Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

How long do Sclerotinia sclerotia survive?

SclerotiniaCM tool to help with on-farm management of sclerotinia stem rot

Jean Galloway, Adam Sparks, Steve Marcroft, Ciara Beard and Kylie Chambers

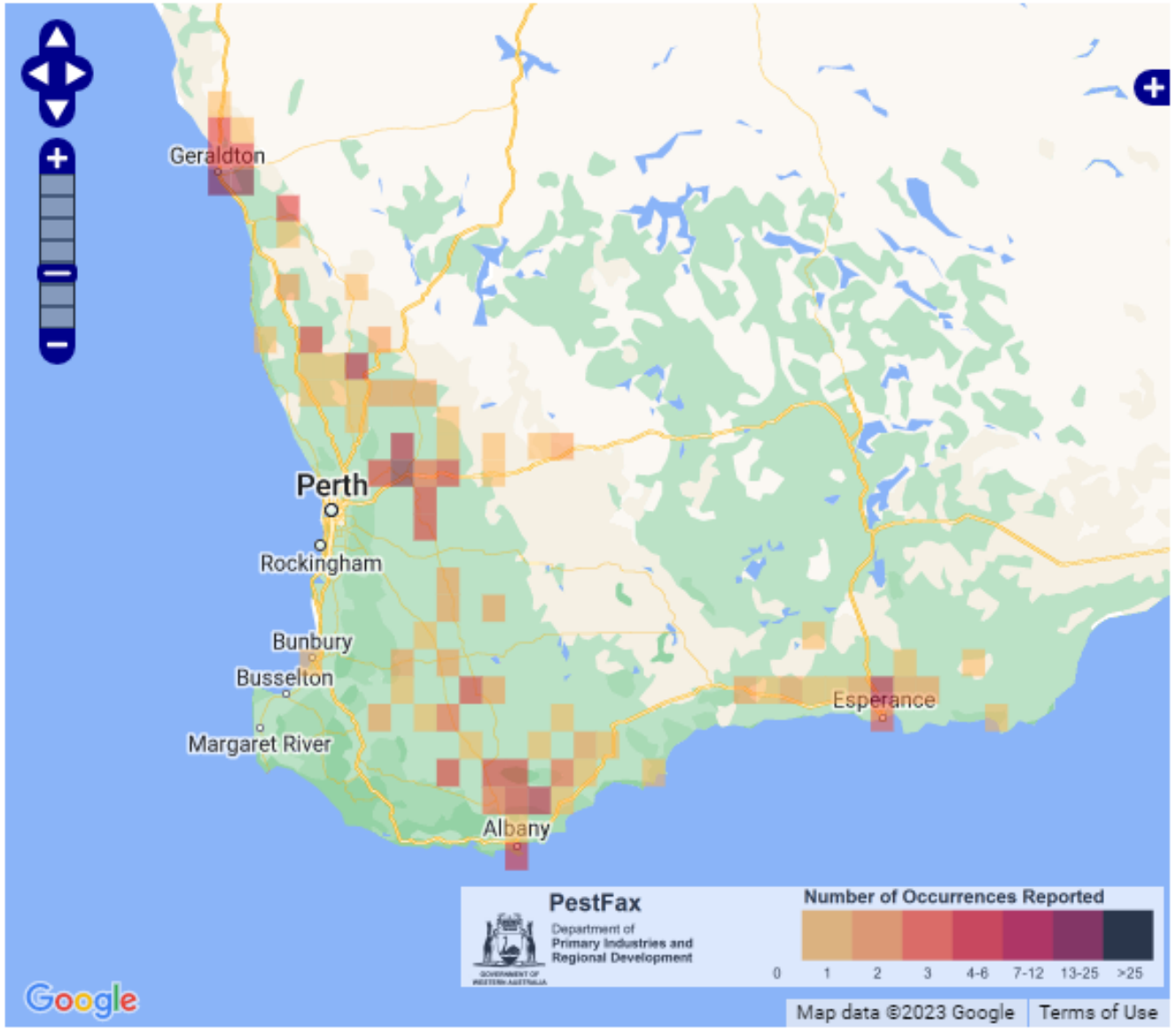
DAW2112-002RTX Disease epidemiology, modelling and delivery of management decision support tools

My talk today will cover two main sections

- Longevity of Sclerotinia sclerotia in WA
- Testing of the **SclerotinaCM** decision support tool in WA

