



Flutriafol – the Asian soybean rust standard

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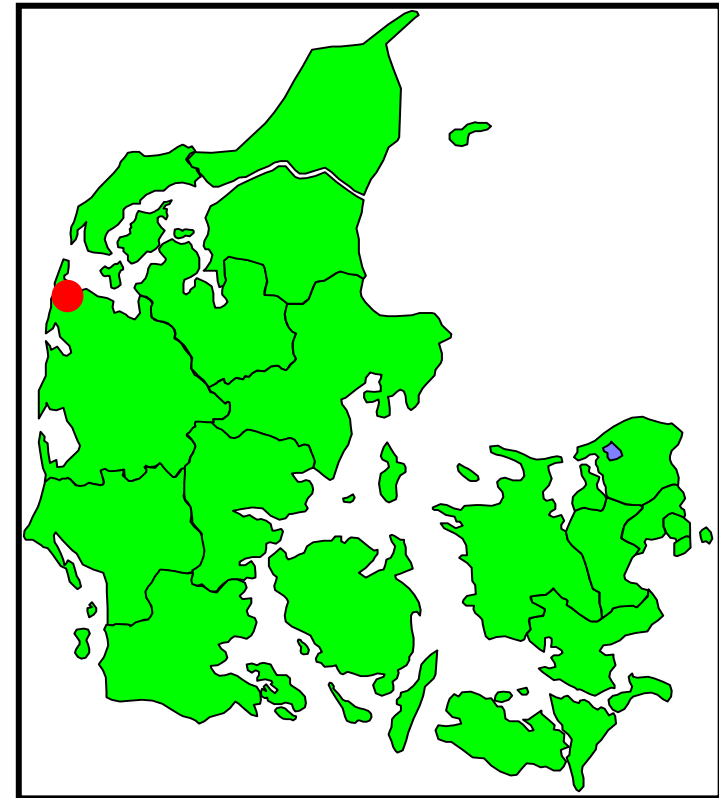
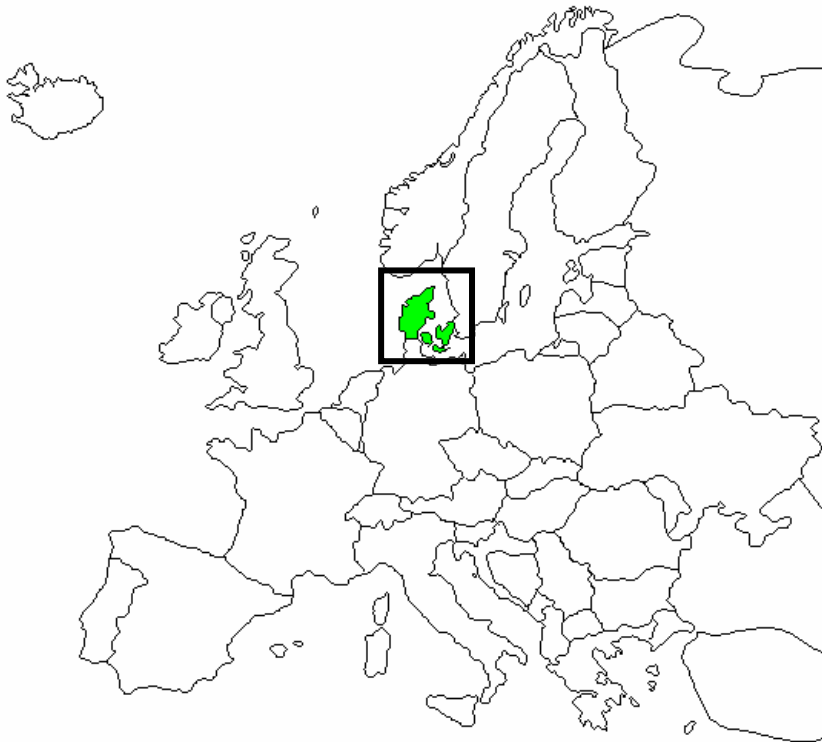
Contents of presentation

- Introduction to Cheminova
- Information on flutriafol
- Field trials – Brazil, Zimbabwe, USA



Cheminova

- Based near Lemvig, Denmark
- Group includes Hardi sprayers
- Main shareholder Aarhus University, DK
- In USA since 1987 (Wayne, NJ)





