



Department of
Agriculture and Food



**Grains
Research &
Development
Corporation**

Canola Sclerotinia Research at DAFWA

Sclerotinia levels in the northern agricultural region of WA (2008-2011)



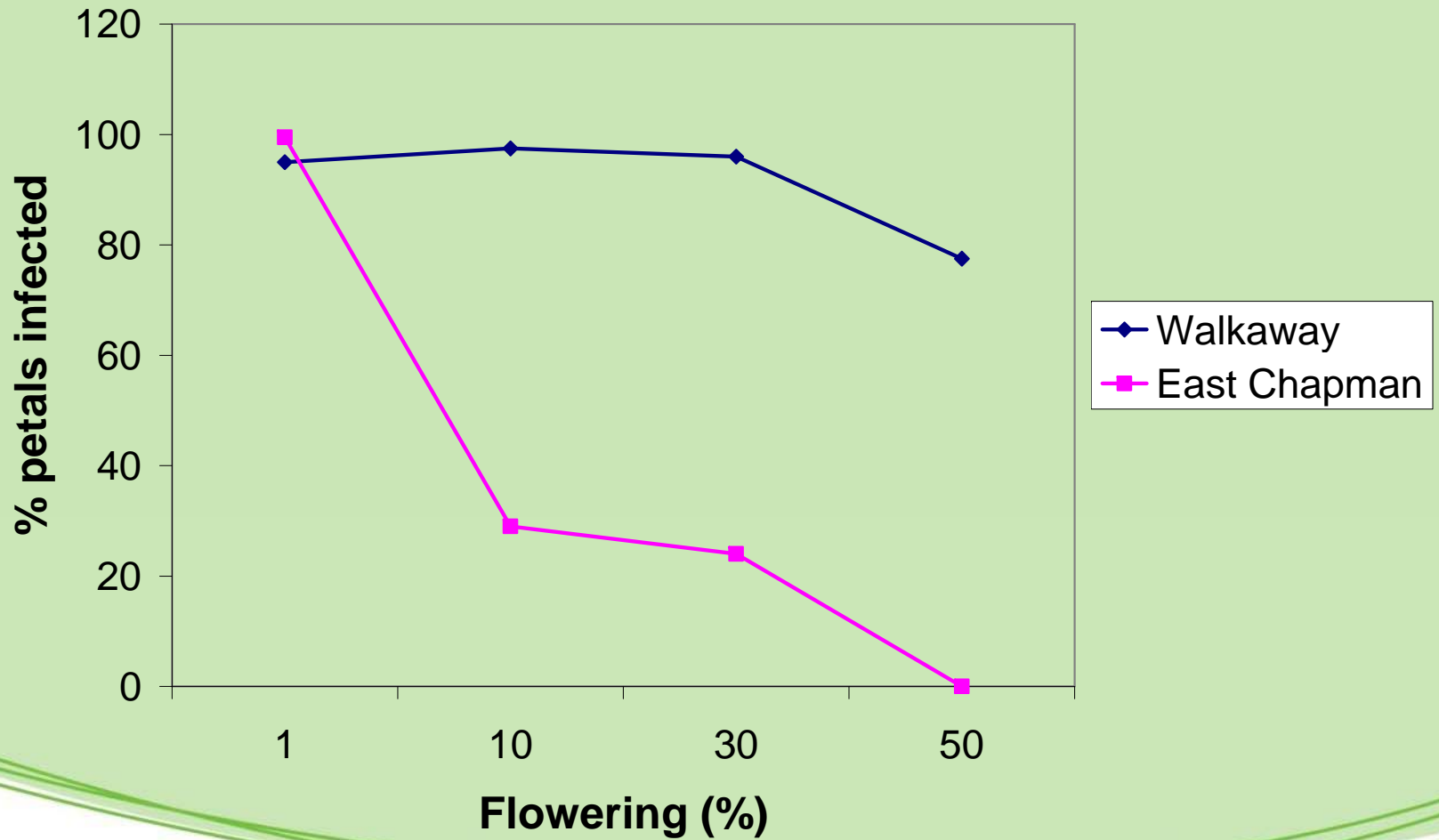
- Sclerotinia in 2011
- Widespread in the northern region
- Substantial lodging in some crops
- Worst affected crops suffered 30-40% yield loss

