

# Decision Apps for Managing Blackleg and Sclerotinia in Canola

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# BLACKLEGCM

A TOOL FOR MANAGING BLACKLEG DISEASE IN CANOLA

Supported by  
Grains Research and Development Corporation





## Blackleg management in canola

Net return



## — Crop circumstances

Target yield (2.5 t/ha)



Grain price (600 \$/t)



Production cost (350 \$/ha)



Canola in district (15 %)



Spore maturity risk



L

M

H

?

## — Paddock setup

Distance to 1 yo stubble (100 m)



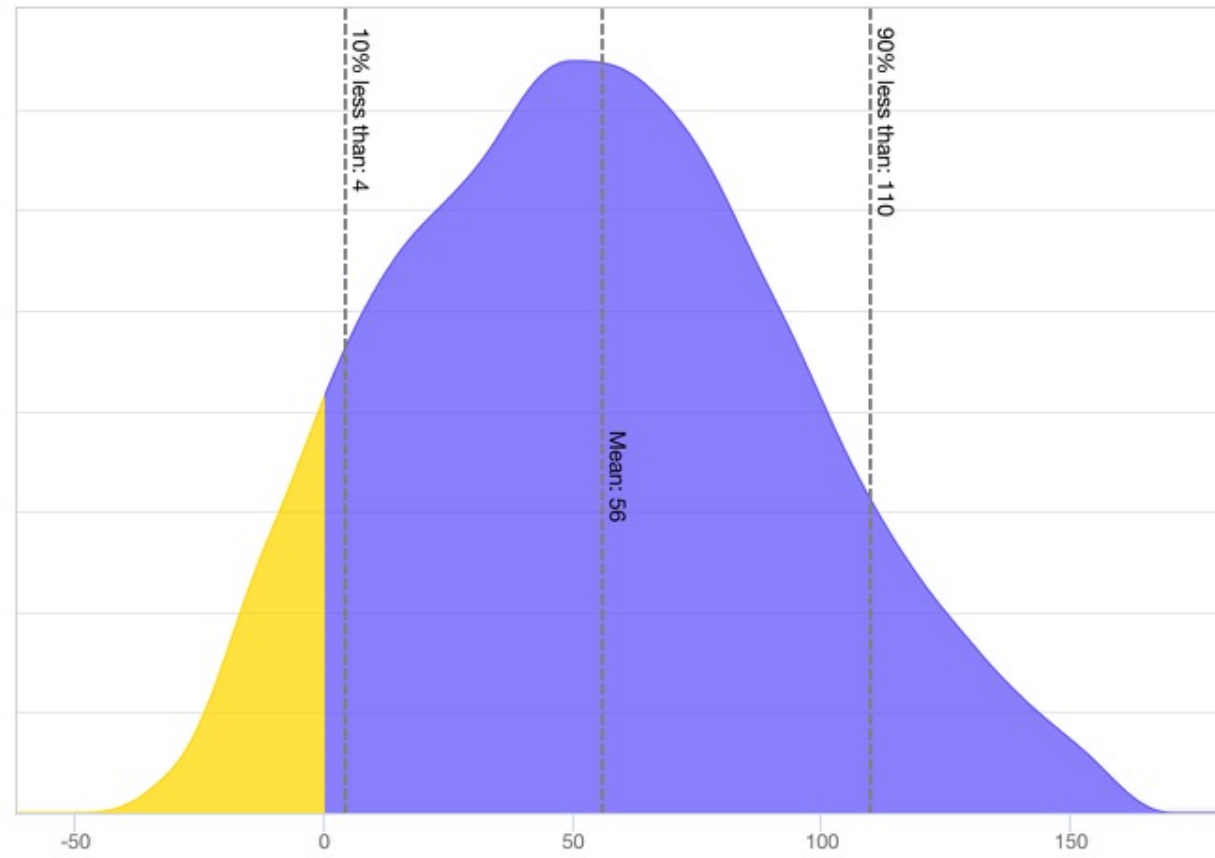
Distance to 2 yo stubble (0 m)

 2 yo stubble standing

SCENARIO A

SCENARIO B

Difference in net return (\$/ha)