Flutriafol and products

- A triazole introduced in 1981 by ICI
- Bought by Cheminova from Syngenta in 2001
- Not registered in the USA or authorized for use under any FIFRA Section 18 exemption, although it is the subject of Section 18 requests submitted to the US EPA by several states
 - **Foliar sprays**
 - **Microgranules - maize and coffee**
 - **Seed treatments**



Flutriafol – the soybean rust standard

- Given top rating in Brazil
- Highly active against rust
- Highly systemic
- Strongly curative
- Very persistent in effect – extended spray intervals or fewer sprays
- Outstanding yield results
- No crop damage
- Can be mixed for added spectrum



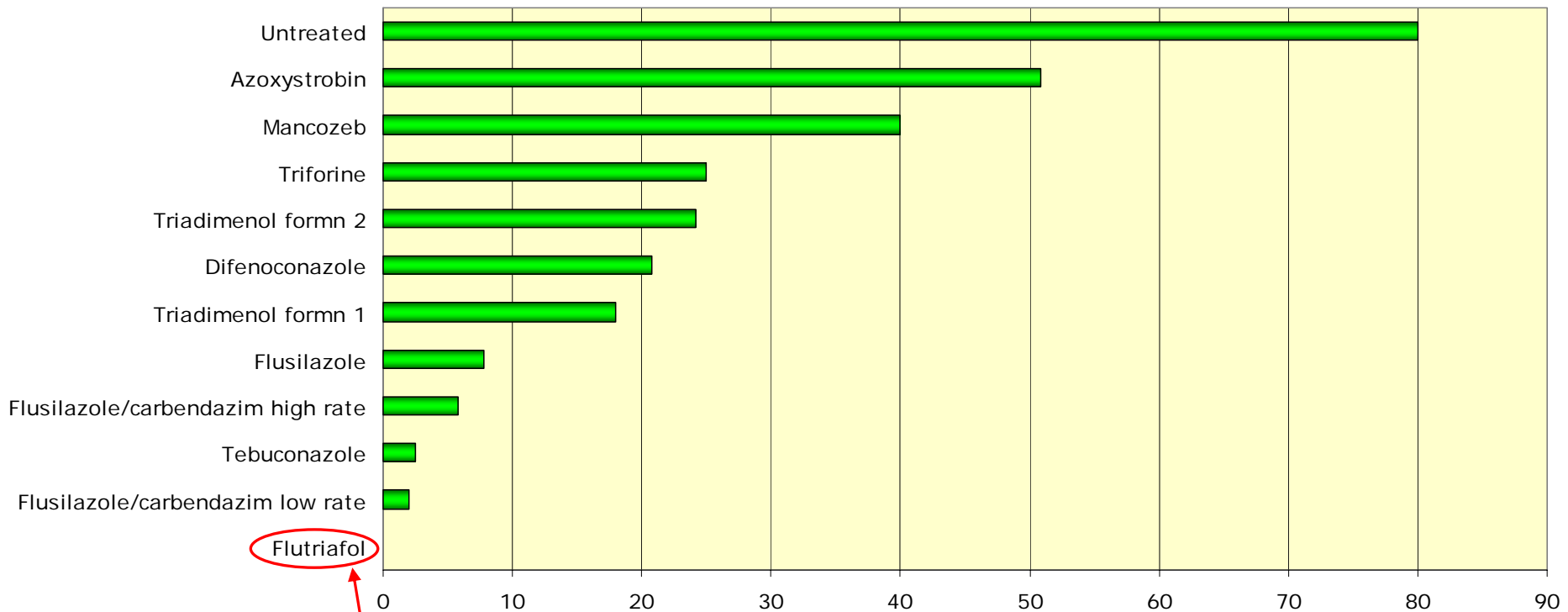
South African data 2003/04 *(du Preez)*

Cedara, South Africa 2003/04

2 sprays, 82 and 103 DAS

(Eve du Preez, KwaZulu-Natal Dept Agric. & Environ. Affairs)