Sclerotinia Research at DAFWA

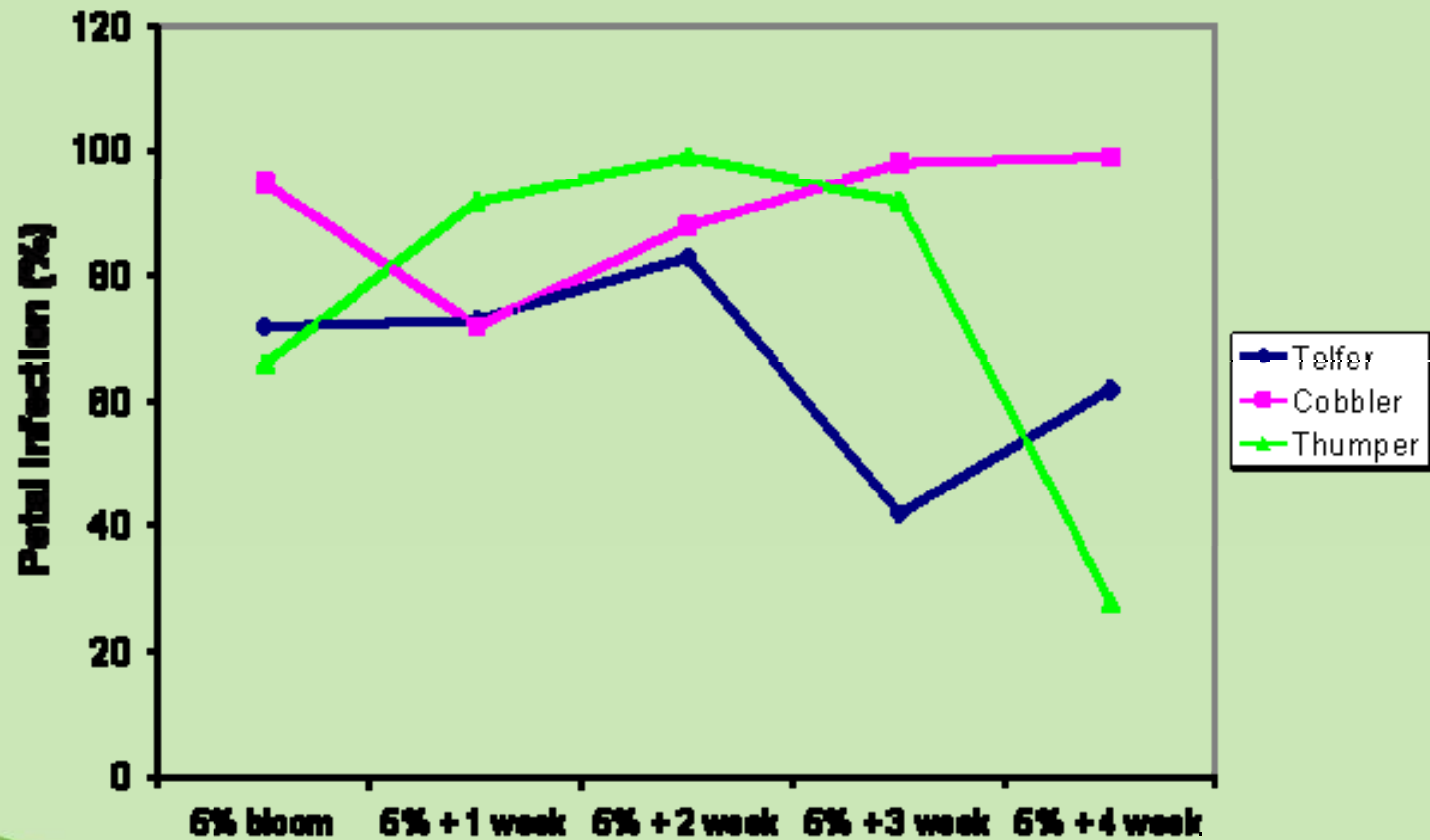
- Epidemiology (Petal testing and spore trapping)
- Efficacy of fungicides
- Screening for resistance under controlled environment
- Develop Sclerotinia risk assessor



Percentage petals infected – 2010 trials



Percentage petals infected – 2011 trials



Efficacy of fungicides on disease (incidence & PDI) and yield (Kg/ha)-variety Cobbler

Treatment	Incidence (%)	PDI	Yield (Kg/ha)
Amistar Xtra	37	15.6	2542
Filan	30	11.9	2619
Fortress	35	11.4	2570
Prosaro (375 ml/ha)	41	13.9	2781
Prosaro (525 ml/ha)	29	12.9	2854
Rovral	32	10.6	2572
Nil	64	24.1	2217
LSD ($p = 0.05$)	18	9	266