Sclerotinia in canola over the past 10 years in WA

PestFax Map



- Mostly in high and medium rainfall zones
- Sporadically in LRZ

Sclerotia

‘Rat droppings’

Germinate as **apothecia**

Infected petals in leaf axis

Survival of sclerotia on the soil surface

Collected sclerotia after harvest in 2016

Placed them in a PVC ring “depot”

Monitored from 2017-2022

Apothecia production over 6 seasons at Northam

1	2-3	Dry
4	7	Average
8-9	10	Wet

Rainfall deciles

Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Autumn decile	2	2	1	3	10	7
Winter decile	4	10	7	1	9	10
Apothecia production	**0**	**+10**	**1**	**0**	**+10**	**+30**

More apothecia produced in year 6 than any other year

jean.galloway@dpird.wa.gov.au

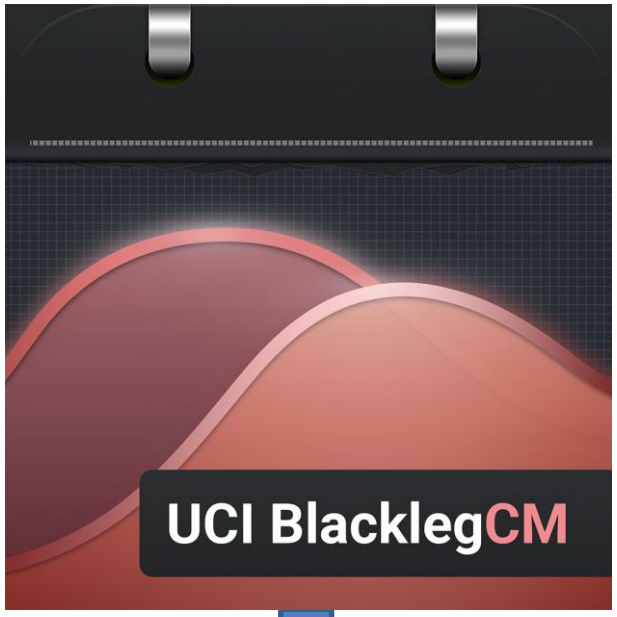
Key Messages

- Sclerotinia sclerotia survive for at least 6 seasons on the soil surface in WA
- Assume that paddocks that have grown canola or lupins in the past 6 years have a sclerotinia risk

jean.galloway@dpird.wa.gov.au

Three canola decision support tools – the CM series

Blackleg crown canker
Used 4-6 leaf stage



Blackleg Upper Canopy Infection
Used first flowers onwards

Sclerotinia stem rot
Used10-50% bloom stage

SclerotiniaCM decision support tool

- Developed with leading Sclerotinia experts
  - National Canola Pathology Team
- Used all available data and knowledge at time of release
- It assumes that Sclerotinia inoculum is everywhere