Final % disease severity



no disease



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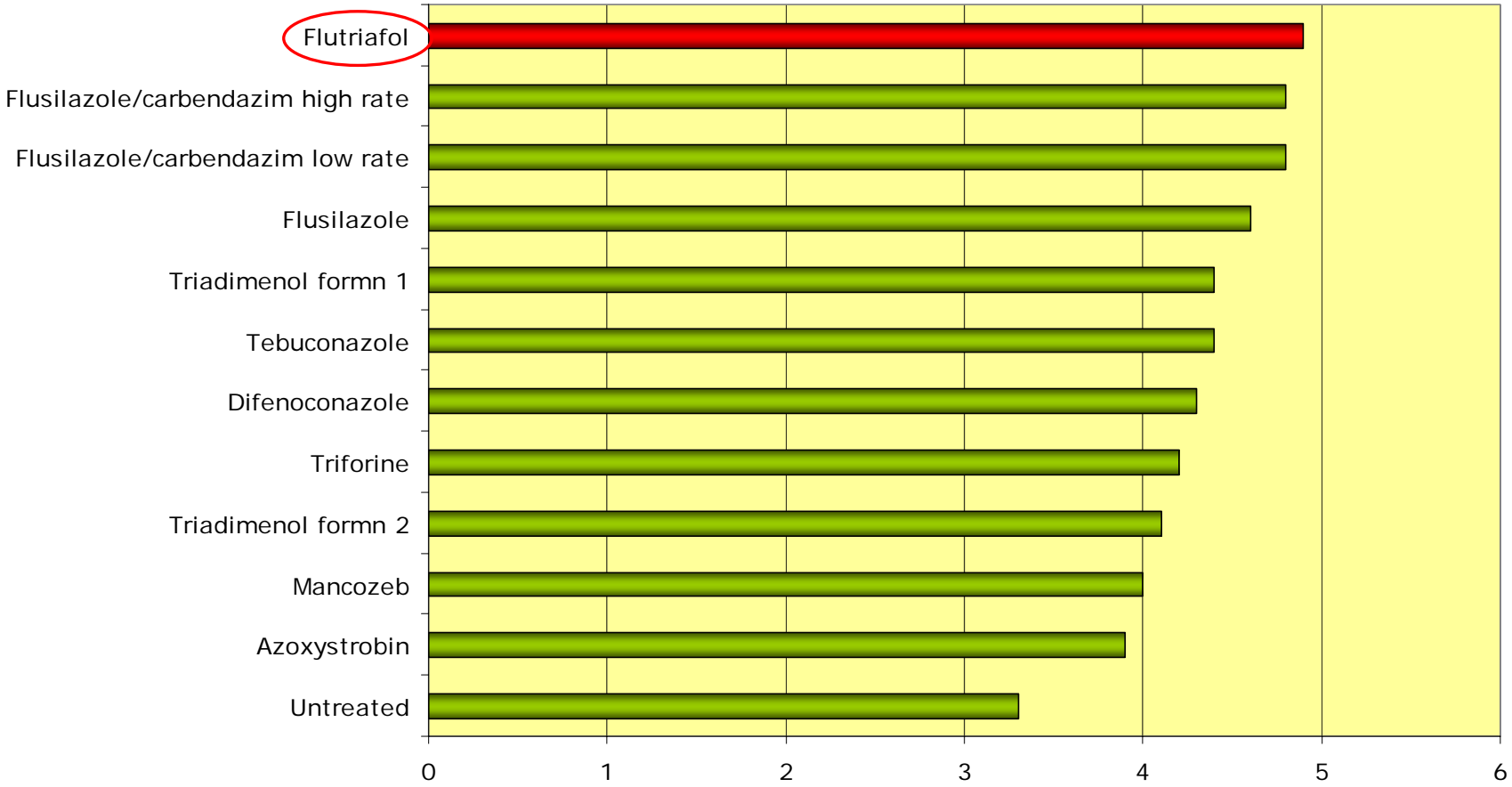


Cedara, South Africa 2003/04

2 sprays, 82 and 103 DAS

(Eve du Preez, KwaZulu-Natal Dept Agric. & Environ. Affairs)

Yields (t/ha)