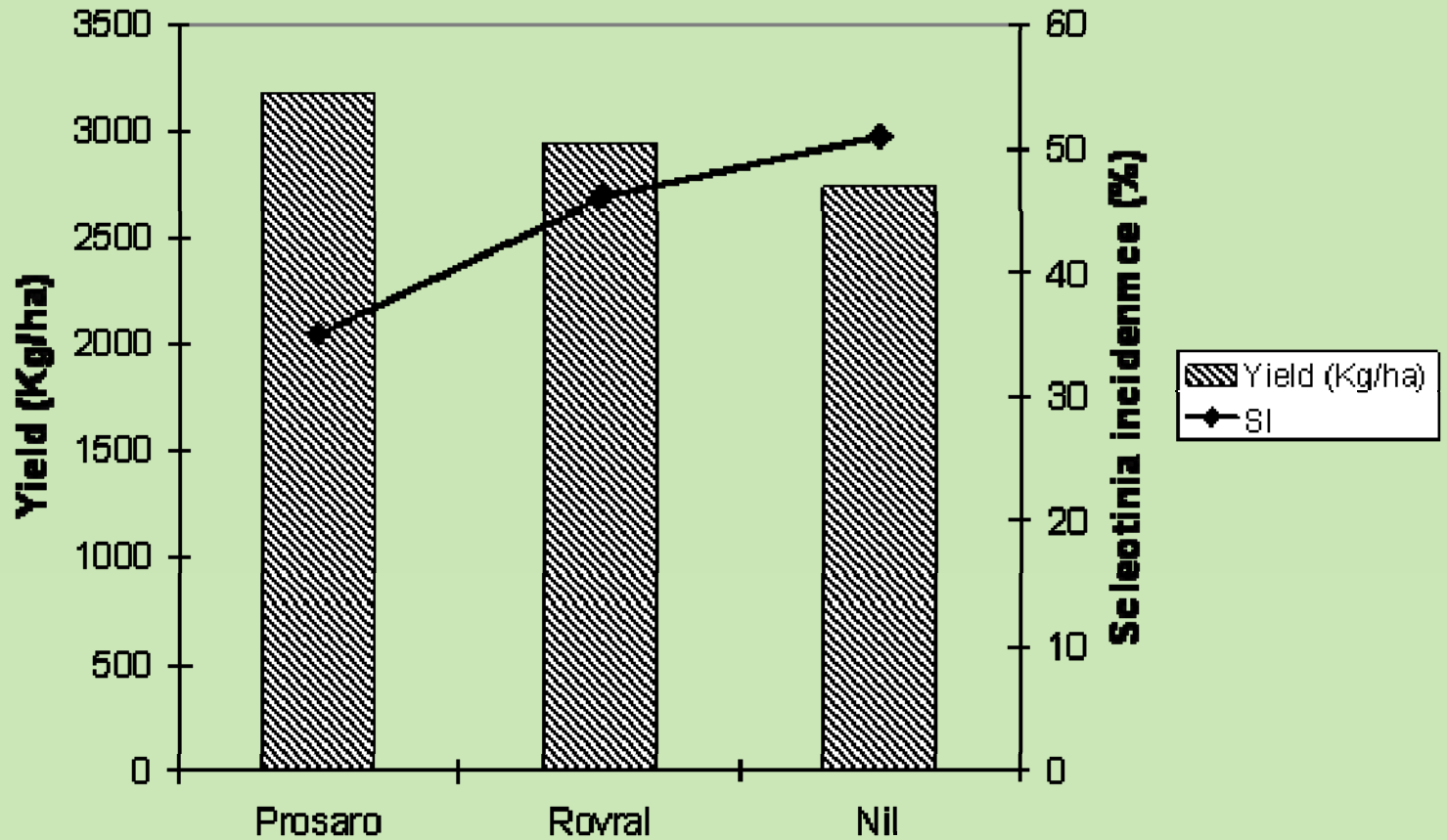
PDI = Percent disease index



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Efficacy of fungicides – opportunistic trial



Economics of applying fungicides

<i>Fungicide efficacy trial (Two sprays, one each at 10 and 40% bloom)</i>				
	Cost/ha	Yield	Gross return/ha	ROI above untreated
Untreated	0.00	2.21	\$1, 215.50	
Rovral 2L/ha	\$36.00 x 2 = \$72.00	2.57	\$ 1413.00	\$116.00
Prosaro 375ml/ha	\$24.70 x 2 = \$49.40	2.78	\$1529.00	\$254.00
Prosaro 525ml/ha	\$34.65 x 2 = \$69.30	2.85	\$1567.00	\$272.00
<i>Opportunistic trial (single spray at 15% bloom)</i>				
Untreated		2.7	\$1502.00	
Rovral 2L/ha	\$36.00	2.94	\$1618.10	\$75.00
Prosaro 575ml/ha	\$34.65	3.17	\$1746.25	\$204.00
Application cost	\$5.00 (single application)			
Canola price	\$550			

Screening for Sclerotinia resistance

- Macerated mycelium inoculations (intact cotyledons)
- Agar plug (stem inoculations)
- Used about 19 different isolates
- 12 genotypes (experiments repeated 4-5 times)

None of the methods was satisfactory

Lack of consistency

Field inoculations with agar plug extremely difficult

Pathogenic variations among isolates

Collection of about 600+ isolates

Sclerotinia risk assessment tool

Risk factors	High	moderate	low
Number of years since last canola grown	2	>3	>5
Rotation (years) with susceptible crop	2	4	5
Rain (mm) in the last two weeks	>30	<30	<10
Weather forecast for the next two weeks	low pressure	variable	high pressure
Disease incidence in last crop	21-50%	11-20%	<10%
Distance to last year's crop that had high incidence of Sclerotinia	<50m	>50m	>500m



Summary

- Sclerotinia is a big issue in the NAR over the past few years
- Identified potential registered/unregistered products and in particular Prosaro was superior in efficacy and most cost-effective
- Petal infection can not be used as a predictor of determining final disease incidence/severity
- SRAT will be a major breakthrough in developing Sclerotinia management strategies
- It is coming soon!!!!!!!!!!