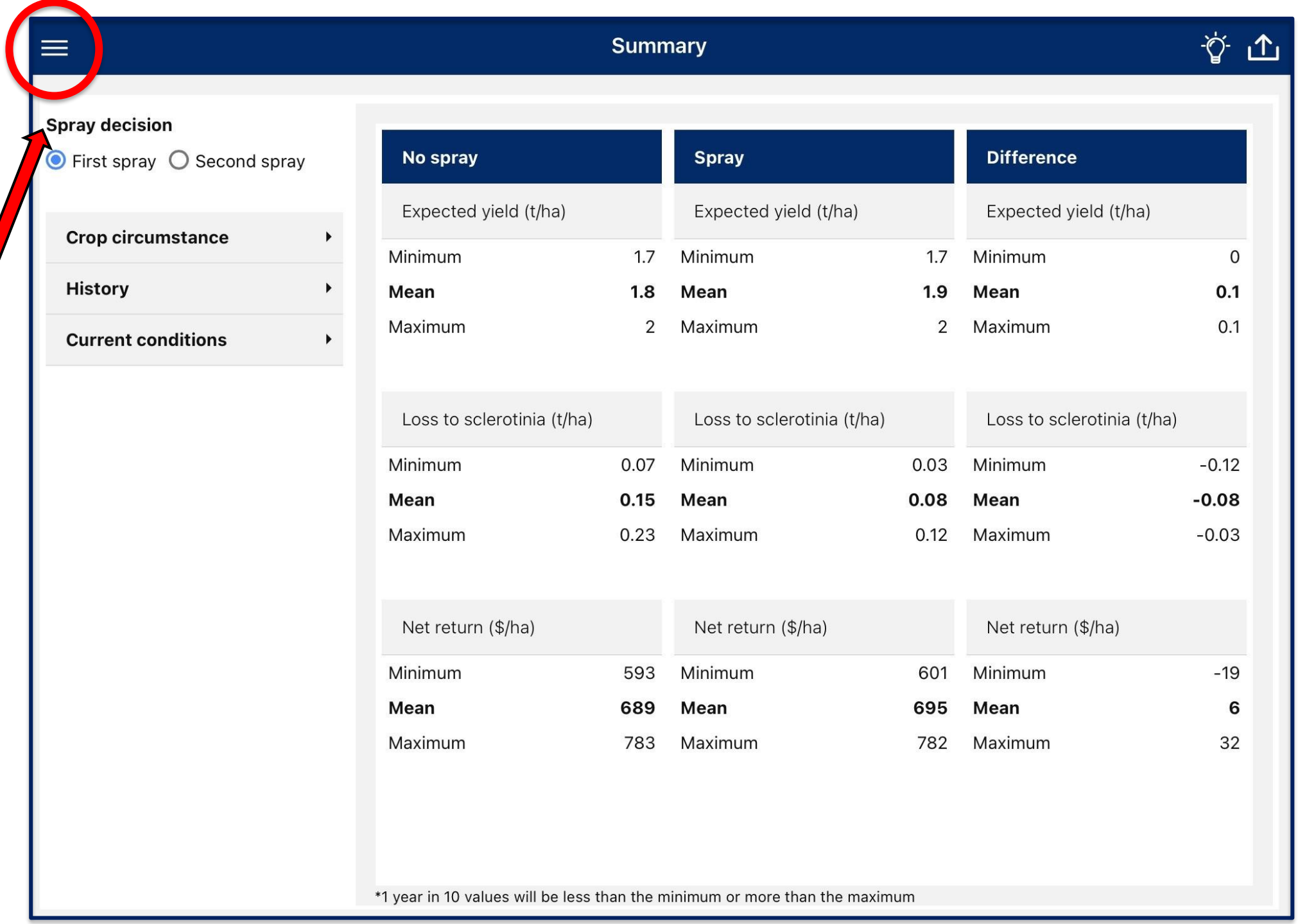
Key message

SclerotiniaCM is not just an economic calculator