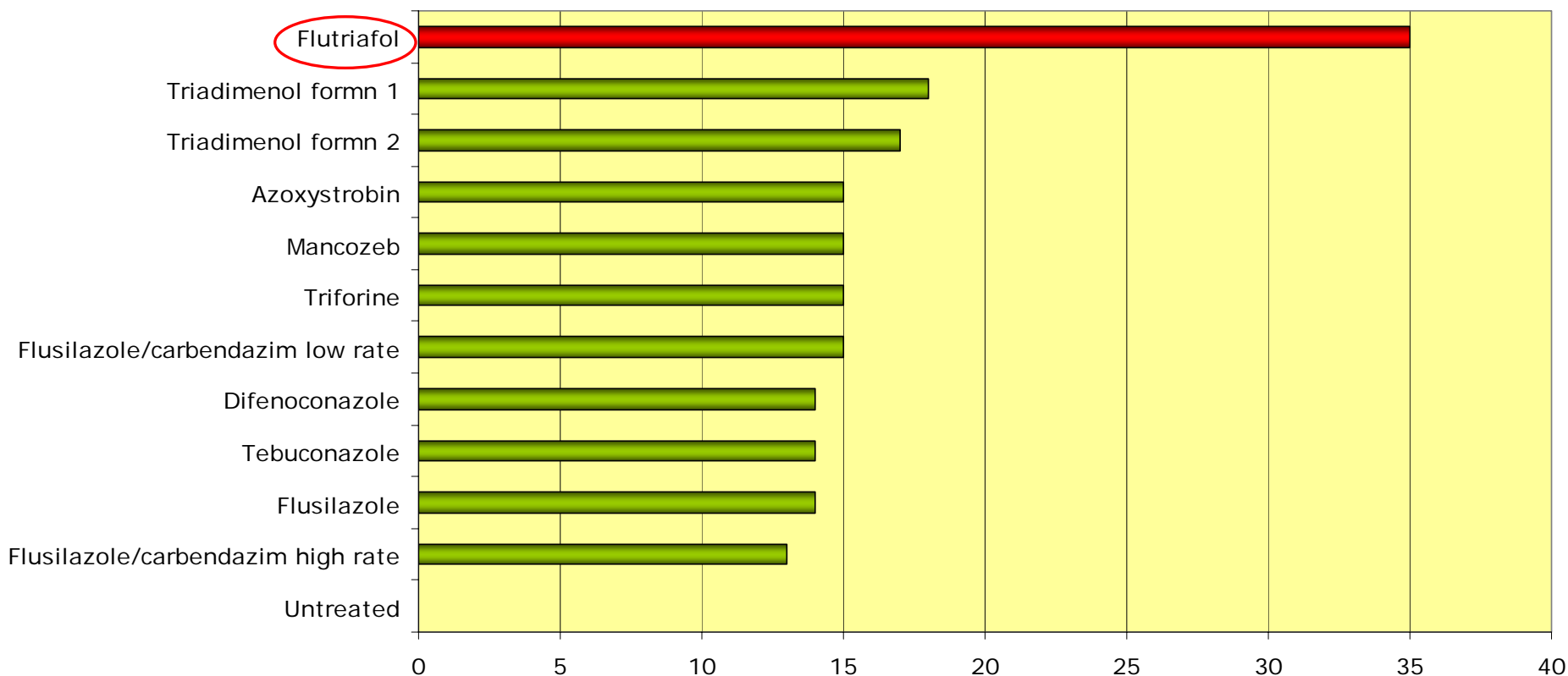


Cedara, South Africa 2003/04

2 sprays, 82 and 103 DAS

(Eve du Preez, KwaZulu-Natal Dept Agric. & Environ. Affairs)