● Probability of positive return

● Probability of negative return



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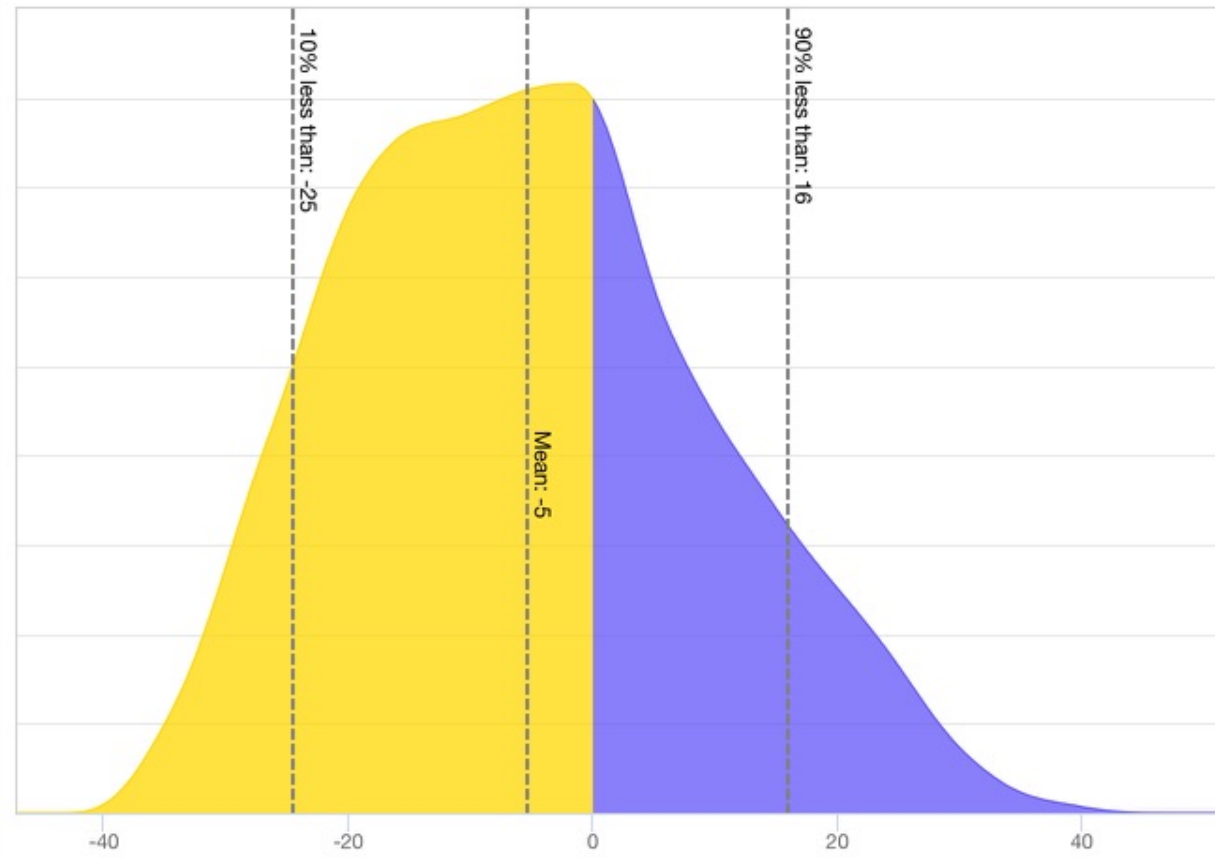
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Distance to 2 yo stubble (0 m)



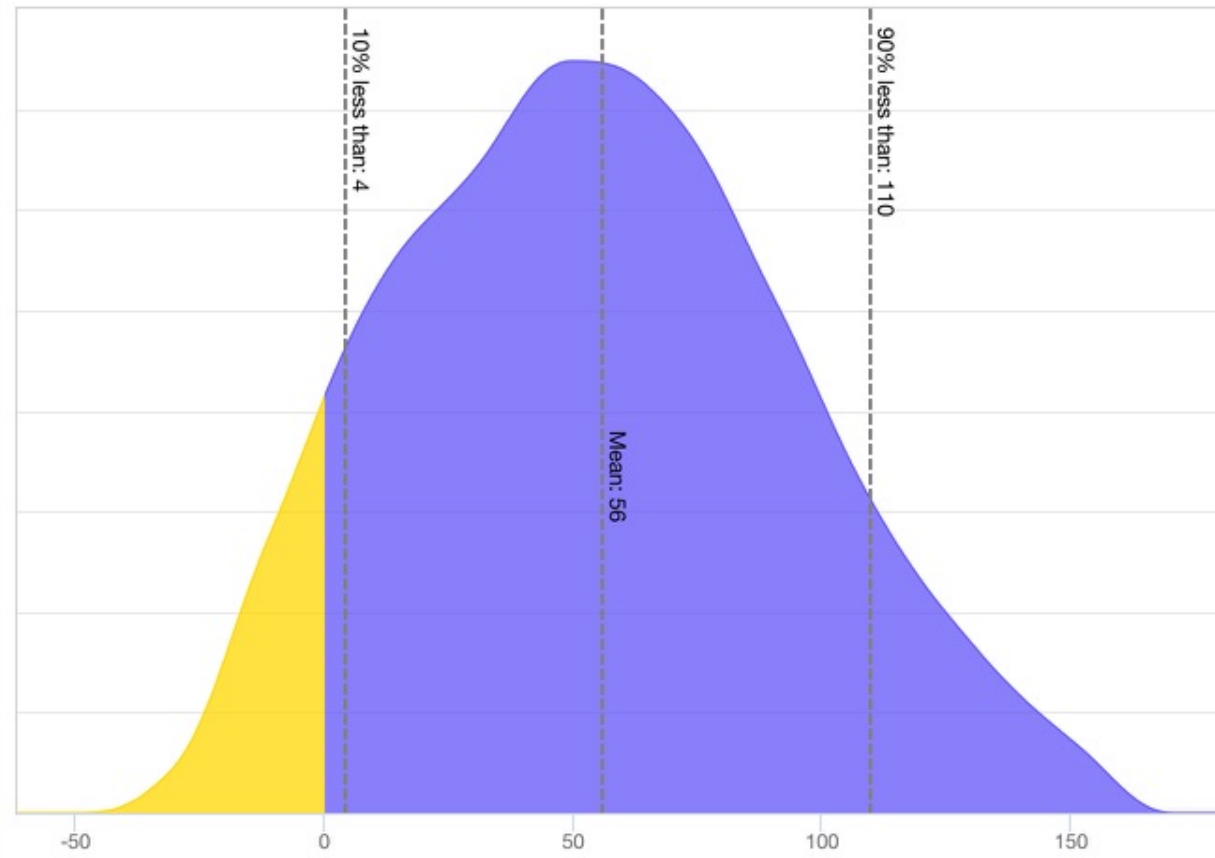
2 yo stubble standing



SCENARIO A

SCENARIO B

Difference in net return (\$/ha)



