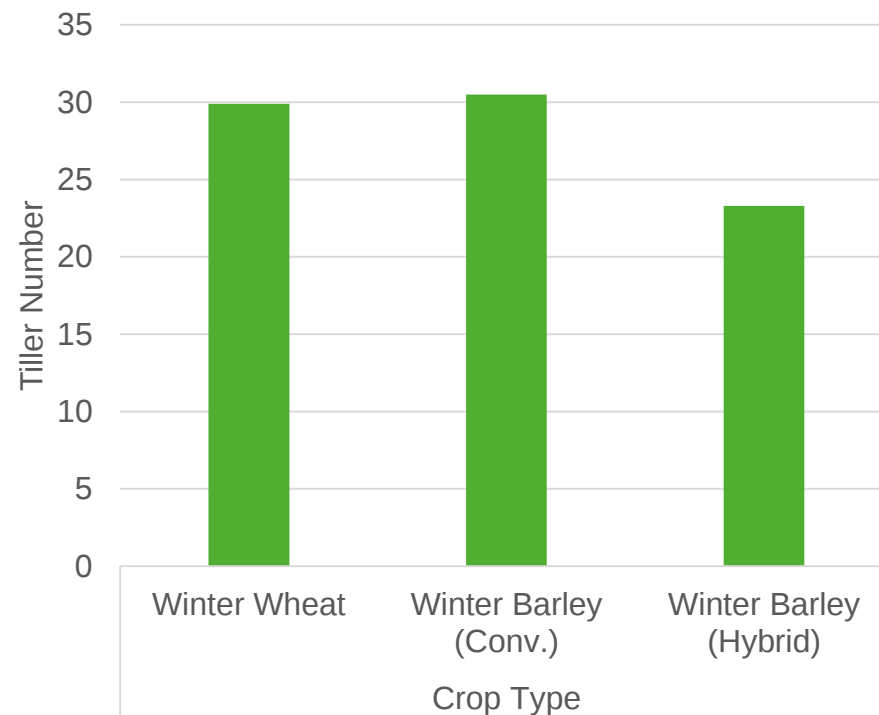


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Greater competition gives fewer grass weed tillers



Number of Ryegrass Tillers
(Average of 20 Plants)

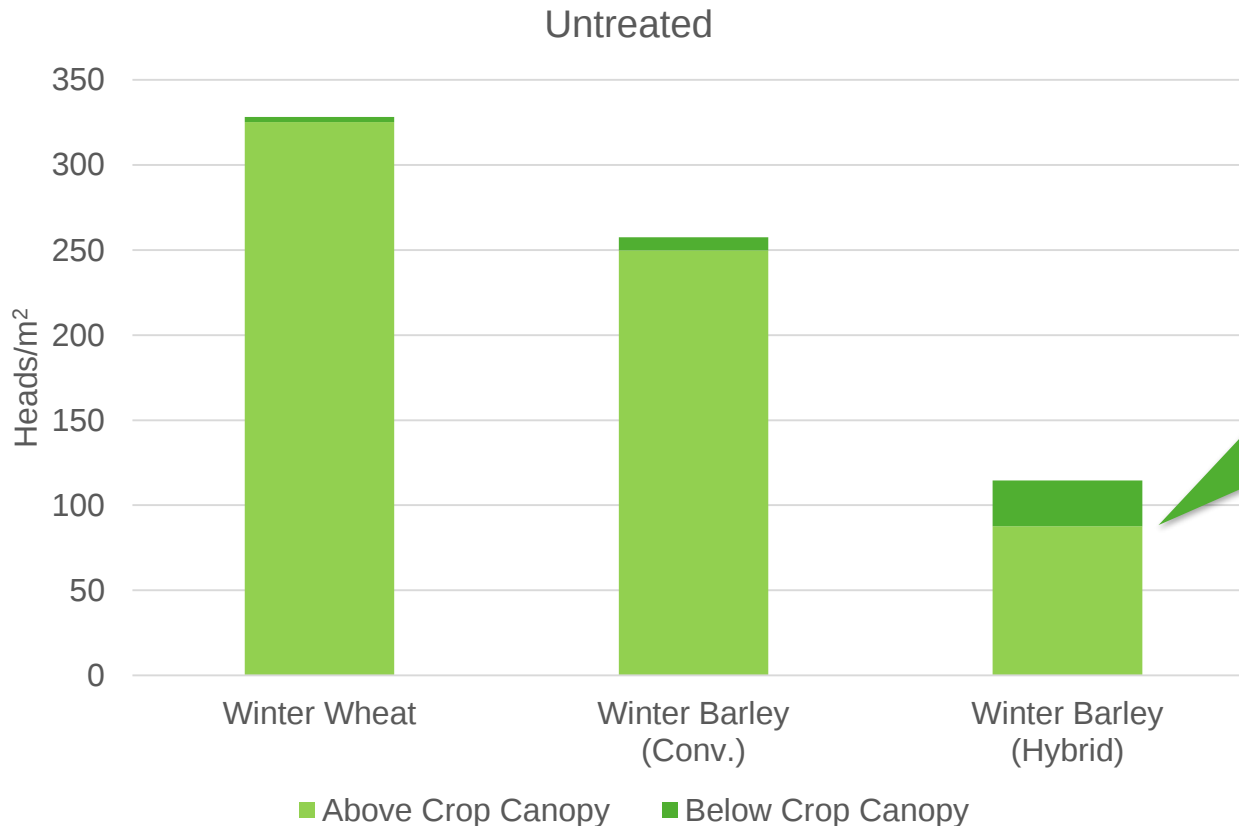


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More competition from the crop reduces the number of grass weed ears



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A greater proportion of grass weed ears remain below the crop canopy in HYVIDO plots