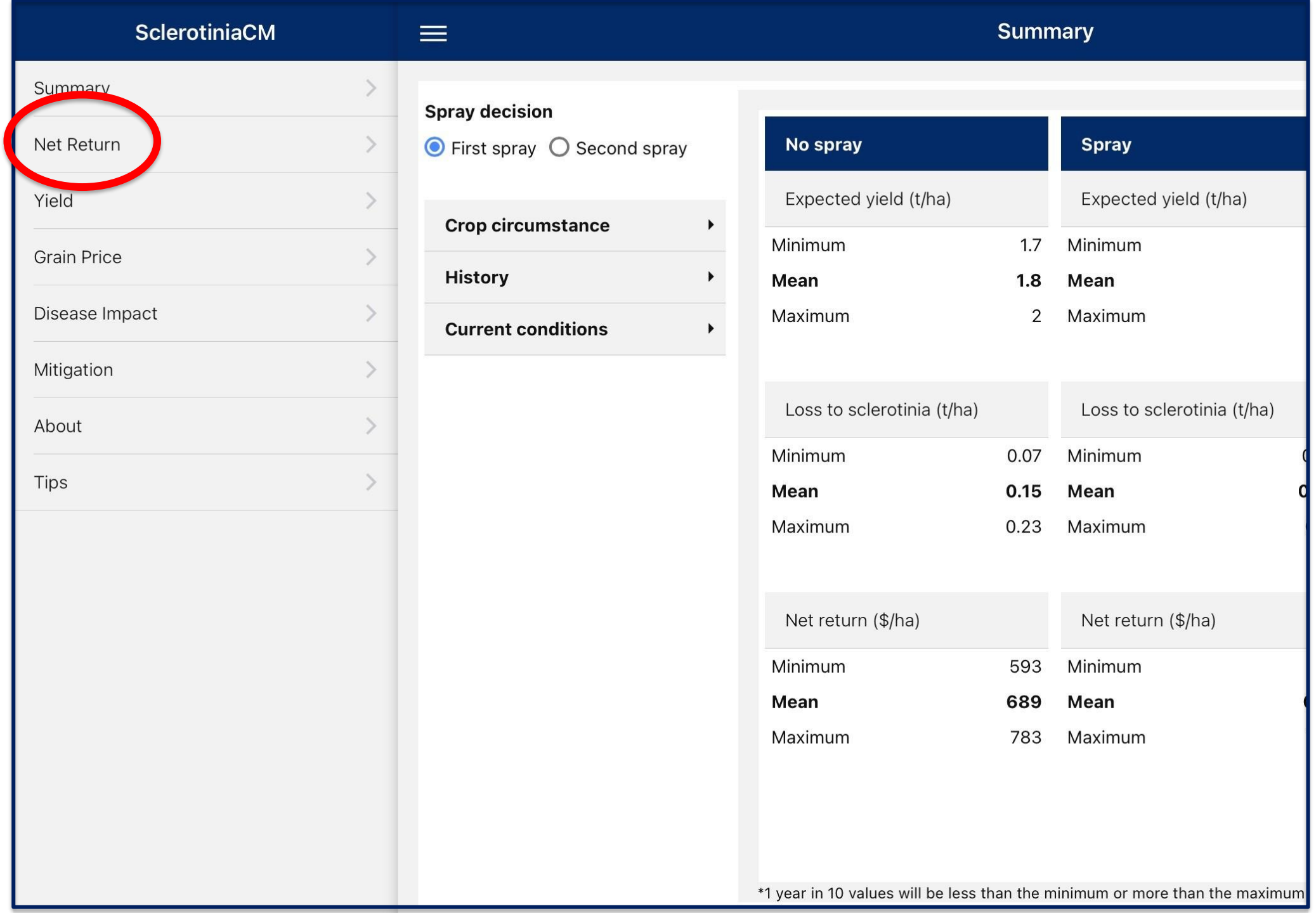
It is a disease model that ‘predicts’ when sclerotinia stem rot might develop