● Probability of positive return

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## Blackleg management in canola

Net return



## + Crop circumstances


## - Paddock setup

Distance to 1 yo stubble (100 m)  Distance to 2 yo stubble (0 m)   2 yo stubble standing 

## - Variety options

Selected variety 


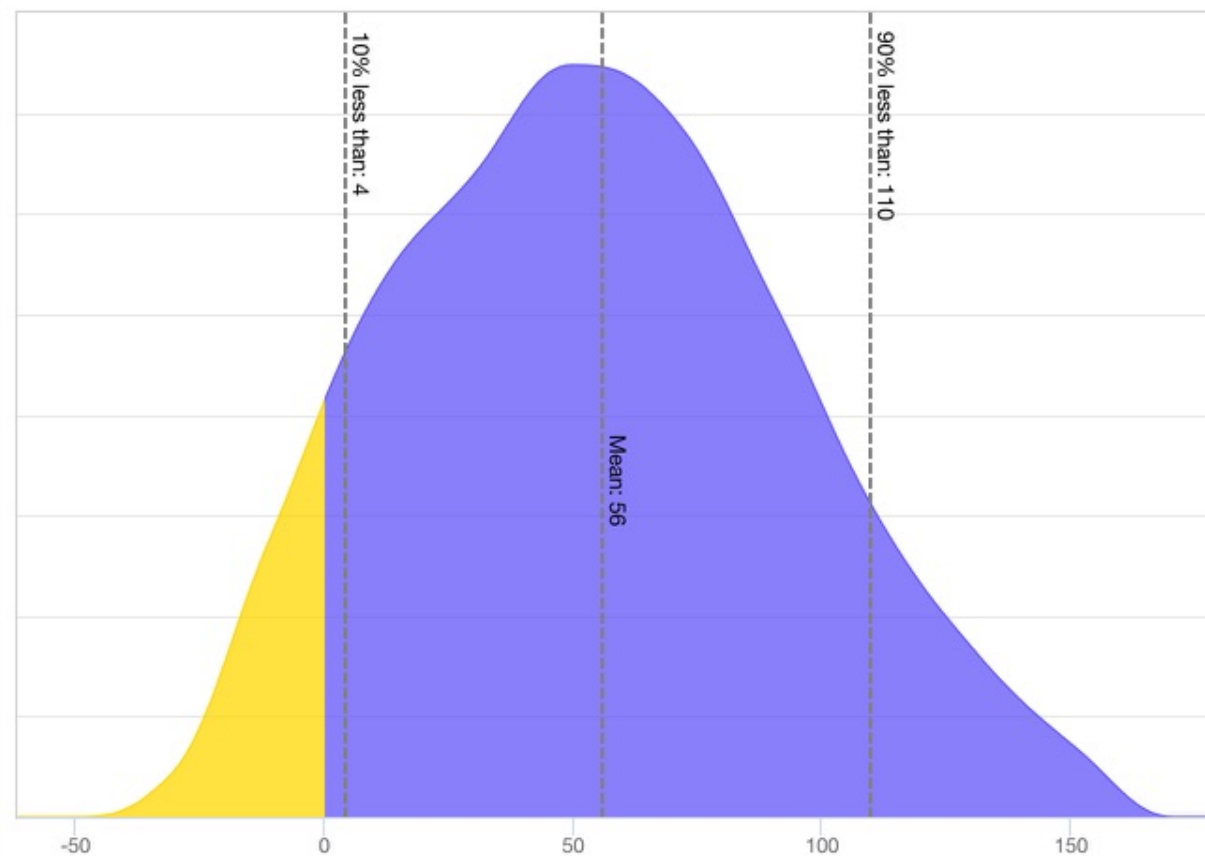

ATR-BONITO (MS, A)

Seeding rate (2 kg/ha)  A Resistance status (0) Not reduced 

SCENARIO A

SCENARIO B

Difference in net return (\$/ha)

 Probability of positive return Probability of negative return



## Blackleg management in canola



Variety table Last update: April 2018



Variety	Resistance rating▲	Resistance group	Seed price (\$/kg)	Seed type	Herbicide tolerance	Endpoint royalties (\$/t)	Favourite	Note
Hyola 506RR	R	ABD	38	Hybrid	RR	0	★	Longer season areas
Nuseed GT53	R	ABDF	35	Hybrid	RR	3	★	Longer season areas
Hyola 350TT	R	ABDF	28	Hybrid	TT	0	★	Shorter season areas
Hyola 575CL	R	BF	28	Hybrid	CL	0	☆	
Hyola 970CL	R	H	28	Hybrid	CL	0	☆	Winter
Nuseed Quartz	R	ABD	38	Hybrid	Conv	0	☆	
Nuseed GT42	R	ABDF	38	Hybrid	RR	0	☆	
Hyola 650TT	R	ABD	28	Hybrid	TT	0	☆	
Hyola 404RR	R-MR	ABD	38	Hybrid	RR	0	★	
Pioneer 44Y27 RR	R-MR	B	38	Hybrid	RR	0	★	





