



SACOA

TECH NOTESERIES

IMPROVING SCLEROTINIA CONTROL IN CANOLA WITH BIOPEST

This tech note discusses the ability for BIOPEST to improve fungicide efficacy when used for the treatment of sclerotinia in Canola. As an effective aphid management tool, BIOPEST provides additional benefits by keeping aphid populations below economic thresholds and is safe to apply in mixtures with liquid UAN.



Key Points

1. Good coverage is critical – particularly to protect lower leaves where infection from rain splash spores can be initiated.
2. Many protectant type fungicides such as procymidone require adjuvants to improve leaf coverage, uptake and rainfastness.
3. The unique characteristics of BIOPEST® as a spreader and sticker improve the efficacy of fungicides by increasing droplet size for targeting lower leaves, increasing coverage & uptake on hard to wet waxy canola leaf surfaces and increasing the persistence of preventative fungicides through improved rainfastness.
4. As an effective aphid management tool, BIOPEST has the added benefit of reducing the potential for aphid populations to build - when used as a carrier for fungicides.



Fig 2: Infection starting from petal fall on leaf

Sclerotinia Life Cycle

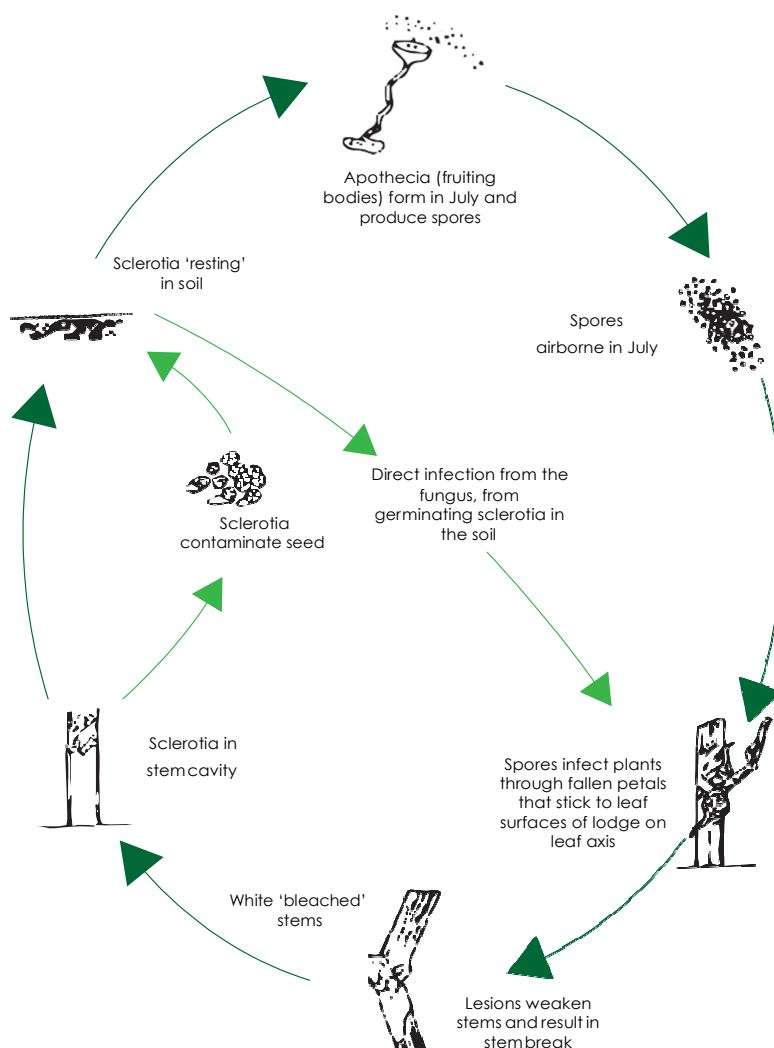


Fig 1: Life cycle of sclerotinia stem rot

- Australian owned
- Specialist company
- QA manufacturing
- National distribution
- Full product support



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Application

Good spray coverage is required to provide the effective dose of fungicide needed to protect susceptible leaf surfaces. When 2.0L/Ha of Biopest was used in 30L/Ha of water applied by air - coverage was equivalent to 40L/Ha of water alone.

If using ground rigs it is important to set up nozzles, water volumes, pressures and travel speed to deliver droplets in the medium to coarse range – larger droplets will better penetrate the crop foliage and target disease lower on the plant (refer Fig 3 & 4).

