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Fungicide challenges and choices in wheat for 2021

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Update on 2020 trials

- Difficult autumn and dry spring
- Disease pressure lowered
- Backdrop of pesticide withdrawals
- Net zero targets
- Responsibilities towards biodiversity
- How can we optimise our fungicide programmes and reduce inputs with more confidence
- Managing resistance issues, including the use of multisites

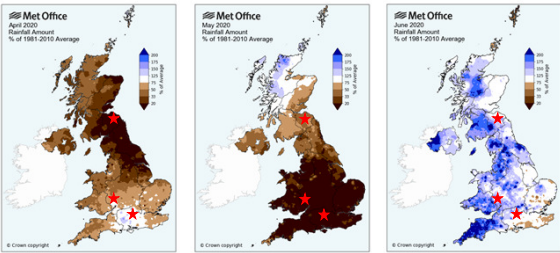


SRUC East Lothian

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Exceptionally dry spring capped disease levels



National Rainfall - April to June


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Combining agronomy, variety and chemistry to maintain control of septoria tritici in wheat

SRUC East Lothian site

Drilled 2 October 2019
Plant count good, but growth slow




Drilled 28 October 2019
(8 weeks after drilling)



ADAS, NIAB, SRUC 2015 – 2021, Funded by AHDB and BASF

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SRUC - East Lothian – 2019/20



- Same late sown area of trial on the day of harvest
- Crop tillered out remarkably well to produce good yields – average 9.8 (compared to 10.7 in earlier sown)
- Weather prior to harvest was very poor with a combination of heavy rain and strong winds.

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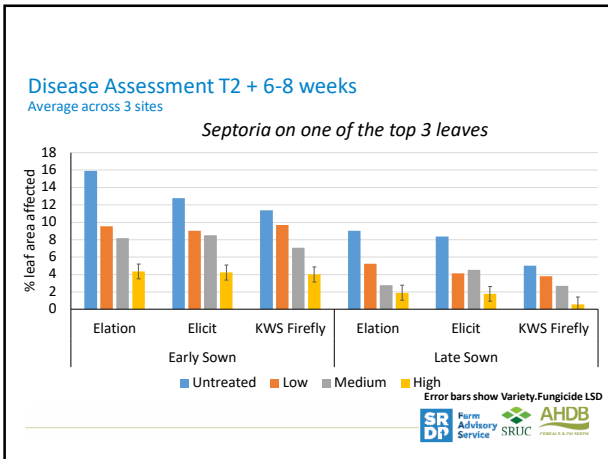
Fungicide programmes for 2020 in this trial series

	T0	T1	T2	T3
1	Amistar 0.5*	Untreated	Untreated	Untreated
2	Amistar 0.5*	Sunorg Pro 0.5 + Phoenix 1.0	Sunorg Pro 0.6 + Phoenix 1.0	Folicur 0.75**
3	Amistar 0.5*	Librax 0.8 + Phoenix 1.0	Librax 1.0 + Phoenix 1.5	Folicur 0.75**
4	Amistar 0.5*	Revystar XE 1.0 + Phoenix 1.0	Revystar XE 1.25 + Phoenix 1.5	Folicur 0.75**

*Added for early rust control, additional strobilurin (Amistar) overspray will be required if rust is detected, at the earliest opportunity.
 **Where Fusarium pressure is high this may be switched for a chosen rate of Prosaro 0.8-1.0 L/ha at the discretion of the site manager.

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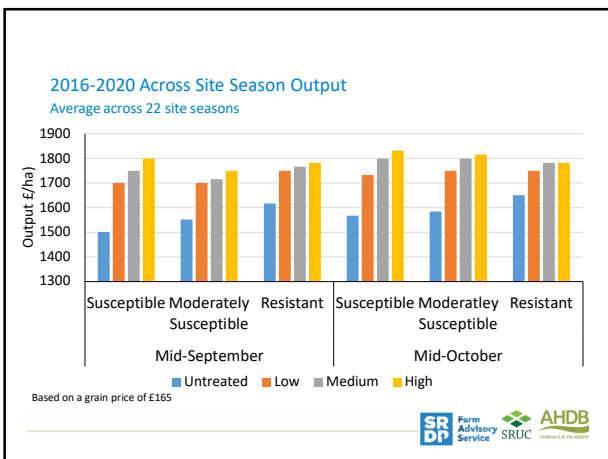
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2016-2020 Across Site Season Output
Average across 22 site seasons