# Blackleg management in canola

Net return



## + Crop circumstances

## - Paddock setup

Distance to 1 yo stubble (100 m)

Distance to 2 yo stubble (0 m)

2 yo stubble standing

## - Variety options

Selected variety

**ATR-BONITO (MS, A)**

Seeding rate (2 kg/ha)

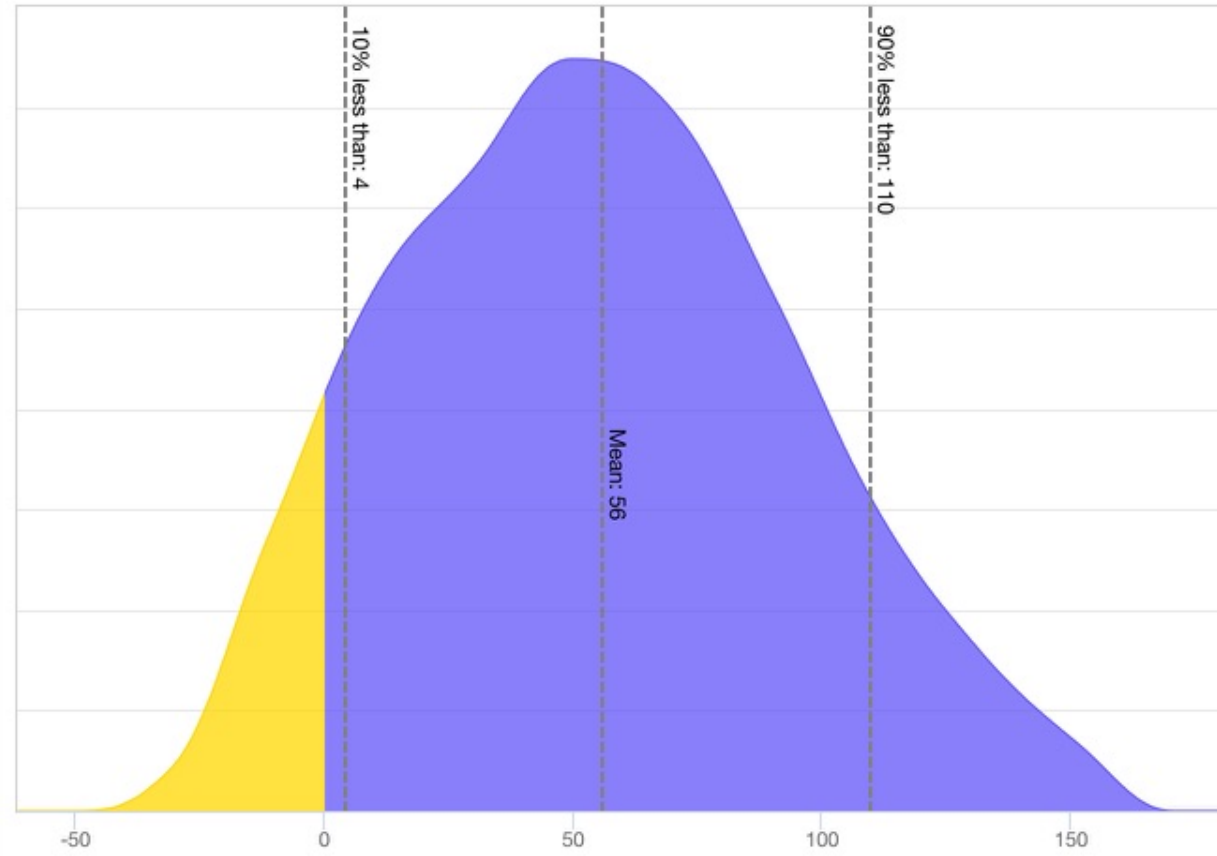
A Resistance status (0)

Not reduced

SCENARIO A

SCENARIO B

Difference in net return (\$/ha)