How to find graph views in Sclerotinia CM

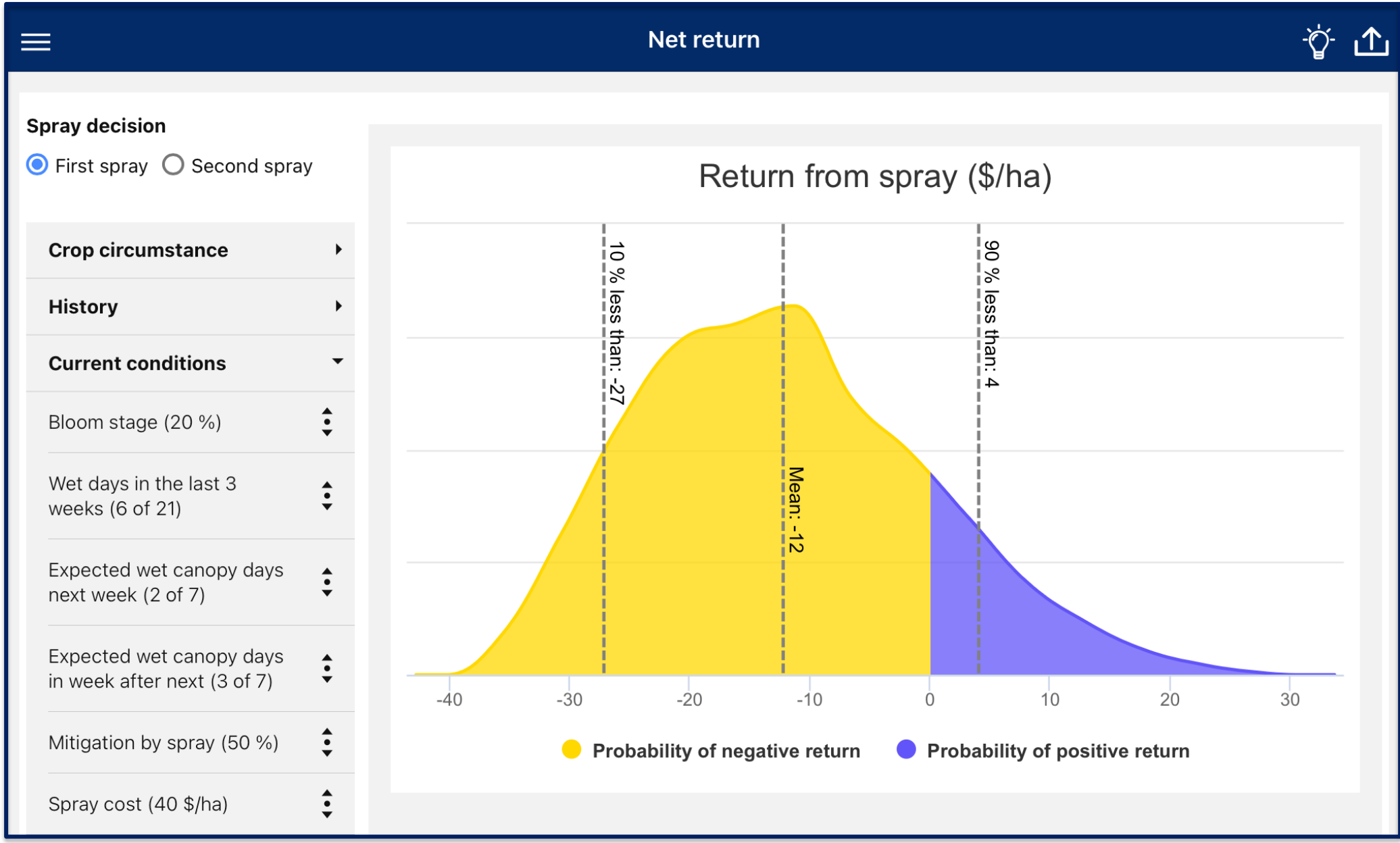
Click on the hamburger icon



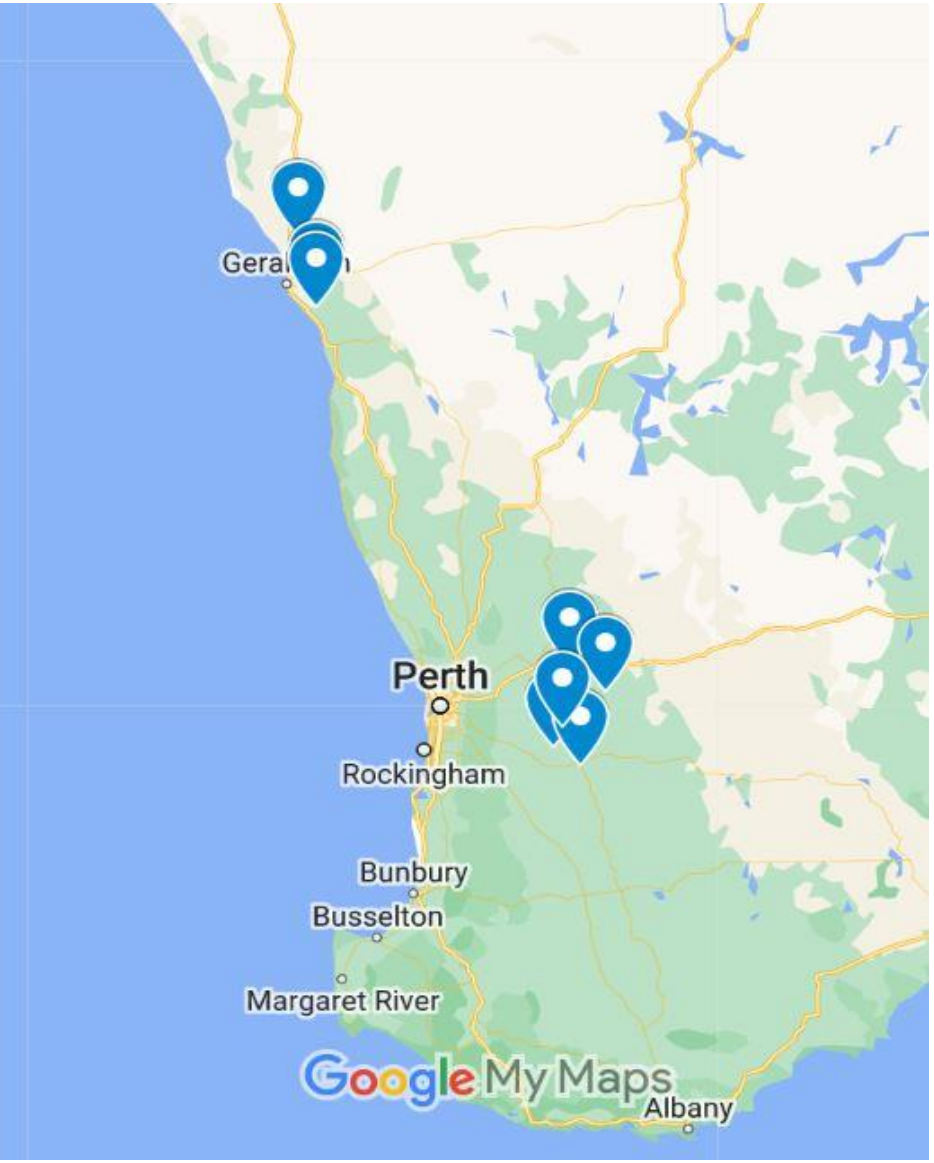
Choose **net return** from the drop down menu