Number of days persistence



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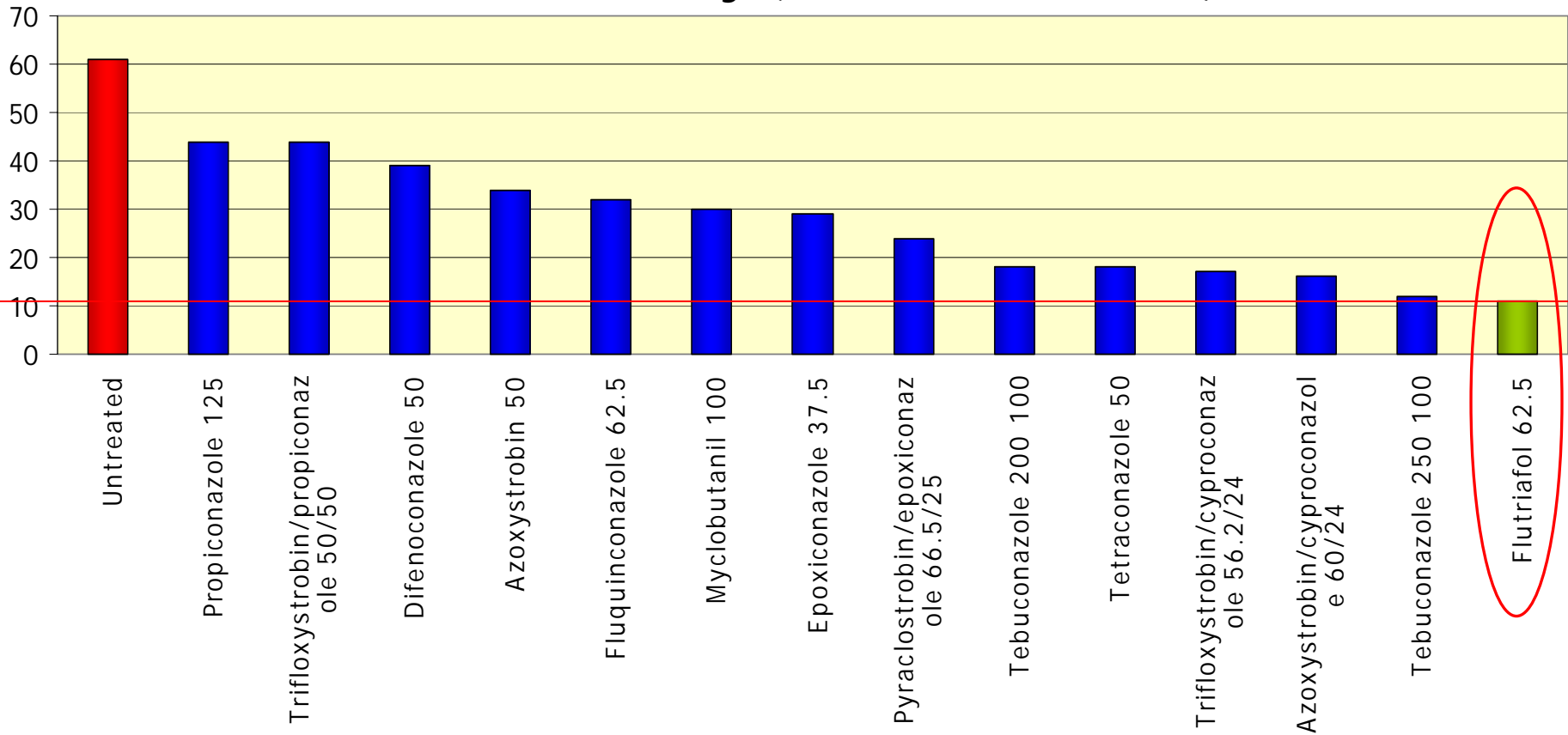
Brazilian data 2003/04

(Independent institutes)

Brazil official data from 11 trials, 2003/04

1 spray at R2/R3, assessed R6
(from 'Cultivar', September 2004)

% Disease severity (means of 11 trials)



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Brazil – yield comparisons 2003/04

6 independent trials, various institutes, 2 sprays

% increases over untreated


<i>Treatment</i>	<i>Rate g ai/ha</i>	<i>Trial</i>					
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
<i>flutriafol</i>	62.5	64	73	21	74	73	24
<i>tebuconazole</i>	100	39	62	11	49	59	35
<i>difenoconazole</i>	75*	24	47	11	58	48	10
<i>epoxiconazole</i>	37.5	21	52	8			23
<i>azoxystrobin</i>	50		51	11	34	55	11
<i>epoxi/pyraclo</i>	25/66.5	58	65	16	69	66	

**rate was 50 g ai/ha in trial 6*



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'US' Zimbabwe data 2004/05 *(Miles, USDA)*



USDA Zimbabwe data 2005

2 and 3 sprays, 20 day intervals

(Miles, USDA)

Gwebi Rattray Arnold
2 sprays 3 sprays 2 sprays 3 sprays

fenarimol
flutriafol
metconazole
tebuconazole
tetraconazole
flusilazole
triflumizole

triazoles

pyraclostrobin

strobilurin

metconazole+pyraclostrobin
propiconazole+azoxystrobin
azoxystrobin+cyproconazole

triazole+strobilurin

oxycarboxin
chlorothalonil

other compounds

USDA Zimbabwe data 2005

2 and 3 sprays, 20 day intervals, **AUDPC**
(Miles, USDA)