● Probability of positive return ● Probability of negative return





# Blackleg management in canola

Net return



+ Crop circumstances

+ Paddock setup

+ Variety options

- Fungicide options

Jockey Stayer® seed dressing

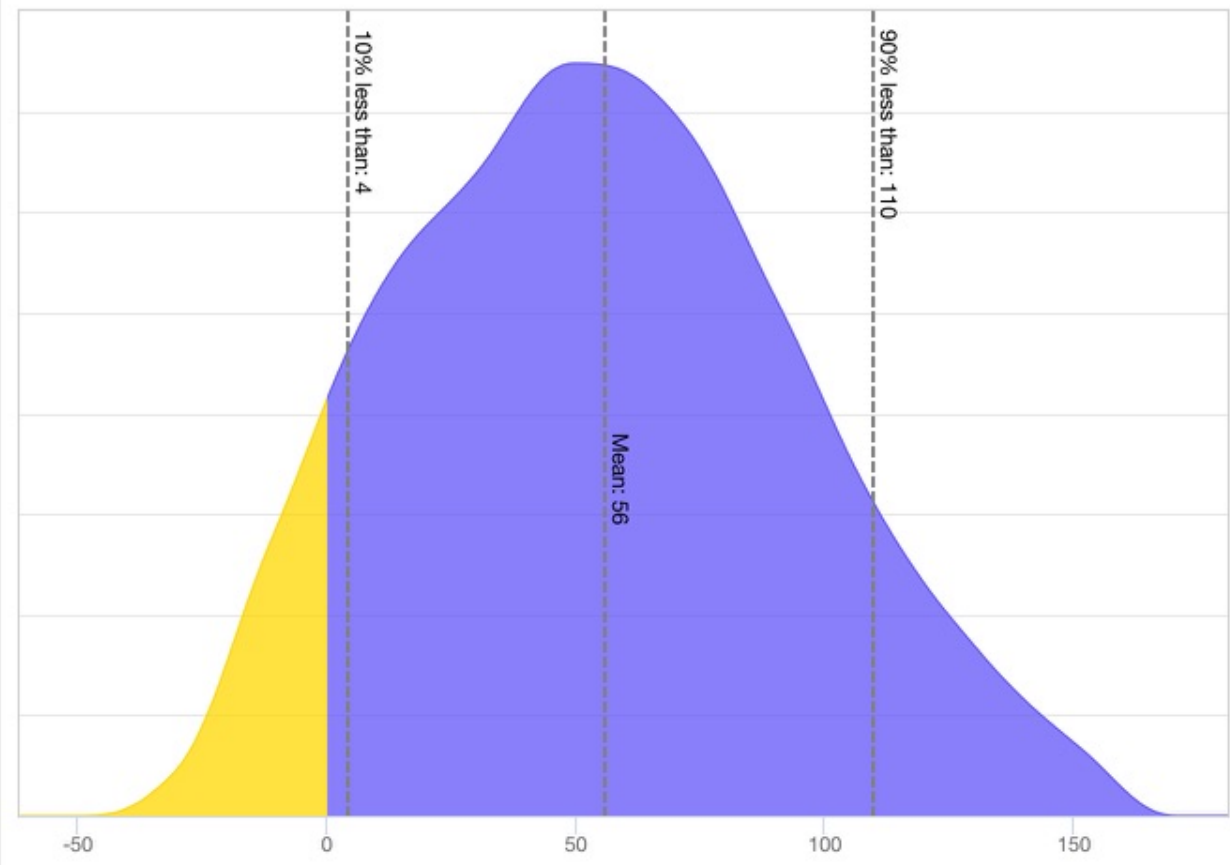
Seed treatment cost (10 \$/kg)

Flutriafol with fertiliser

Prosaro® spray (4-6 leaf)

SCENARIO A SCENARIO B

Difference in net return (\$/ha)