Greater competition gives smaller ears



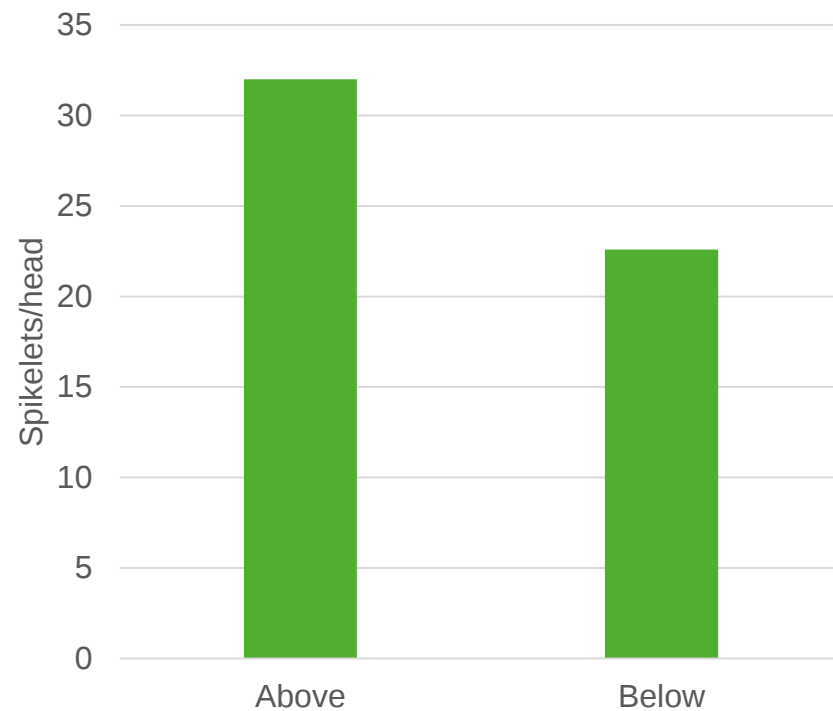
GRASS WEEDS

Above

Below



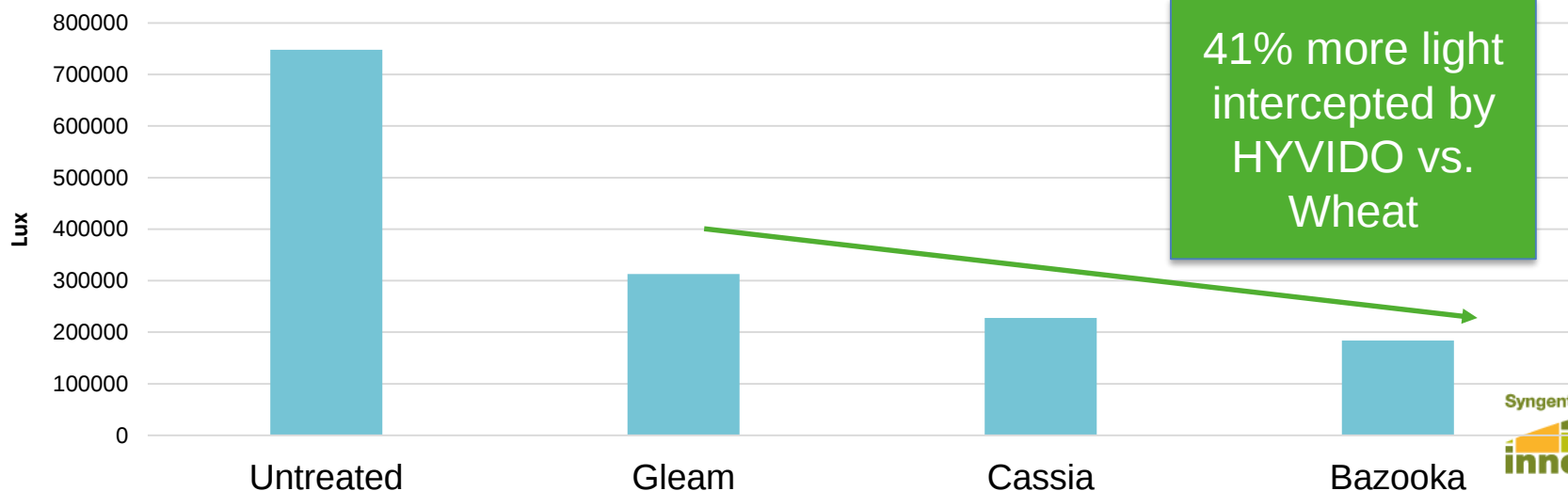
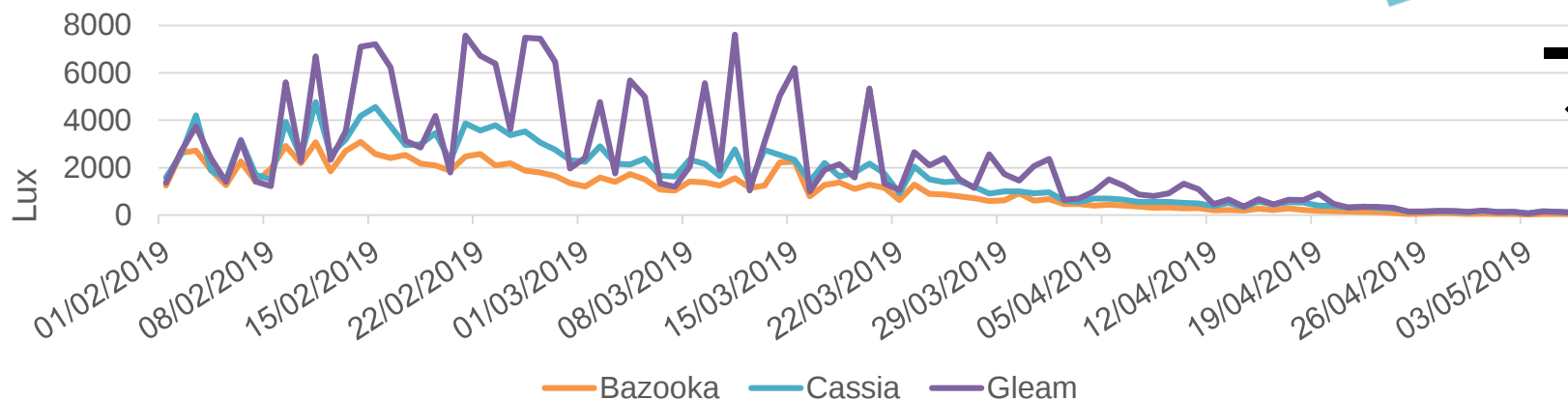
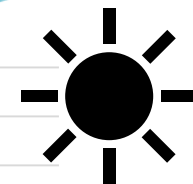
Spikelets per head



HYVIDO lets less light through the canopy



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Establishment in 2019/20 was too poor to generate any results



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Bazooka	200 s/m ²	
	250 s/m ²	
	275 s/m ²	
SY Kingsbarn	200 s/m ²	
	250 s/m ²	
	275 s/m ²	
Conv. 2-row Barley	KWS Orwell 375 s/m ²	
	LG Flynn 375 s/m ²	
Conv. 6-row Barley	Funky 375 s/m ²	
	KWS Astaire 375 s/m ²	
Guard		
Winter Wheat	LG Skyscraper 375 s/m ²	
	RGT Gravity 375 s/m ²	
		Untreated Pre fb Post-em



Integrated control proved successful in Shropshire in 2019/20



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Ryegrass headcounts/m²

		No pre-em		Pre-em - Crystal 4.0 l/ha + DEFY 5.0 l/ha	
		No post-em	AXIAL Pro 0.6	No post-em	AXIAL Pro 0.6
	No crop	126	24	30	0
Hybrid barley	Bazooka 100*	38	0	0	0
	Bazooka 200	8	0	0	0
	Bazooka 250	2	0	0	0
Conventional 6 row barley	Variety 1 325	26	0	0	0
	Variety 2 325	34	16	0	0
Conventional 2 row barley	Variety 1 325	50	0	0	0
	Variety 2 325	56	6	0	0
Winter wheat	Variety 1 350	72	12	0	0
	Variety 1 350	66	10	8	0



COMPETITIVE CROP

Increase the crops ability
to out-compete the weed

CROP SPECIES



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Summary:

- Drilling in to good seedbed conditions is the first step to success
- Crop competition has a significant effect on ryegrass' ability to return seed
- HYVIDO offers significantly greater crop competition than conventional barley
 - Plants have fewer tillers
 - More ears remain below the canopy and produce fewer spikelets