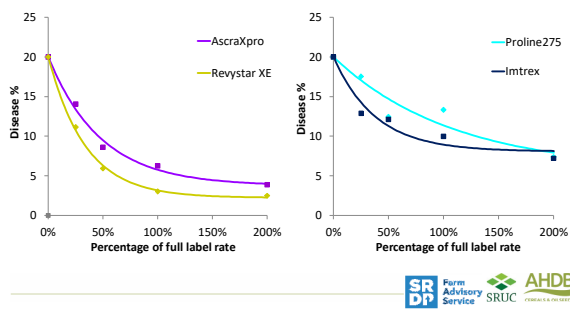
Sowing Date	Varietal Susceptibility	Incremental increase in output (£/ha) from fungicide treatment			
		Low	Medium	High	Total
Average over both sowing dates	Very susceptible	+182	+58	+41	+281
	Moderately susceptible	+157	+33	+25	+215
	Moderately resistant	+116	+25	+8	+149
Mid-September	Average over all three varieties	+160	+28	+33	+220
Mid-October	Average over all three varieties	+143	+50	+17	+209
Mid-September	Very susceptible	+198	+50	+50	+298
Mid-October	Moderately resistant	+99	+33	0	+132

Based on a grain price of £165 Values are before deduction of fungicide costs



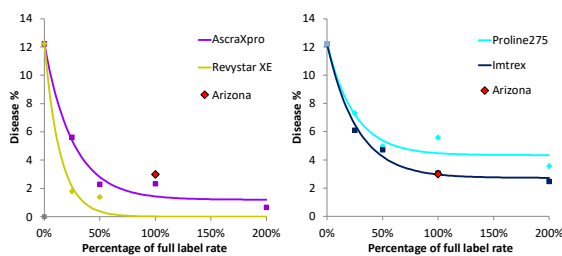
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Septoria eradicant 2020 (4 trials)

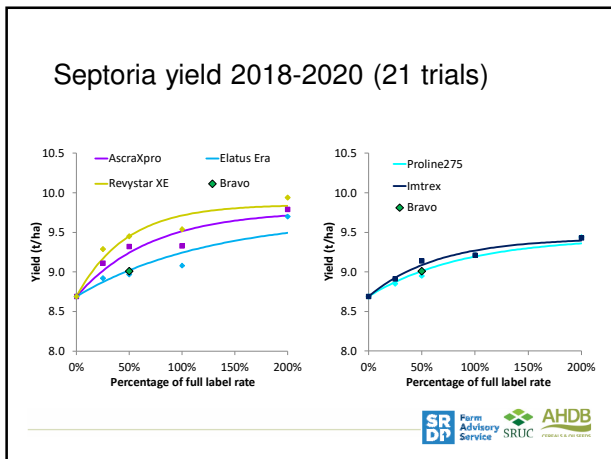


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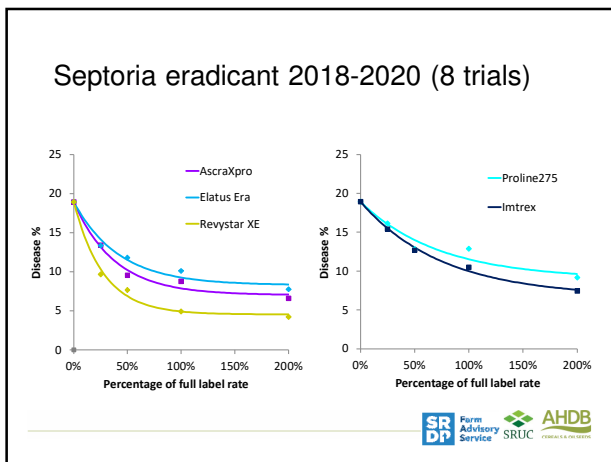
Septoria protectant 2020 (5 trials)