	Gwebi		Ratray Arnold		Mean of two sites	
	2 sprays	3 sprays	2 sprays	3 sprays	2 sprays	3 sprays
fenarimol	195	73	0	0	134	37
flutriafol	0	0	0	0	0	0
metconazole	9	0	216	6	5	108
tebuconazole	3	0	28	0	2	14
tetraconazole	0	0	0	0	0	0
flusilazole	73	0	0	0	37	0
triflumizole	275	2166	166	31	1221	1166
pyraclostrobin	1	0	0	0	0.5	0
metconazole + pyraclostrobin	18	0	0	0	9	0
propiconazole + azoxystrobin	98	3	181	72	51	92
azoxystrobin + cyproconazole	490	500	-	-	495	500
oxycarboxin	359	179	0	0	269	90
chlorothalonil	400	279	238	56	340	259



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US data 2005

(Kemerait, Georgia & Marois, Florida)



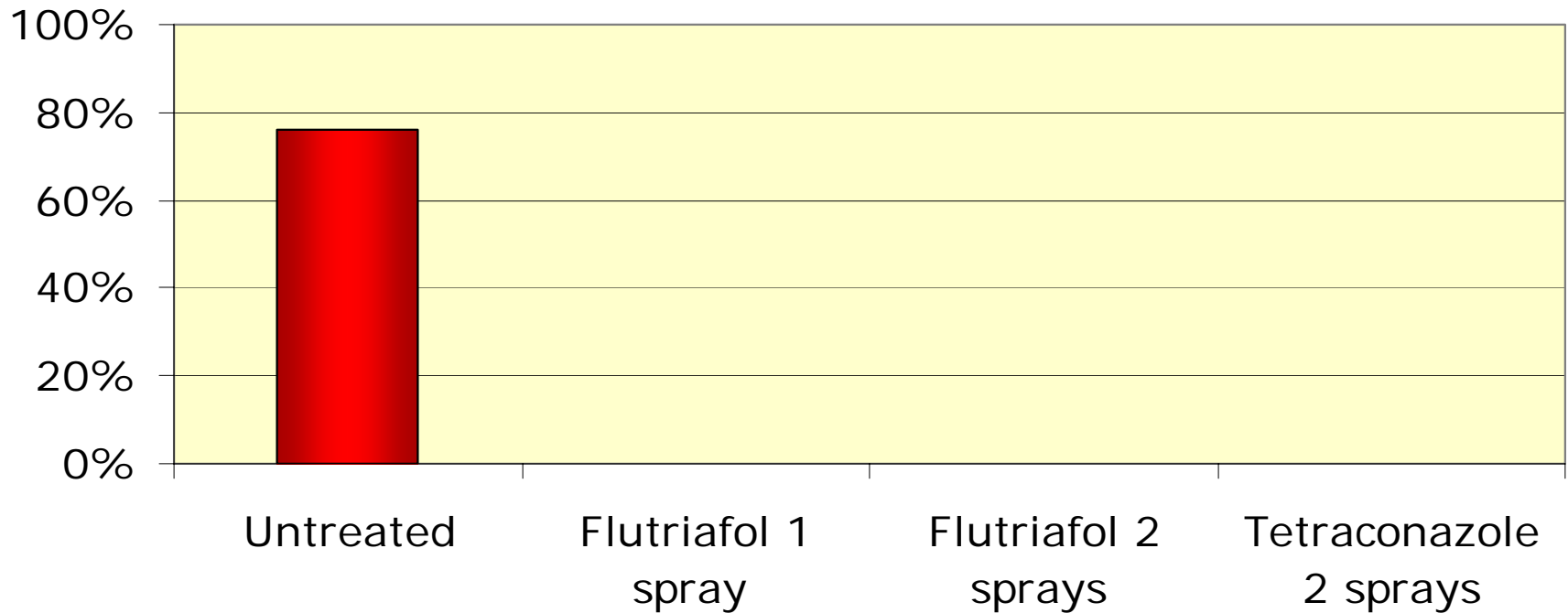
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Georgia data 2005

1 and 2 sprays, 31 day interval, % incidence
(Kemerait, U. of Georgia)