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DIRECT CHEMICAL CONTROL

Kill the weed using chemicals

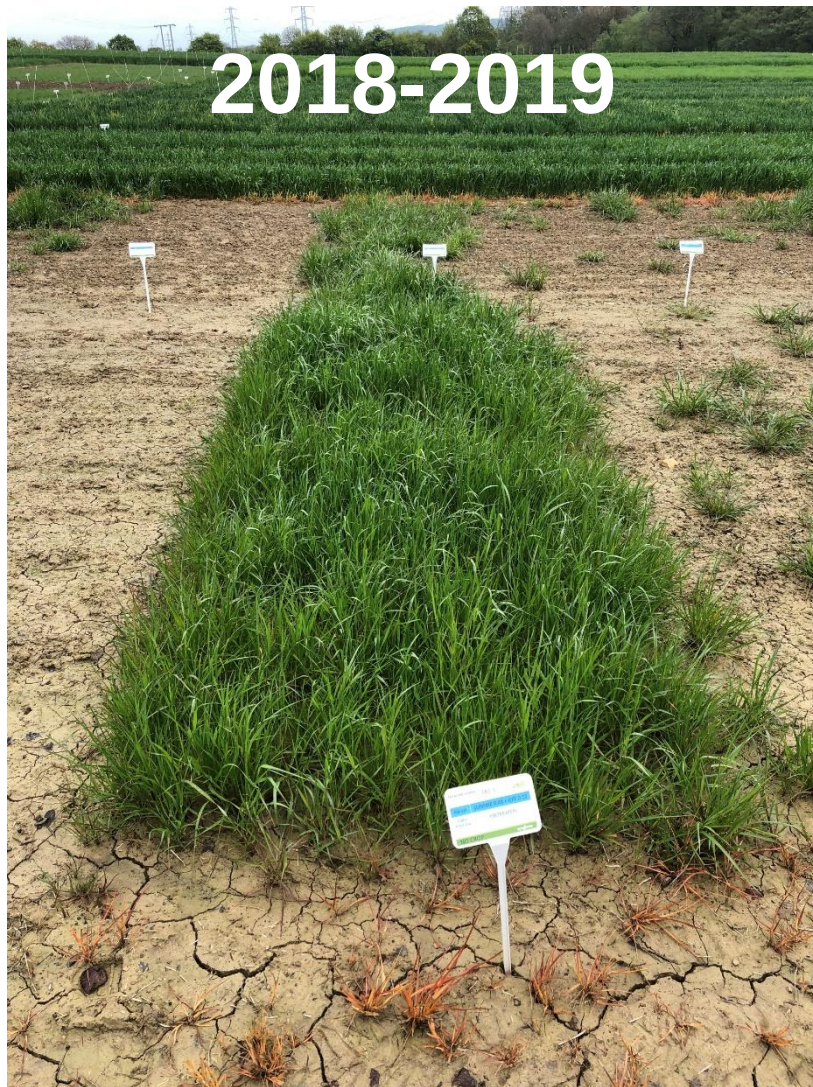
Ai CHOICE

PRE-EM STACKING

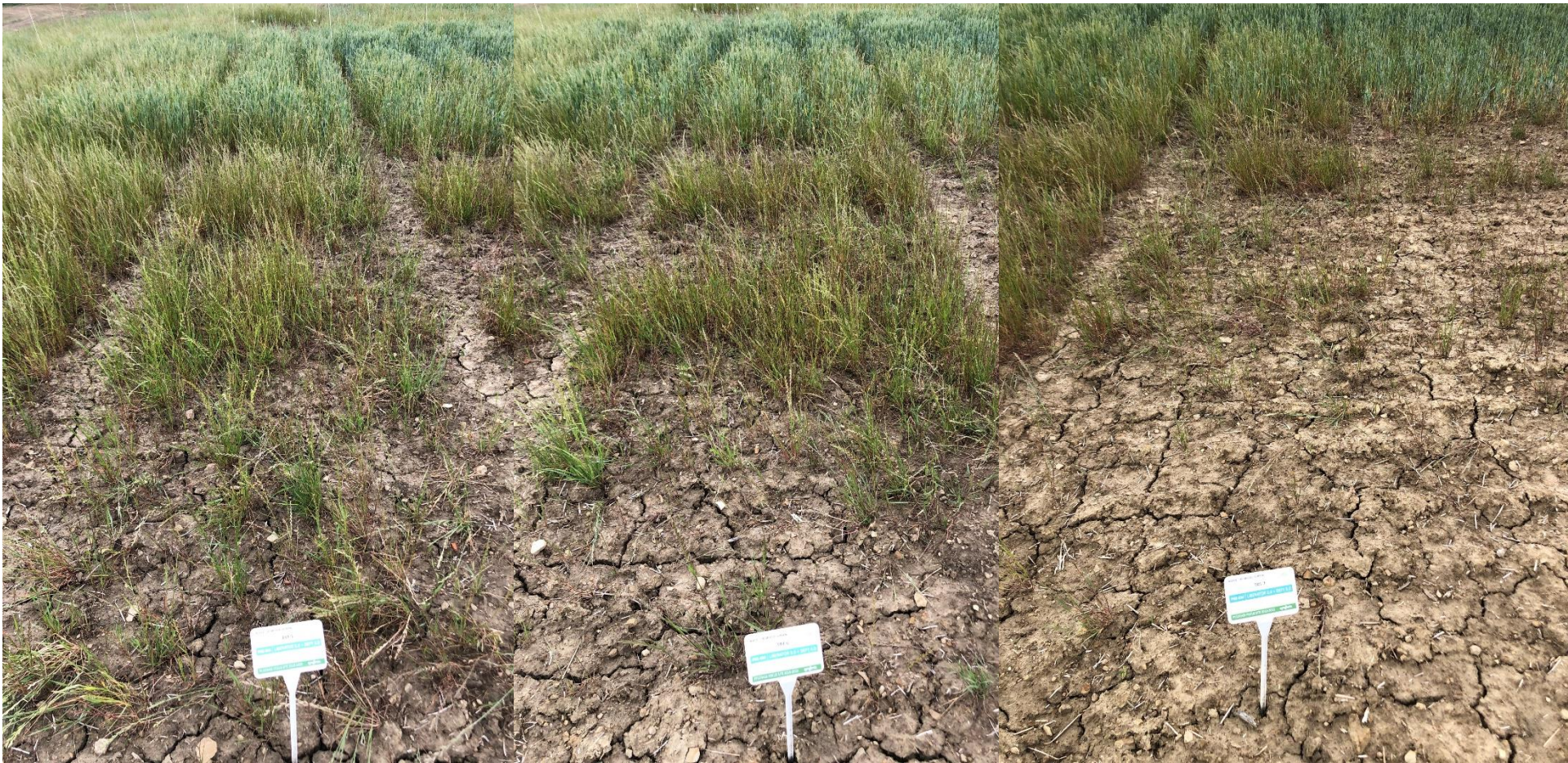
TIMING & SEQUENCES



Liberator 0.6



Increasing DEFY rates = better control

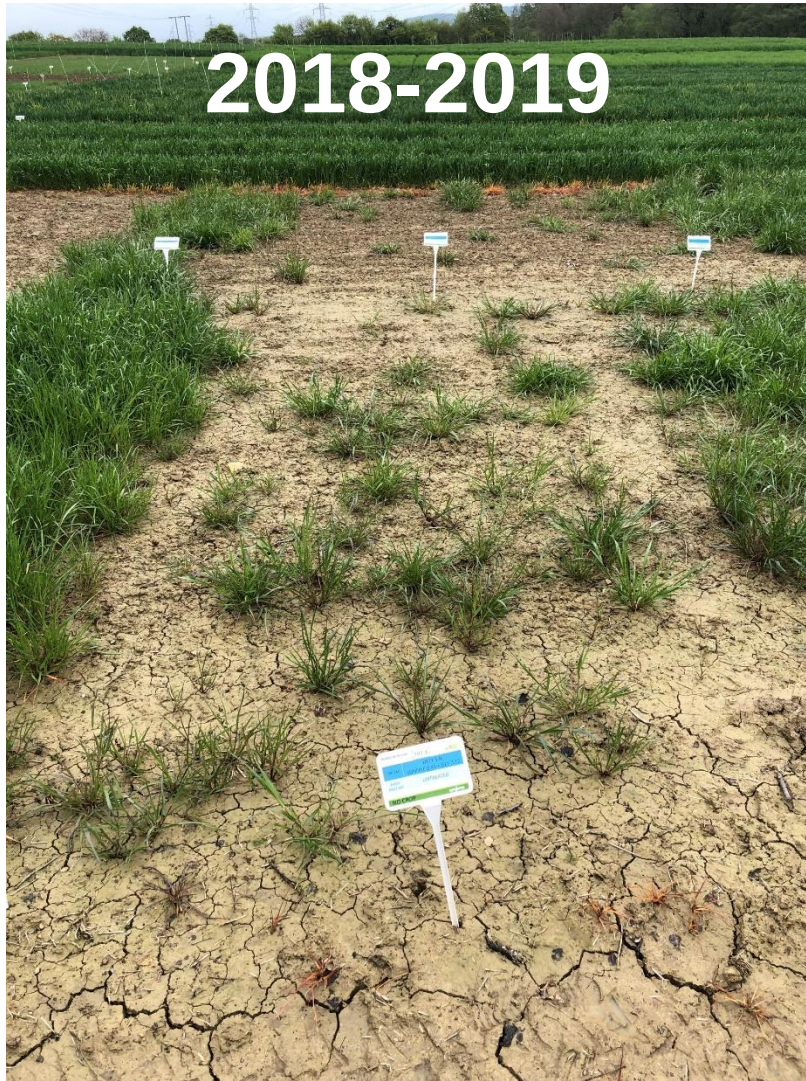