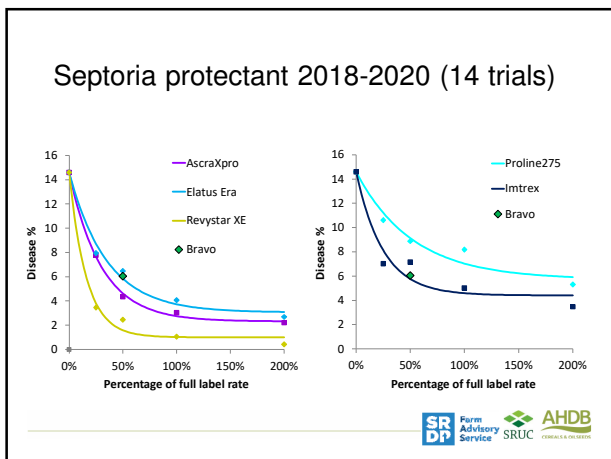
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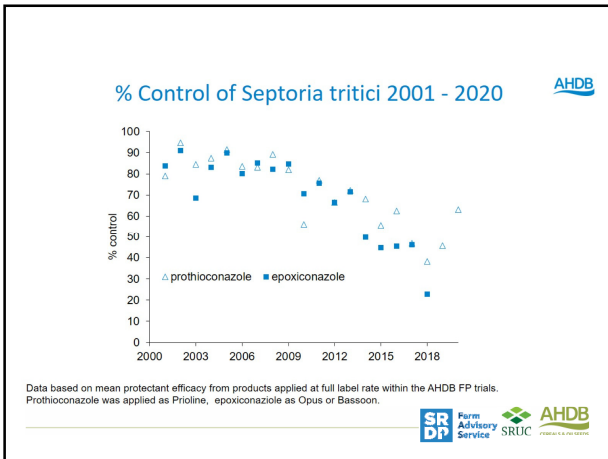
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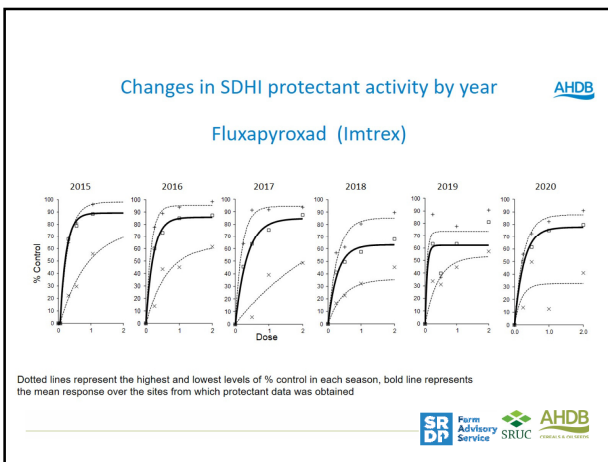
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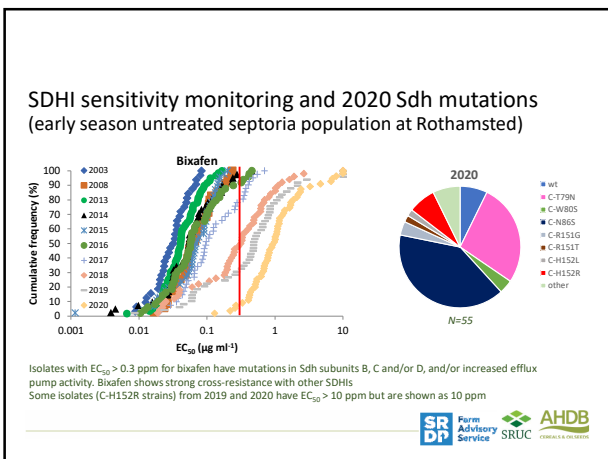
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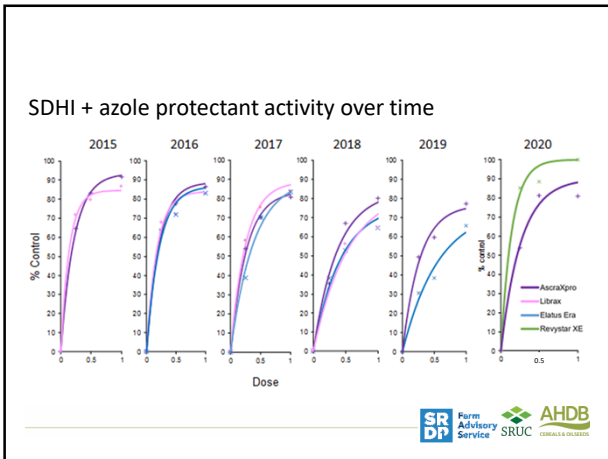
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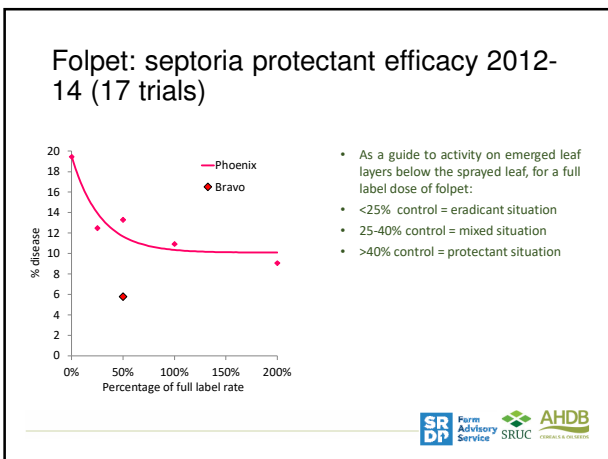
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How will we retain efficacy in new and existing chemistry?