First Spray 20 July, Second Spray 12 August

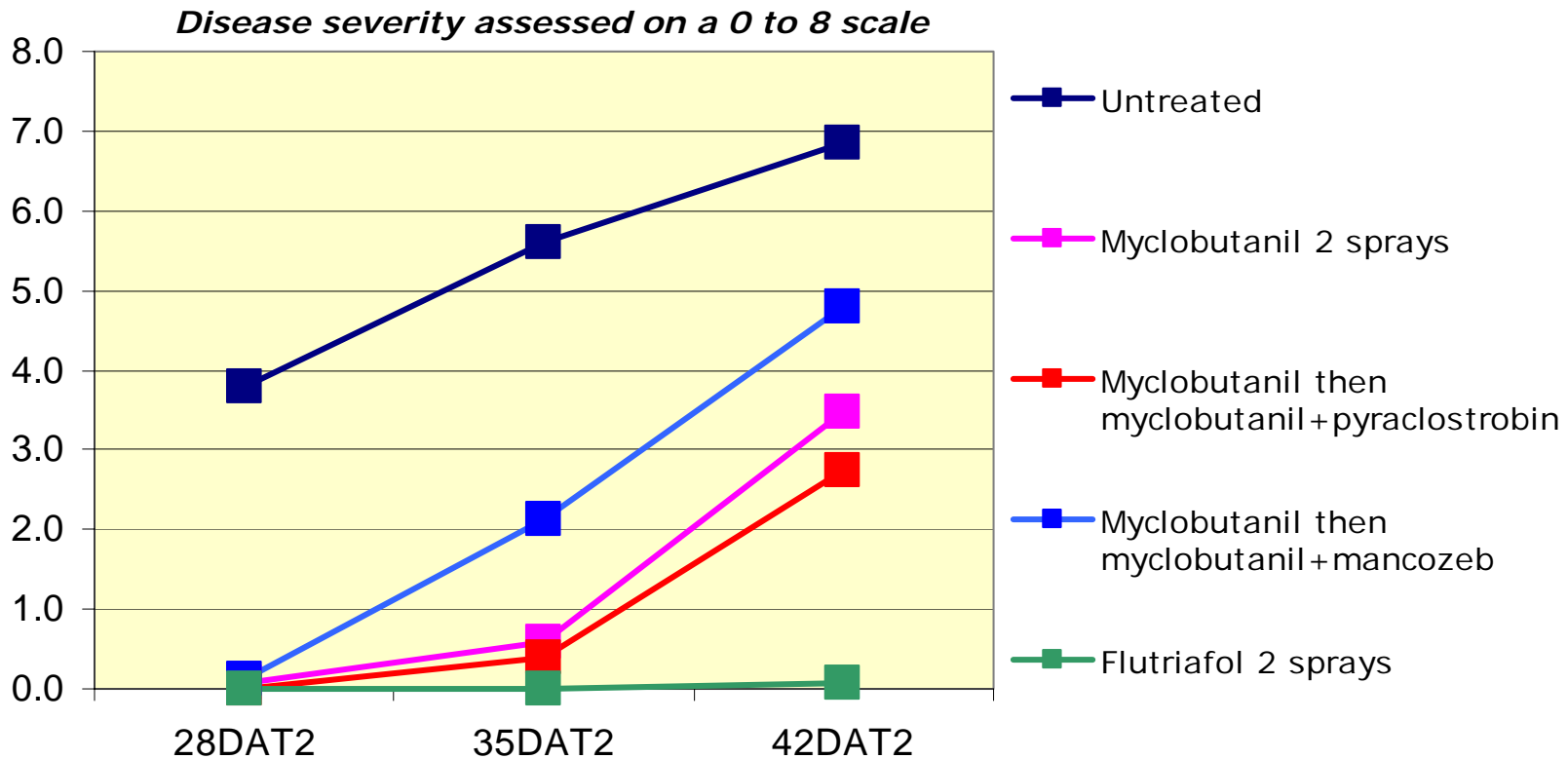
**Assessment 26 September (45 days after second spray,
68 days after first spray)**



Florida data 2005

2 sprays, 21 day interval, disease severity

(Marois, University of Florida)