**Liberator 0.6 +
DEFY 3.0**

**Liberator 0.6 +
DEFY 4.0**

**Liberator 0.6 +
DEFY 5.0**

Liberator 0.6 + DEFY 5.0

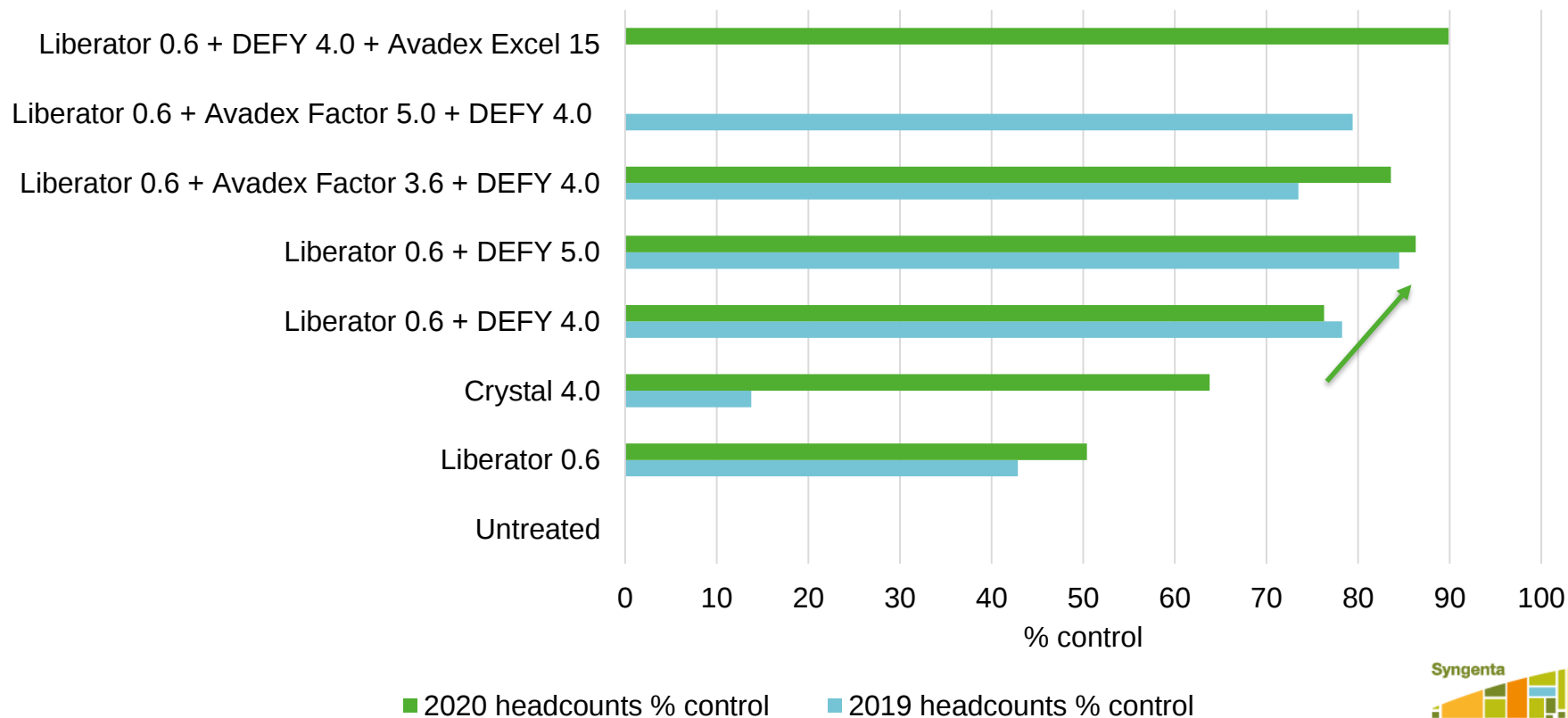


DEFY is a valuable part of the mix – higher rates = better control



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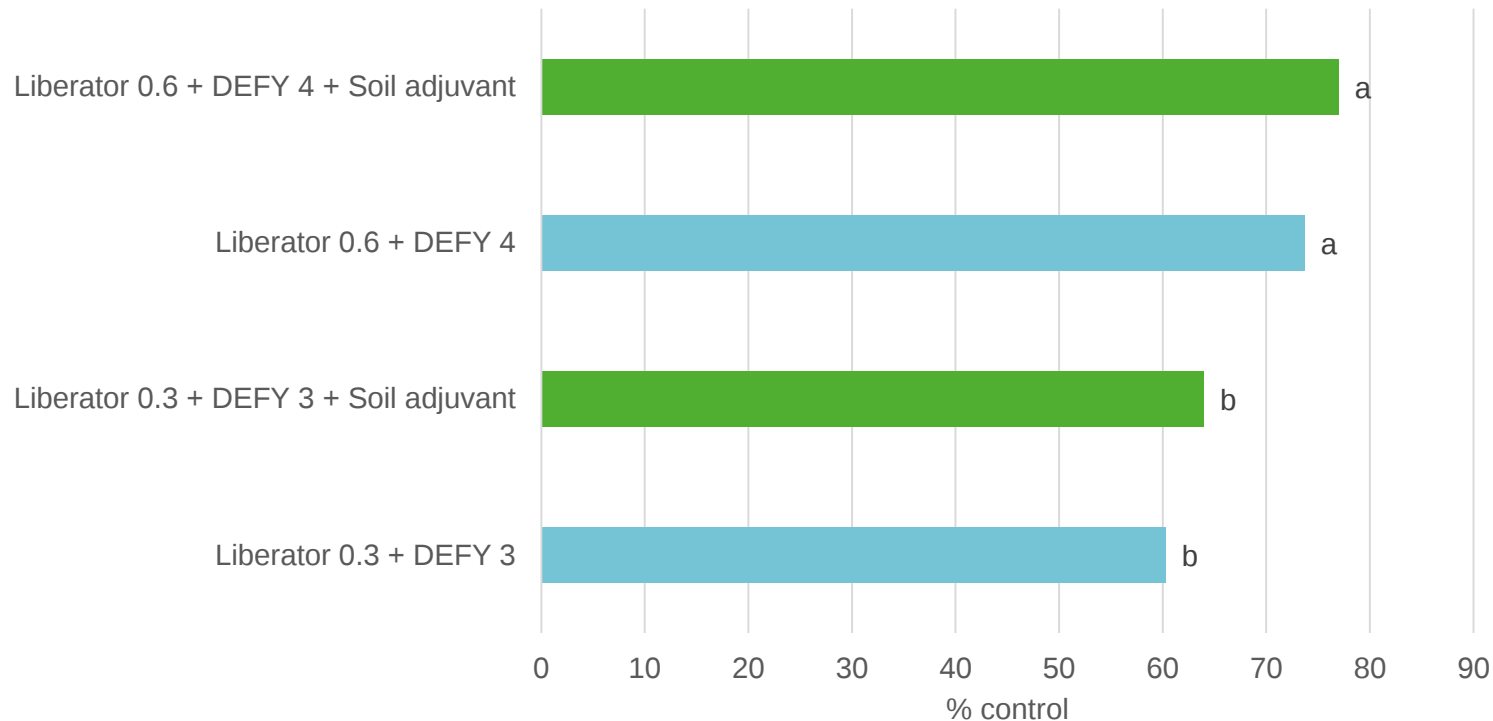
Ryegrass control from Pre-em