Graph view will be displayed



On-farm testing of SclerotiniaCM in WA

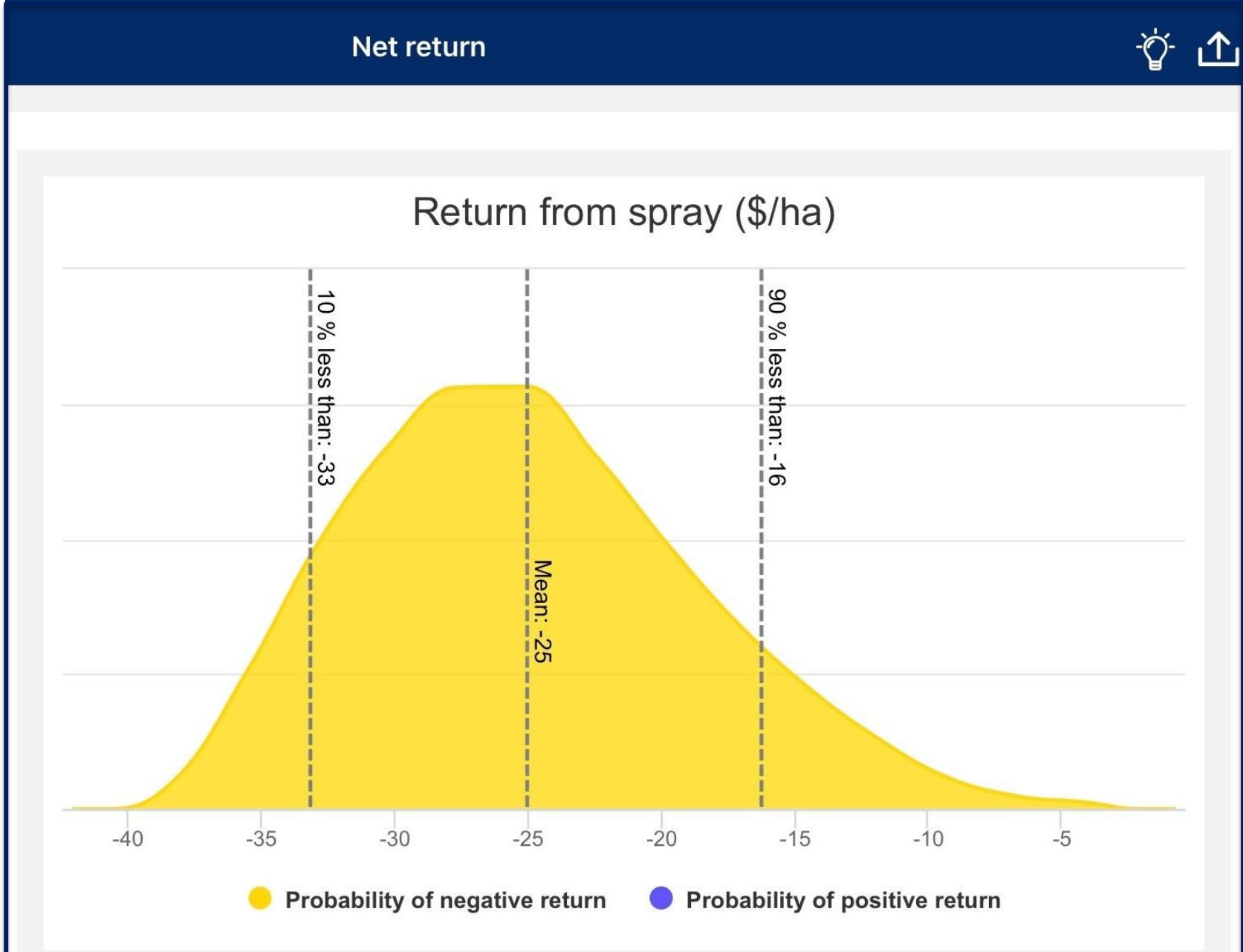


- 10 trials over 3 seasons
- Petal testing at all sites to confirm that inoculum was present
- Rated for sclerotinia stem rot prior to harvest