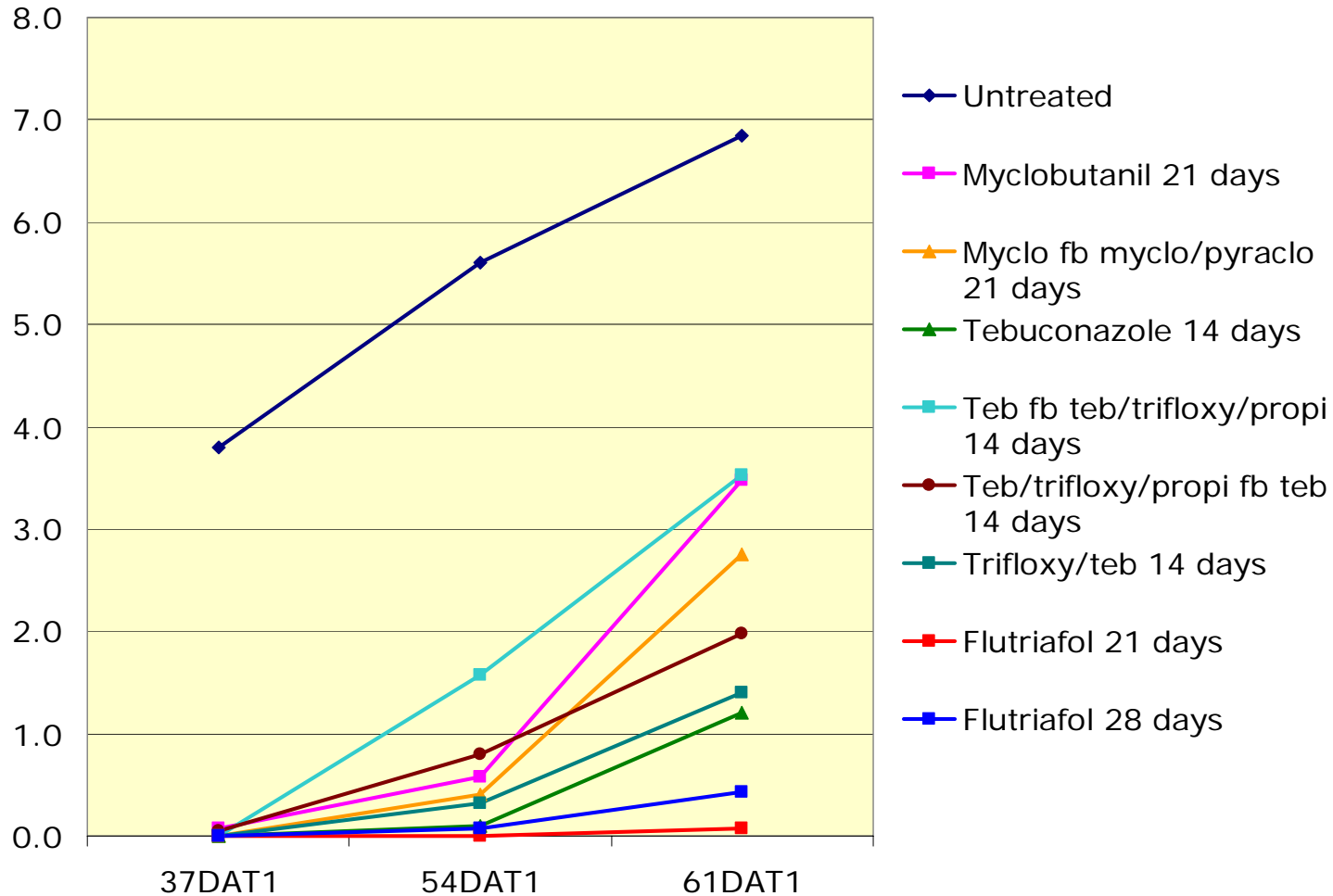




Florida data 2005

2 sprays, 14, 21, 28 day intervals, disease severity
(Marois, University of Florida)

Disease severity assessed on a 0 to 8 scale



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Rust



Untreated



A flutriafol plot



Section 18 Request to Control Soybean Rust *- details of flutriafol portion of April 2005 request under review by EPA*

- Formulation contains flutriafol, 125 SC
- Rate per acre: 7 fluid ounces
- Maximum number of sprays: 2
- Spray interval: 18 to 20 days
- Pre-harvest interval: 21 days



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Conclusion - Flutriafol

- very effective against soybean rust
- protects yield best
- has useful spectrum
- can be tank-mixed
- subject of Section 18 request
- registration supported by Cheminova
- a significant option for the US soybean farmer



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