Adjuvant for soil adsorption & drift reduction gave a slight improvement in control



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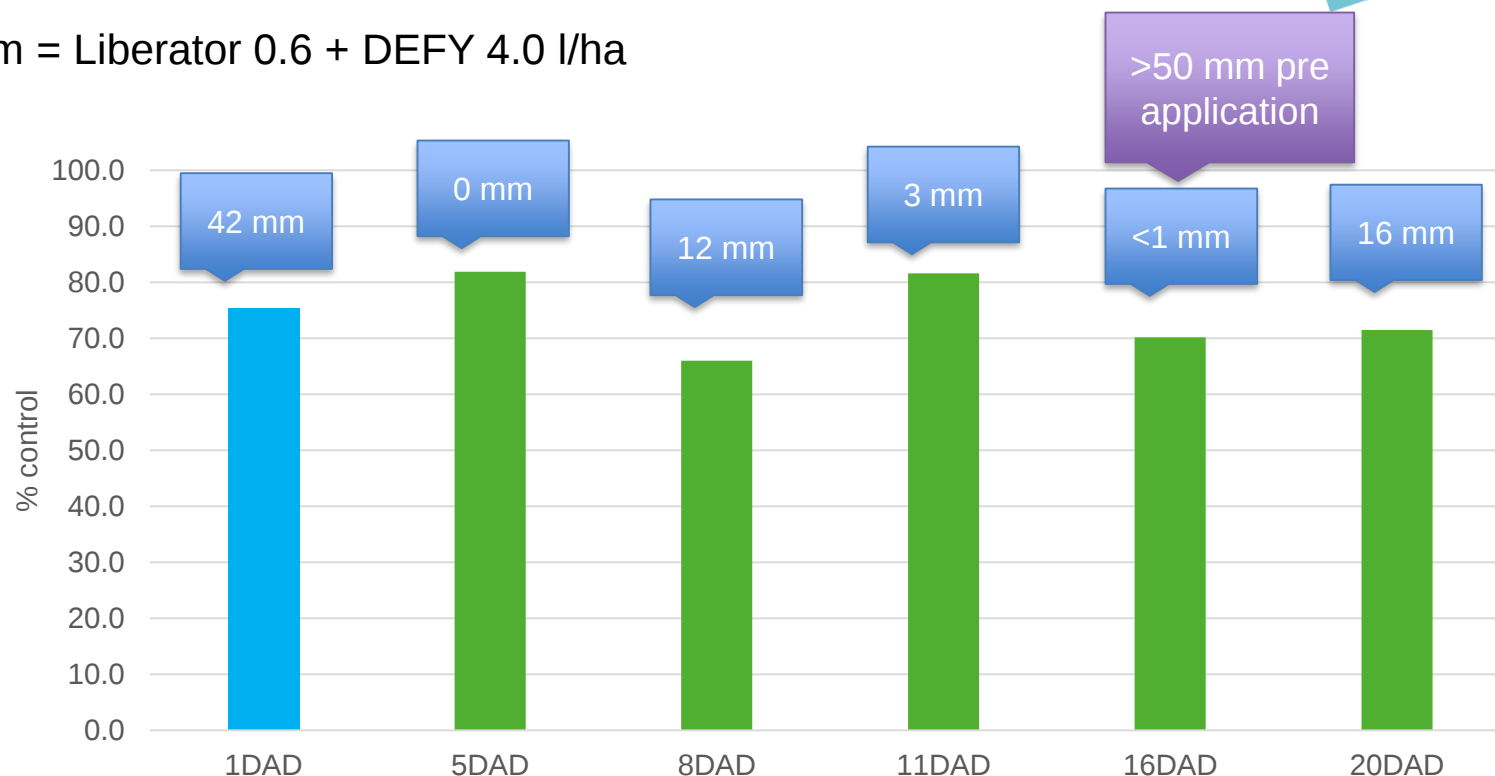


How does timing affect pre-em control?



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Pre-em = Liberator 0.6 + DEFY 4.0 l/ha



Better to get a pre-em on early than risk waiting for better weather that never arrives!



DIRECT CHEMICAL CONTROL

Kill the weed using chemicals

Ai CHOICE

PRE-EM STACKING

TIMING & SEQUENCES



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Summary:

- DEFY is a very valuable product in the mix for ryegrass control
- Increasing rates of DEFY increases control
- Soil adjuvants may add a few extra %
- Get a pre-em on as soon as you can!



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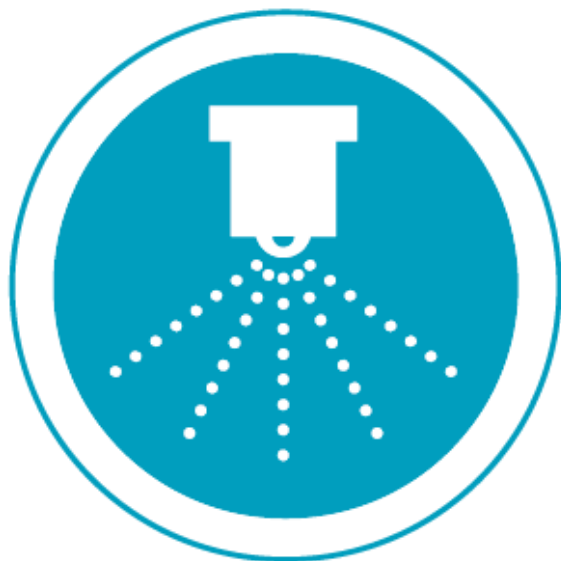
Application



syngenta.



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APPLICATION

Maximise the benefit of
chemical control

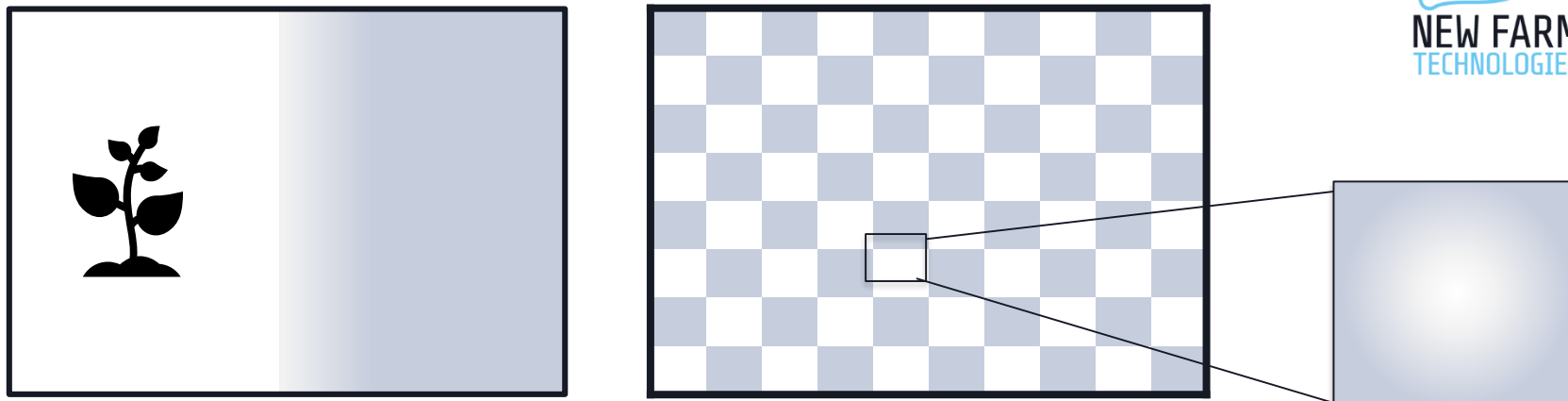
EFFECT OF WATER RATES,
FORWARD SPEED
AND BOOM HEIGHT