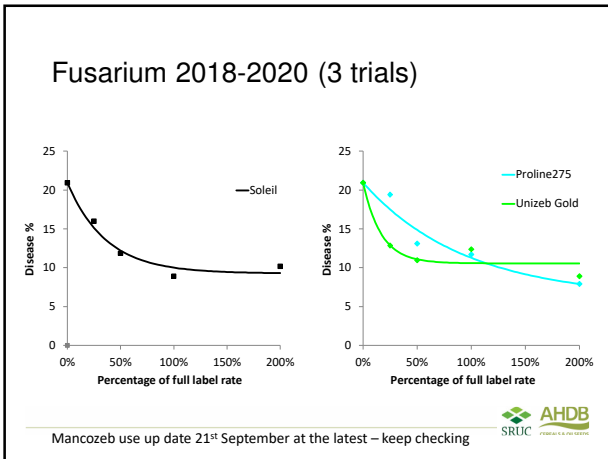
- Maximise use of low risk (multisite) fungicides as mixture partners
- Use minimum effective doses and balanced mixtures
- Limit use and alternate where possible

Logos: SRDP Farm Advisory Service, SRUC, AHDB CEREALS & OILSEEDS

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Acknowledgements


- Catherine Harries, AHDB
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- Bart Fraaije, Rothamsted Research / NIAB
- Stephen Kildea, Teagasc

Logos: SRUC, AHDB (CEREALS & PULSES)

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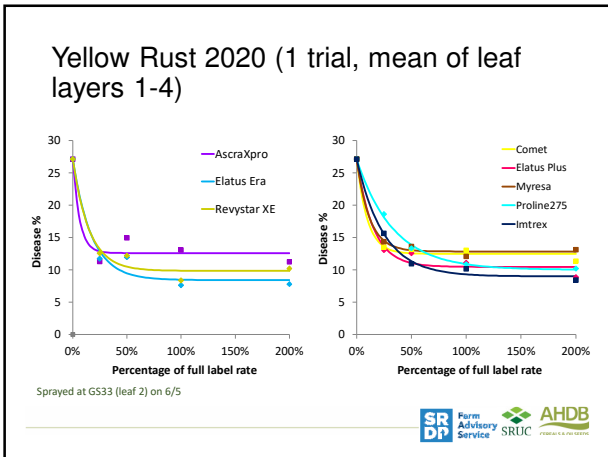
Yellow rust – a driver of T0s

- Watch for session on 20th January 2021 Crop selection and variety performance
- Variation between trial sites captured in new scoring system
- New weighting system acknowledges race changes in recent years
- T0s where risk is high (variety / situation / surveillance)




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Wheat fungicide conclusions




- SDHI + azole mixtures continue to give the highest levels of control
- Revystar XE offers highly effective control, substantially better than Imtrex alone
- Possible further shift in SDHI sensitivity but overall efficacy similar to 2018/19
- Full dose Arizona gave good septoria protection in 2020, which was reflected in yield
- Target most effective products at most responsive timings
- Use new chemistry as a chance to alternate

Logos: SRDP Farm Advisory Service, SRUC, AHDB

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Take home actions

- Tailor fungicides to risk – there is scope to reduce in late sown / resistant varieties
- Keep diversity in programmes – we need to manage disease but mixes help efficacy and sustainability
- Multisites add to efficacy and help with resistance management
- Build fungicide programmes from key timings and adjust throughout season



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