● Probability of positive return ● Probability of negative return



# Blackleg management in canola

Net return



+ Crop circumstances

+ Paddock setup

+ Variety options

- Fungicide options

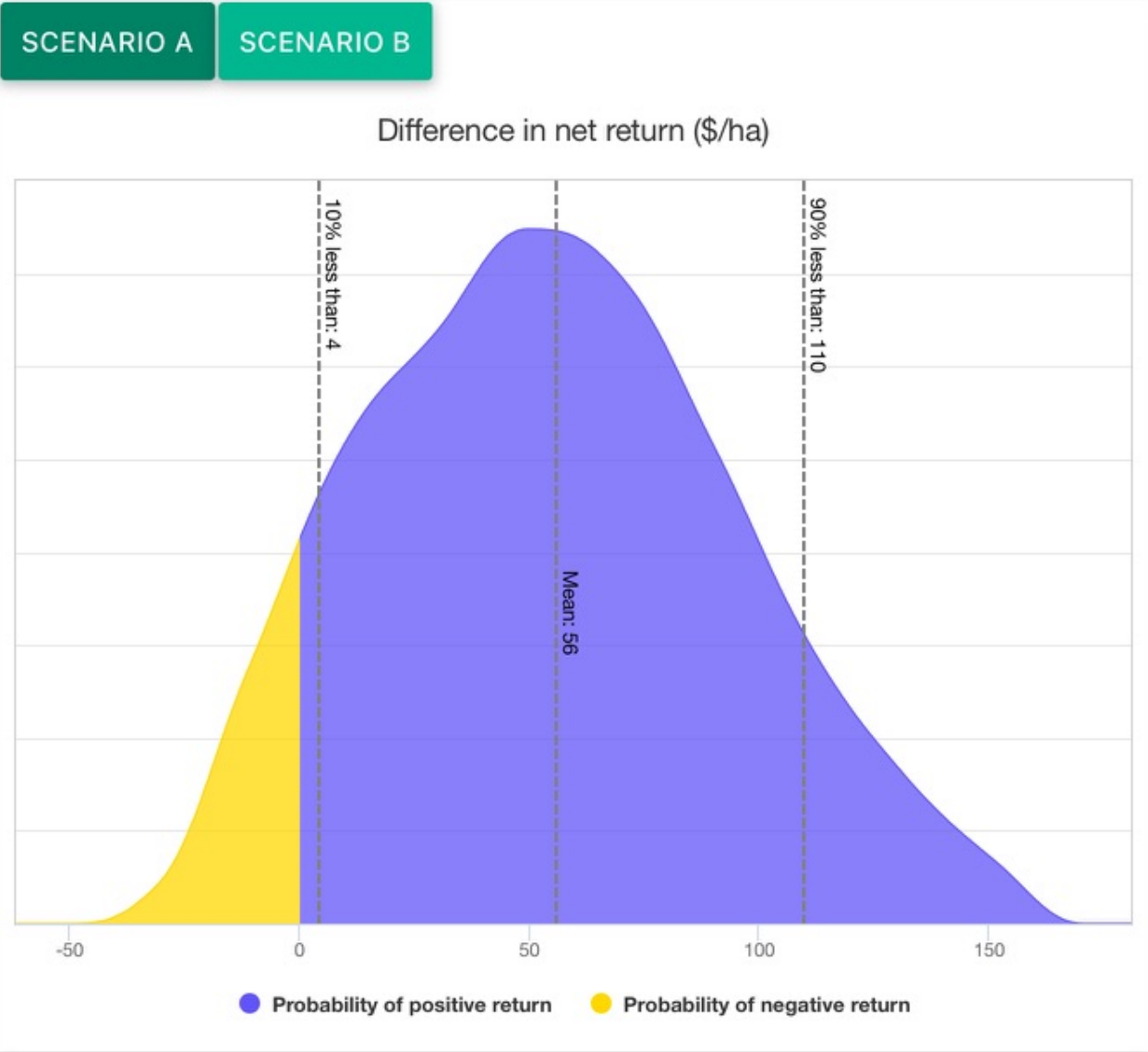
Jockey Stayer® seed dressing

Seed treatment cost (10 \$/kg)

Flutriafol with fertiliser

Prosaro® spray (4-6 leaf)

Spray cost (40 \$/ha)



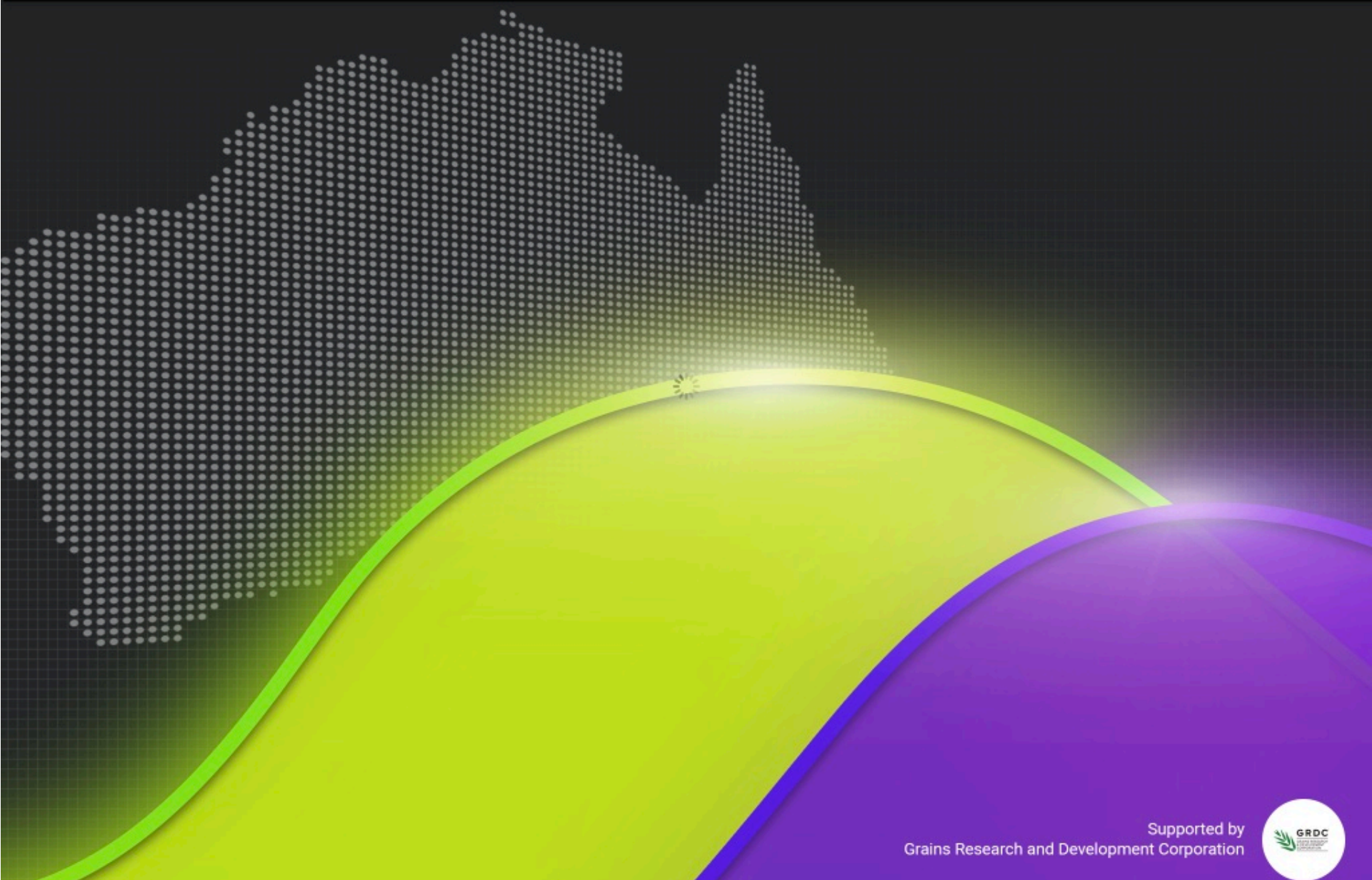
# Up to mid-July BlacklegCM had been:

- Downloaded 176 times
- Used in 848 sessions
- Used for a total of 290 hours

If you have been using it, please come tell me about it.