NOZZLE CHOICE

The importance of spray distribution

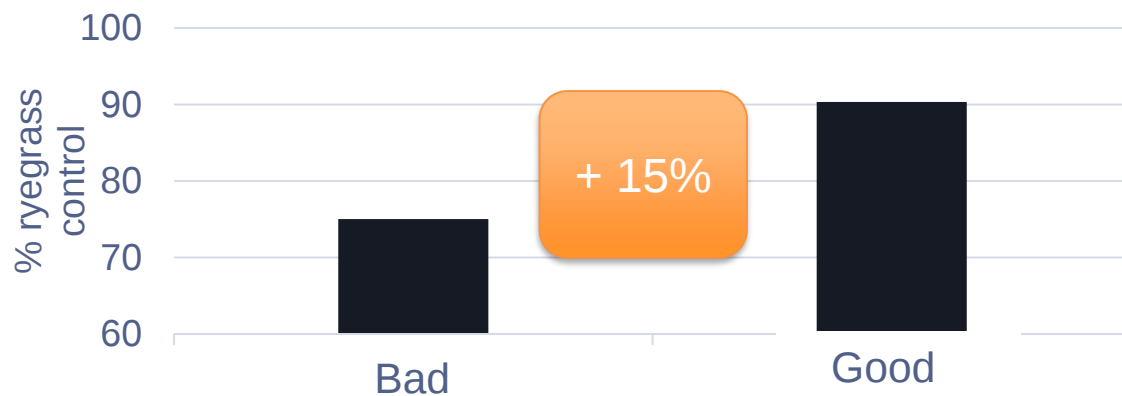
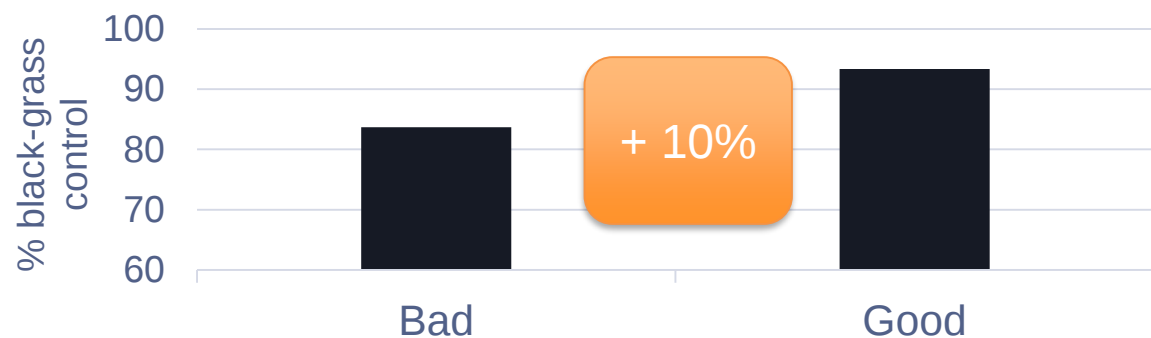


The importance of spray distribution



- Residual herbicides work via root and shoot activity
- In situations where conditions could lead to drift and therefore uneven distribution of spray the likelihood of poor levels of poor control is increased
- Ensuring an even distribution of product over the soil surface will improve your chances of controlling the emerging weeds (grass and dicot)

Good application practice delivers better efficacy



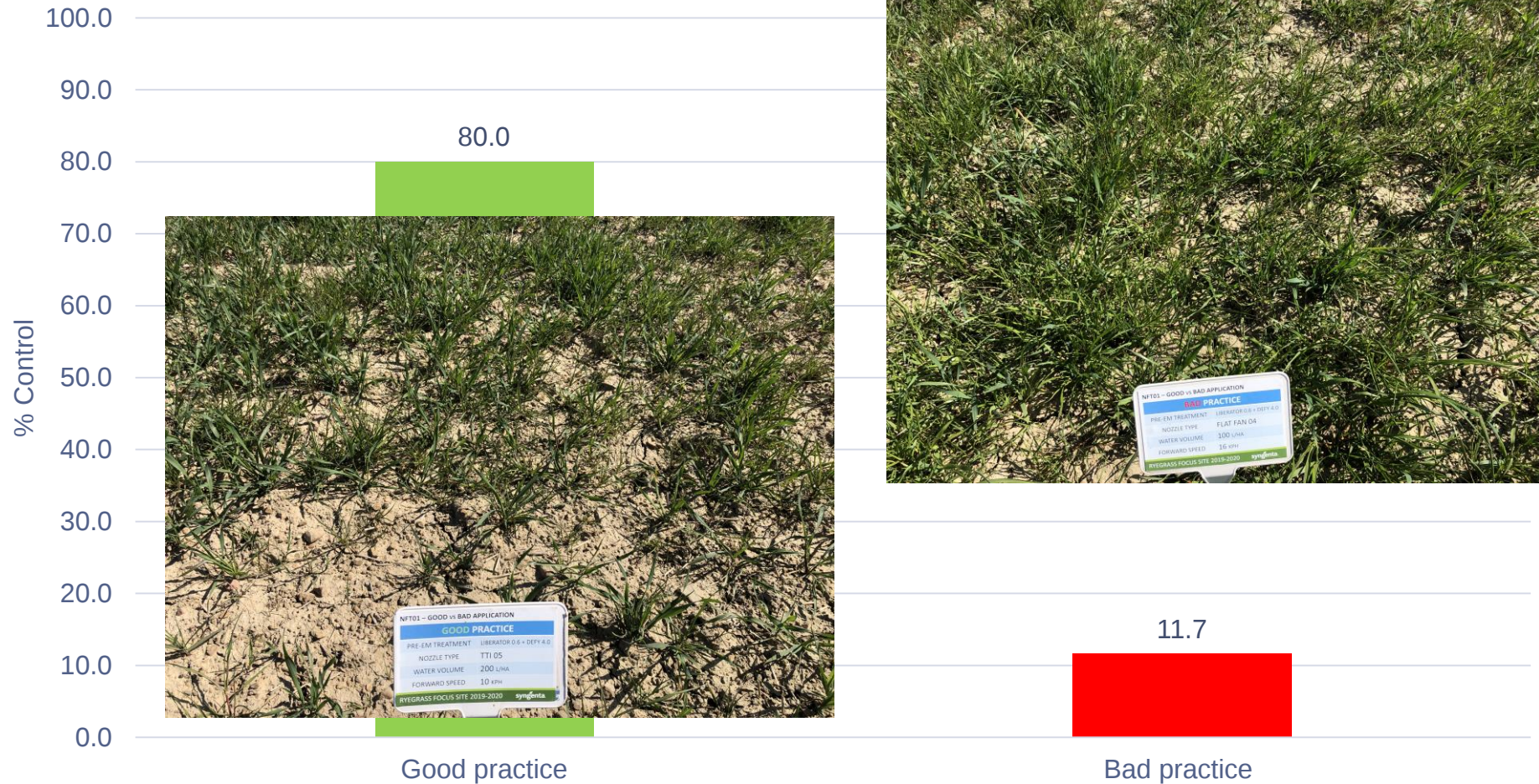
	Bad	Good
Speed	16 kph	10 kph
Water volume	100 l/ha	200 l/ha
Nozzle	Flat fan	90% TTI
Boom height	100 cm	50 cm

4.0 l/ha DEFY (PSC) + 0.6 l/ha Liberator (DFF+FFT)
Black-grass 3 sites; Average 35 plants/m²
Ryegrass 1 site; Average 306 plants/m²