2019 Trials

No sclerotinia stem rot at any site

- Petal test 29%
- No sclerotinia stem rot
- Ave yield 0.4 t/ha

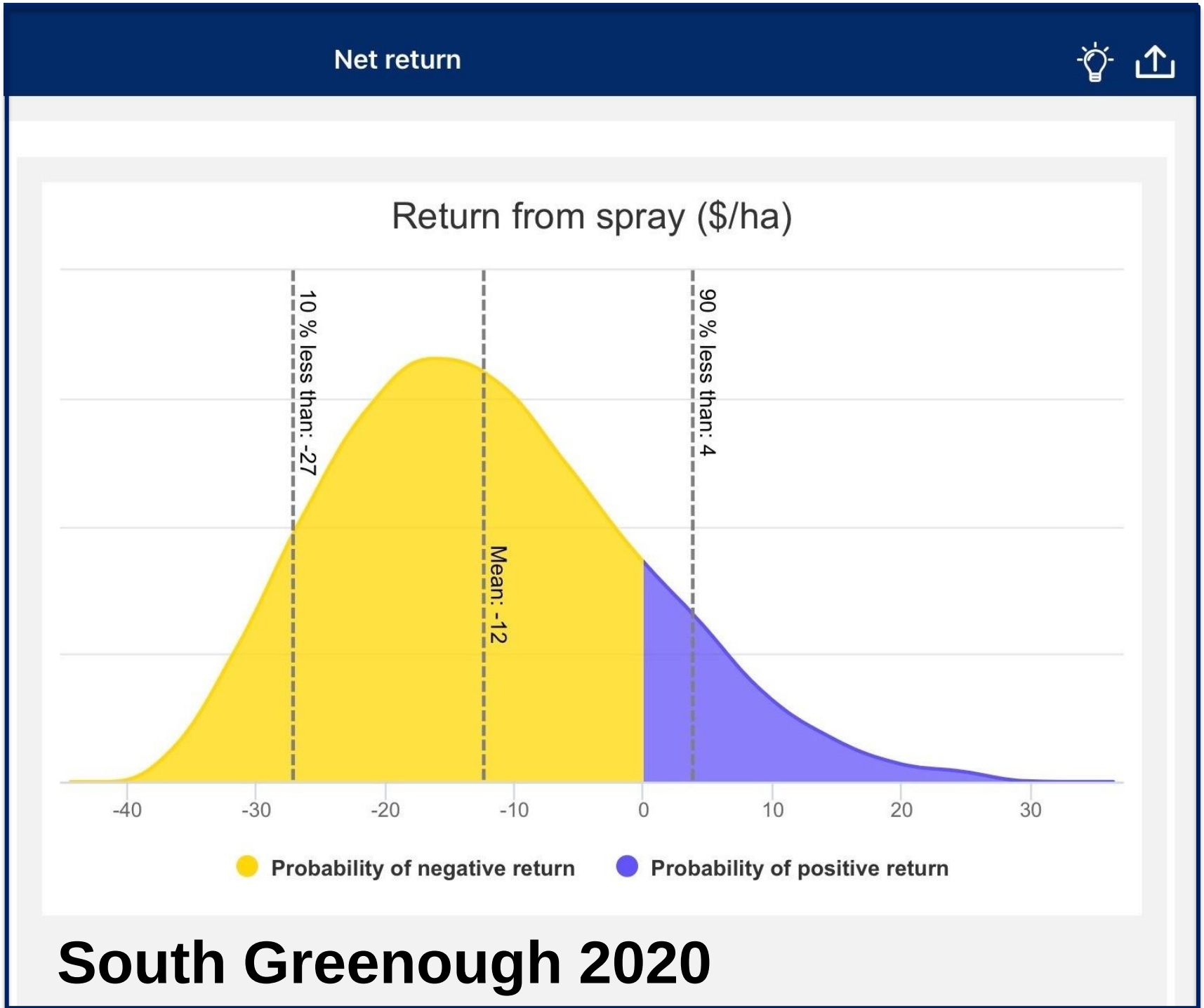


Northampton 2019

2020 Trials

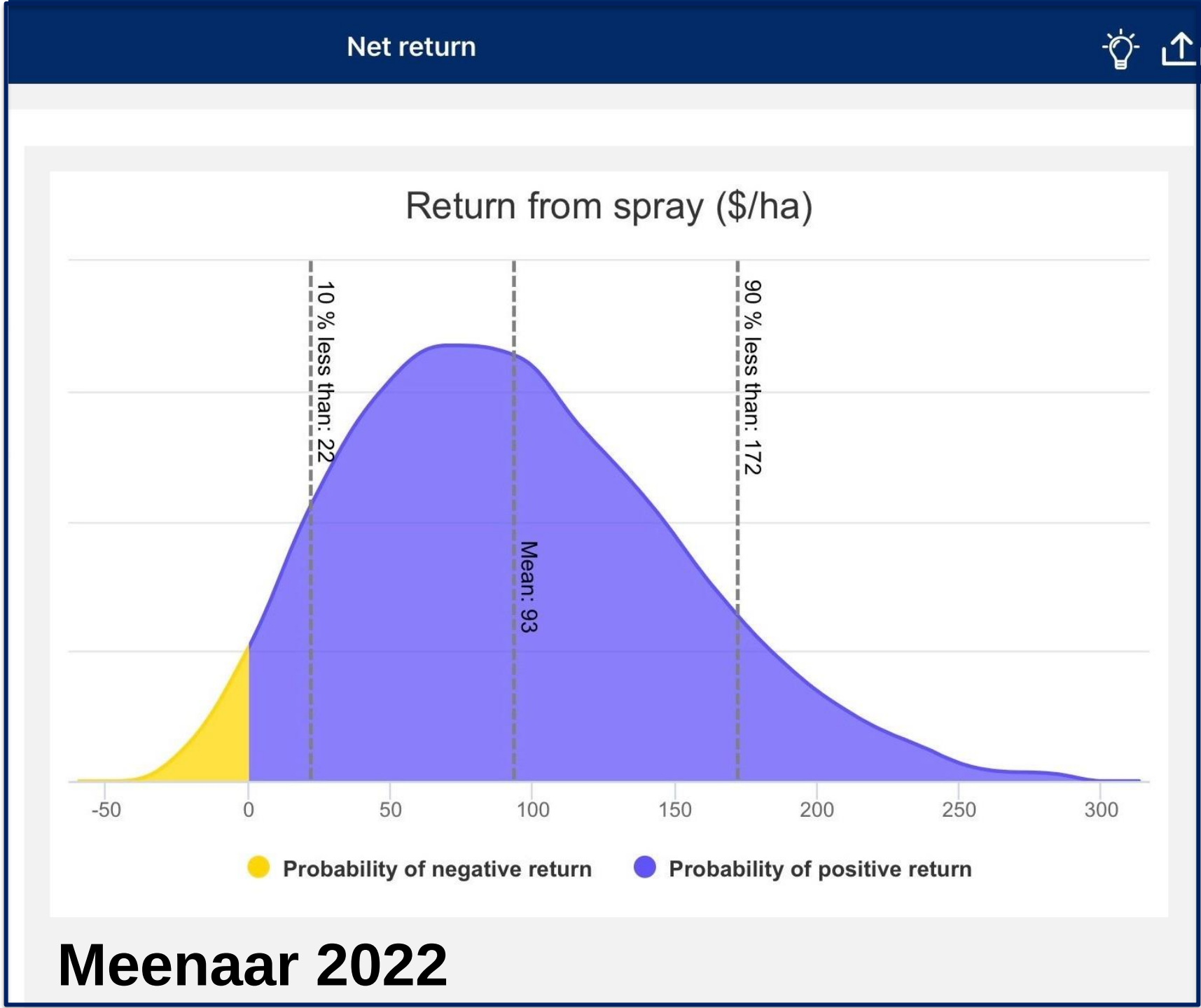
Sclerotinia stem rot at 4 out of 5 trial sites

- Petal test 73%
- 39% of plants infected
- Ave yield 2.1 t/ha



2022 trial

- Petal test 90%
- 39% of plants infected
- Ave yield 2.4 t/ha



Meenaar 2022

Conclusions for SclerotiniaCM testing

Accurately predicts circumstances in which sclerotinia stem rot might develop

Key message:
Look at the graph view and pay attention to the proportion of yellow and purple in the graph

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Acknowledgements

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Thank you

dpird.wa.gov.au

jean.galloway@dpird.wa.gov.au

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