# SCLEROTINIACM

A TOOL FOR MANAGING SCLEROTINIA DISEASE IN CANOLA



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### Spray decision

First spray  Second spray

Crop circumstance ▶

History ▶

Current conditions ▼

Bloom stage (50 %) ⬆️⬆️⬆️

Wet days in the last 3 weeks (14 of 21) ⬆️⬆️⬆️

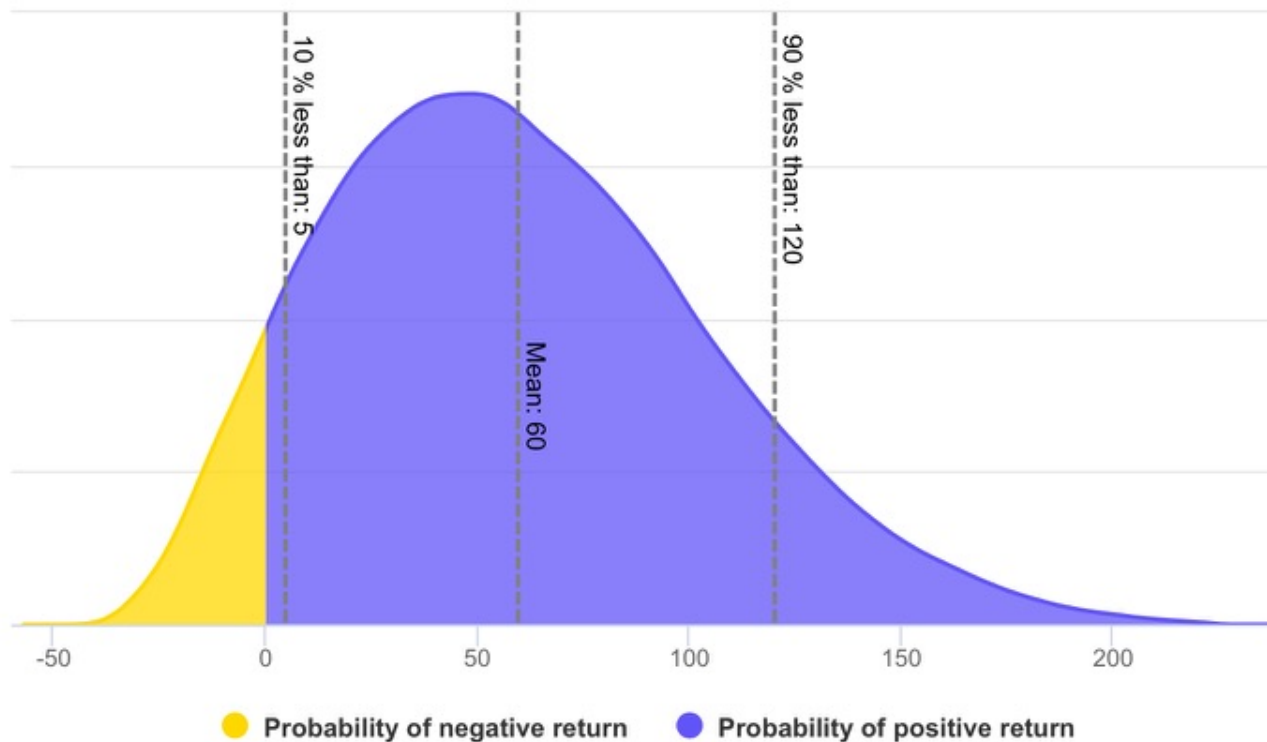
Forecast wet days next week (3 of 7) ⬆️⬆️⬆️

Forecast wet days in week after next (3 of 7) ⬆️⬆️⬆️

Mitigation by spray (50 %) ⬆️⬆️⬆️

Spray cost (40 \$/ha) ⬆️⬆️⬆️

### Return from spray (\$/ha)



● Probability of negative return ● Probability of positive return

# SclerotiniaCM report

30/08/2018, 1:34:21 pm

## User input

Spray decision	First spray		
<b>Crop circumstance</b>			
Target yield (t/ha)	2	Yield range	0.2
Grain price (\$/t)	490	Grain price range	0.1
Production cost (\$/t)	400	Surface soil texture	Fine texture

## History

Frequency of broadleaf crops (Years in 10)	3	Frequency of sclerotinia yield loss (Years in 10)	5
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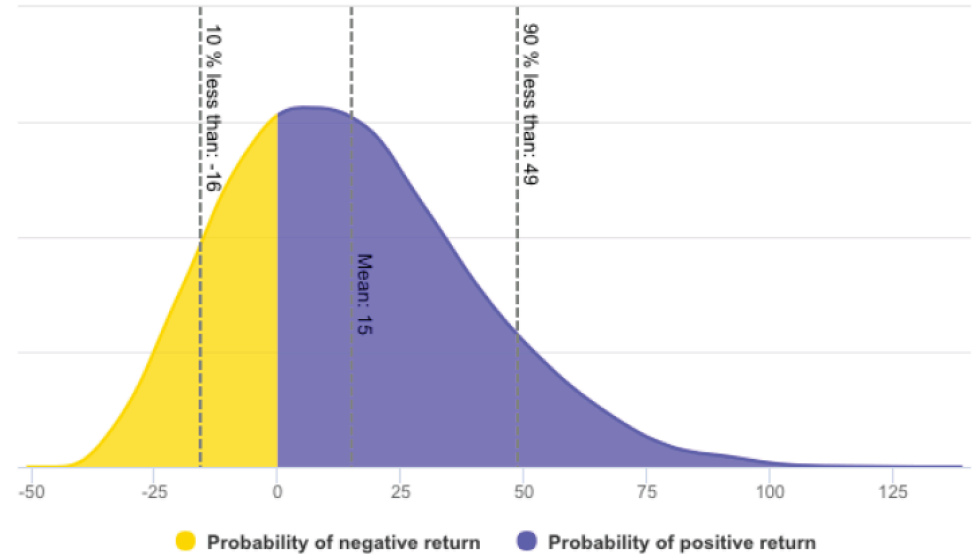
## Current conditions