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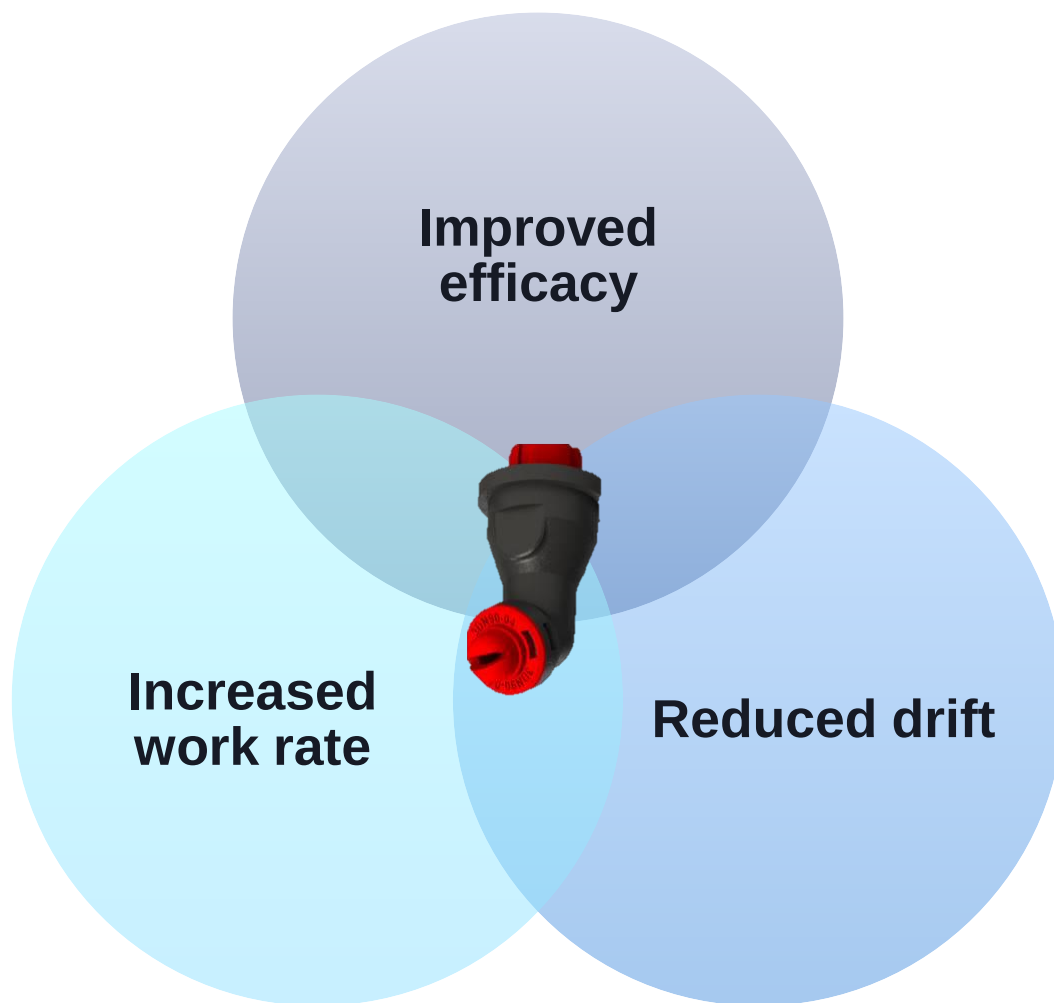
syngenta®

A difference of 68% control in the same trial this year!



200 l/ha consistently gives the best efficacy







Untreated



TTi 05



3D 05



3D 90 05 @ 200L/Ha

Ave. % Control = 73.3



What is Spray Assist?



Spray
planning

A photograph of a landscape with green fields and trees under a grey, rainy sky. The image is framed with rounded corners and has a blue arrow pointing down from its bottom center.

Best time to spray within a 5-day forecast window, with hourly resolution



Spray alerts

A photograph of a yellow tractor pulling a large agricultural sprayer across a green field. The sprayer is emitting a thick mist of white liquid. The image is framed with rounded corners and has a blue arrow pointing down from its bottom center.

Timely alerts if weather forecast change can impact spray performance



Spray
optimization

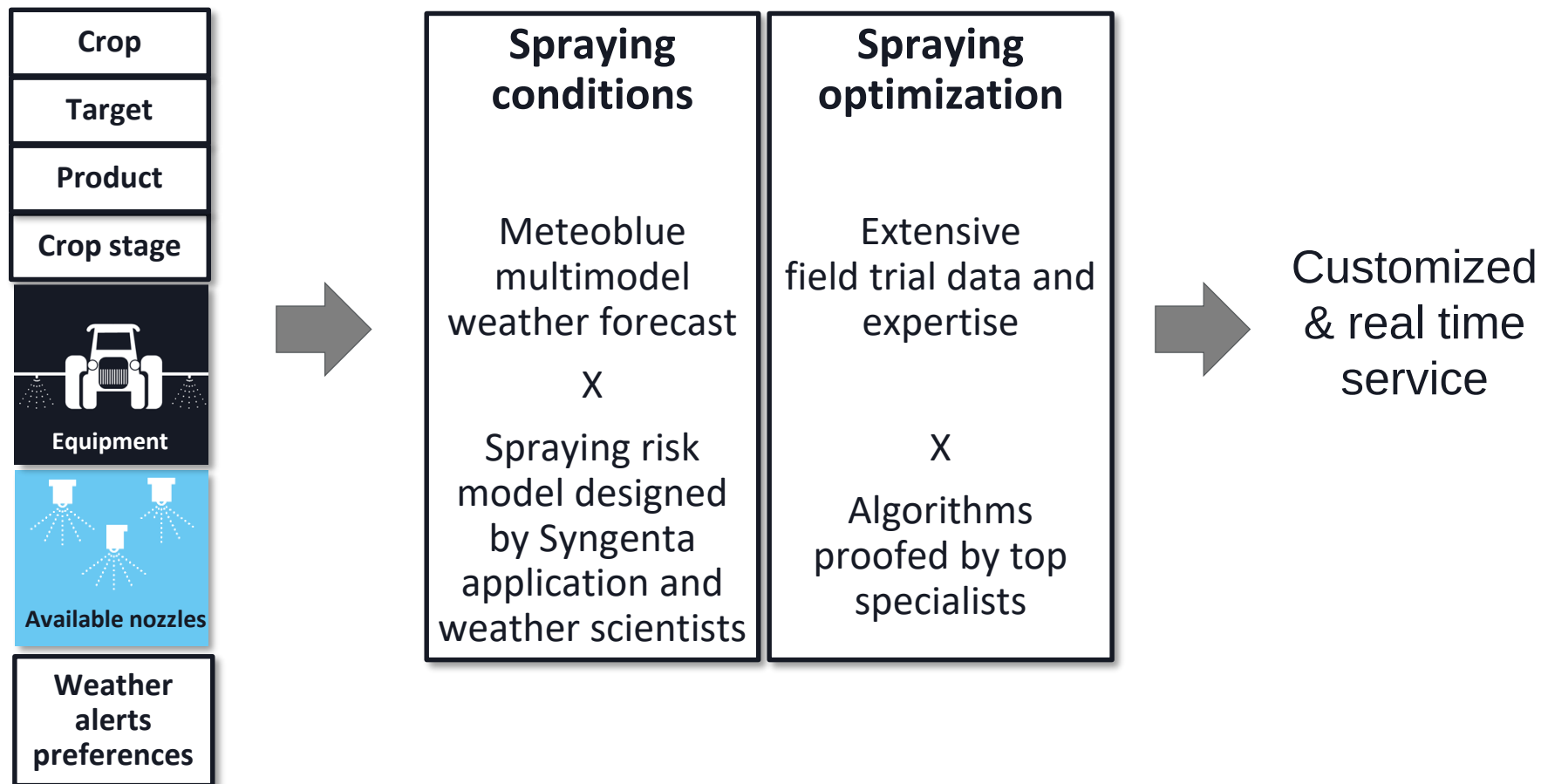
A close-up photograph of a black sprayer nozzle with the brand name "HYPRO" visible. The nozzle is positioned over a green field. The image is framed with rounded corners and has a blue arrow pointing down from its bottom center.

Optimal sprayer tuning:
Nozzle x Pressure x Volume x Speed

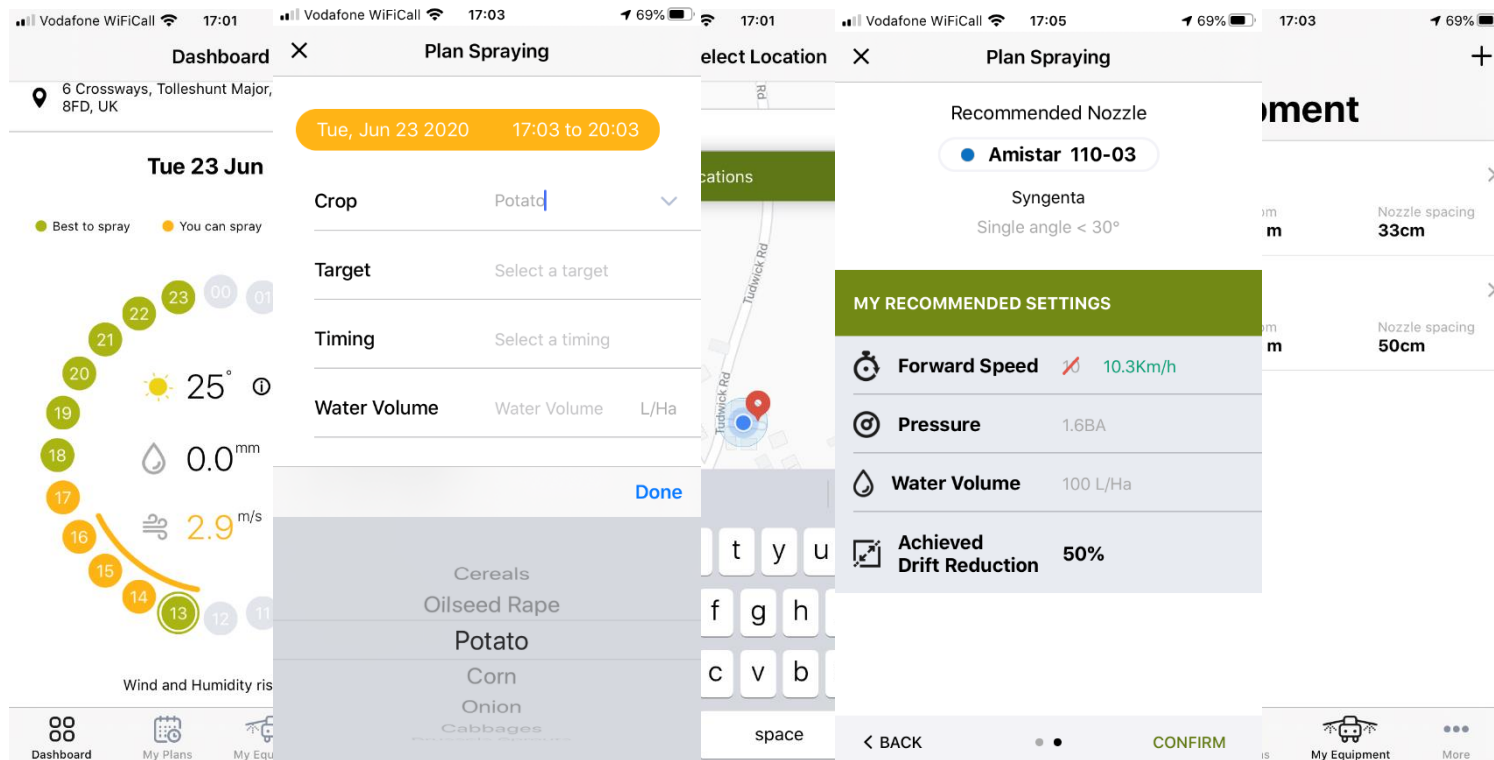
How it Works



Spray Assist intelligence = data x expertise



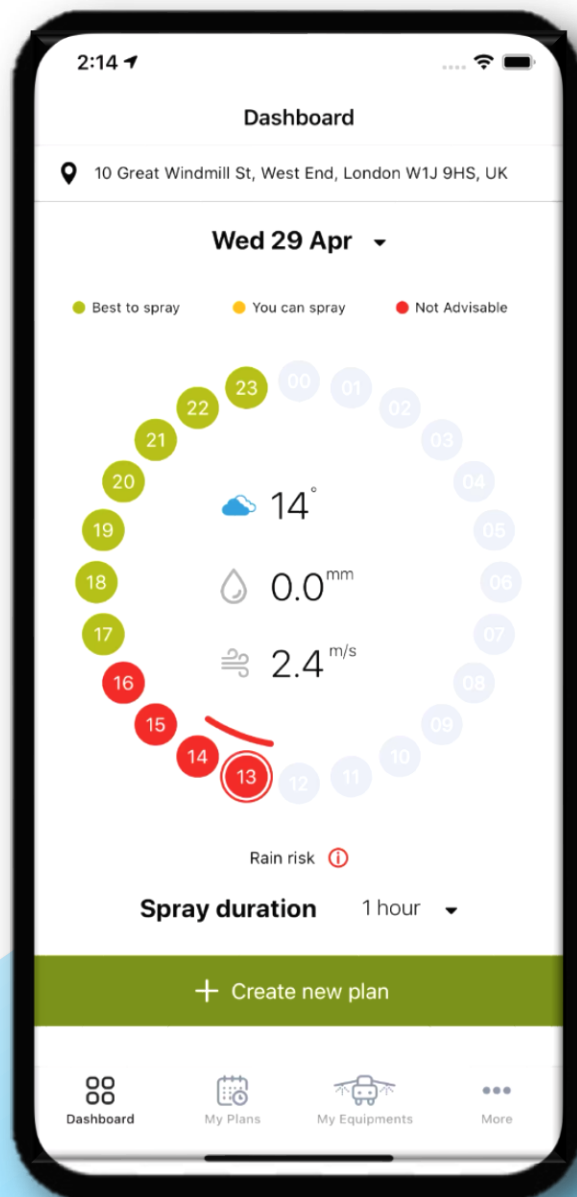
Demo





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αλυσίδα

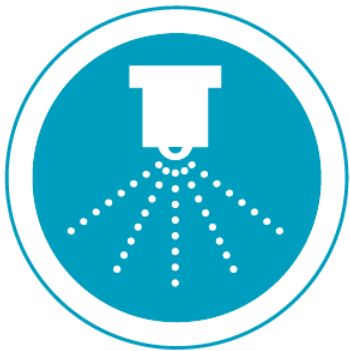


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APPLICATION

Maximise the benefit of chemical control

EFFECT OF WATER RATES,
FORWARD SPEED
AND BOOM HEIGHT

NOZZLE CHOICE



GRASS WEEDS

Summary:

- **Distribution** is key for effective pre-em weed control
- Application technique can account for a huge proportion of efficacy
- 200 l/ha remains our best advice for pre-em
- Download the Spray Assist App!

Summary



GRASS WEEDS

- Hybrid barley offers an increase in crop competition vs. conventional options to help minimise ryegrass seed return & deliver yield
- As part of an integrated strategy, increased rates of DEFY deliver increased control
- Pre-emergence applications are a compromise between:
 1. Work rate
 2. Efficacy
 3. Environment protectionoptimising timing, sprayer set up and water rates can help to achieve the best for all three.



Q&A





GRASS WEEDS

Thank you for attending!



Visit this link for more information:

<https://www.syngenta.co.uk/ryegrass-doncaster-virtual-meeting-2020>