Bloom stage (%)	50	Bloom stage at previous spray (%)	N/A
Wet days in the last 3 weeks (Days in 21)	7	Forecast wet days next week (Days in 7)	3
Forecast wet days in week after next (Days in 7)	3		
Mitigation by spray (%)	50	Spray cost (\$/ha)	50

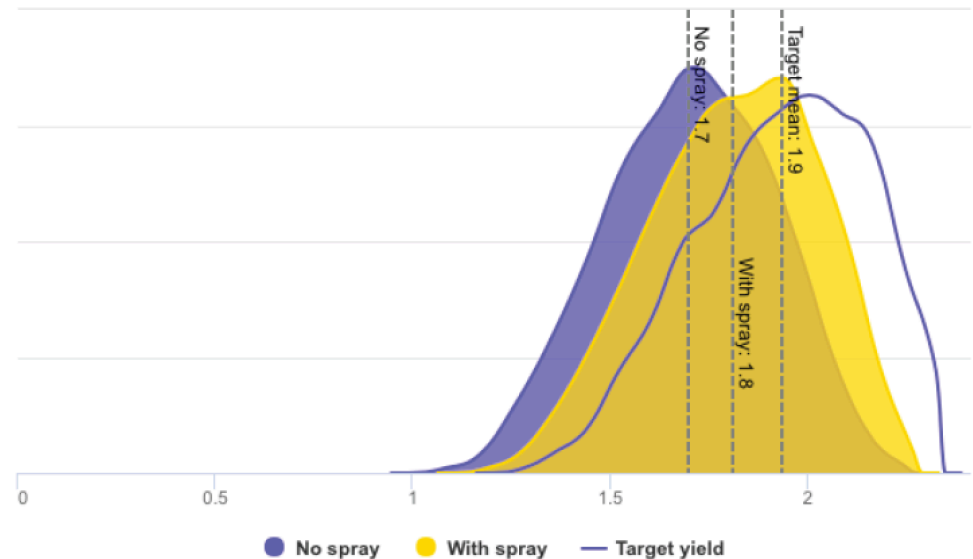
## Summary table

	No spray	Spray	Difference
<i>Expected yield (t/ha)</i>			
Minimum	1.4	1.5	0
Mean	1.7	1.8	0.1
Maximum	2	2.1	0.2
<i>Loss to sclerotinia (t/ha)</i>			
Minimum	0.11	0.05	-0.18
Mean	0.23	0.12	-0.11
Maximum	0.36	0.2	-0.05
<i>Net return (\$/ha)</i>			
Minimum	290	303	-16
Mean	433	447	15
Maximum	569	583	49

Return from spray (\$/ha)



Target and expected yields (t/ha)



B3

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	SclerotiniaCM report												
2	Created	30/8/18	2:06:26 pm										
3	Note												
4													
5	Crop circumstance												
6	Spray decision	First spray											
7	Target yield (t/ha)	2											
8	Yield range	0.2											
9	Grain price (\$/t)	490											
10	Grain price range	0.1											
11	Production cost (\$/t)	400											
12	Surface soil texture	Fine texture											
13	History												
14	Frequency of broadleaf crops (Years in 10)	3											
15	Frequency of sclerotinia yield loss (Years in 10)	5											
16	Current conditions												
17	Bloom stage (%)	50											
18	Wet days in the last 3 weeks (Days in 21)	7											
19	Forecast wet days next week (Days in 7)	3											
20	Forecast wet days in week after next (Days in 7)	3											
21	Mitigation by spray (%)	50											
22	Spray cost (\$/ha)	40											
23													
24	Summary	Minimum	Mean	Maximum									
25	Expected yield No spray	1.40904316	1.69844272	1.9752683									
26	Expected yield Spray	1.51712875	1.81036614	2.08297605									
27	Loss to sclerotinia No spray	0.11095698	0.23402268	0.36010841									
28	Loss to sclerotinia Spray	0.05455202	0.12209926	0.19559495									
29	Net return No spray	290.437478	432.503658	568.909286									
30	Net return Spray	303.236729	447.370046	582.534421									
31	Net return difference	-15.715777	14.8663875	48.7502823									
32													

SclerotiniaCM is being tested:

If you'd like to help test it, please come talk to me.



# Thankyou

- [art.diggle@dpird.wa.gov.au](mailto:art.diggle@dpird.wa.gov.au)

This initiative is supported by

- Grains Research and Development Corporation
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- University of Melbourne
- Marcroft Grains Pathology
- New South Wales Department of Primary Industries
- South Australian Research and Development Institute
- Commonwealth Scientific and Industrial Research Organisation

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