Application methods and adjuvants greatly influence fungicide coverage; by emulsifying the active ingredient using specialised micro emulsions to improve leaf deposition, rainfastness, droplet formation and most importantly tissue absorption.

For fungicides like procymidone – oil based adjuvants such as BIOPEST have been proven to be more efficacious than non-ionic surfactants as they result in greater movement into the leaf of the fungicide, and improved surface retention (refer Fig 5 & 6).

In addition, the higher viscosity of oil based products such as BIOPEST – results in a more even droplet spectrum, greater crop foliage penetration and coverage on lower leaves.

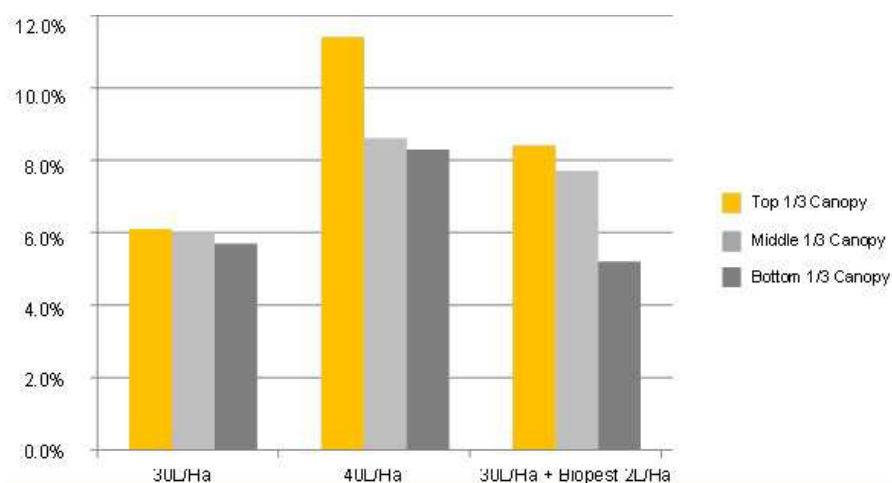


Fig 3: Increase in canola leaf surface coverage with the addition of BIOPEST.
Source: Agvivo demonstration trial June 2014



Fig 4: Coverage & leaf wetting can be improved significantly with the addition of Biopest in a spray mix

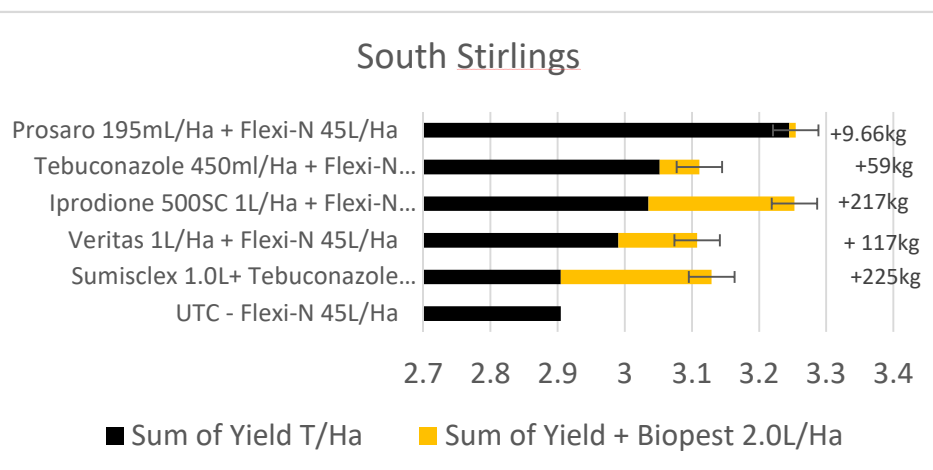


Fig 5: Canola yield from Biopest + fungicide mixtures
Source: SACOA/Kalyx DEC 16– Application timing 15% flowering



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Efficacy of BIOPEST on sclerotinia in fungicide mixtures

Over the winter of 2016 SACOA conducted seven fully replicated field trials - to evaluate the effectiveness of BIOPEST in improving the effectiveness of fungicides such as Prosaro, Aviator, Folicur, Sumisclex and Strobilurins.

Applied at various stages of flowering in mixtures with liquid UAN - these trials proved the benefits of BIOPEST in assisting fungicides control disease with positive yield impacts of up to 300kg/Ha. (refer Fig 5 & 6).

Further Research

Following from extensive work on aphid, weed and disease control in canola in 2016, SACOA are continuing to invest in field research to evaluate the agronomic fit for BIOPEST in a range of crops, with a focus on cereal aphid and disease control.

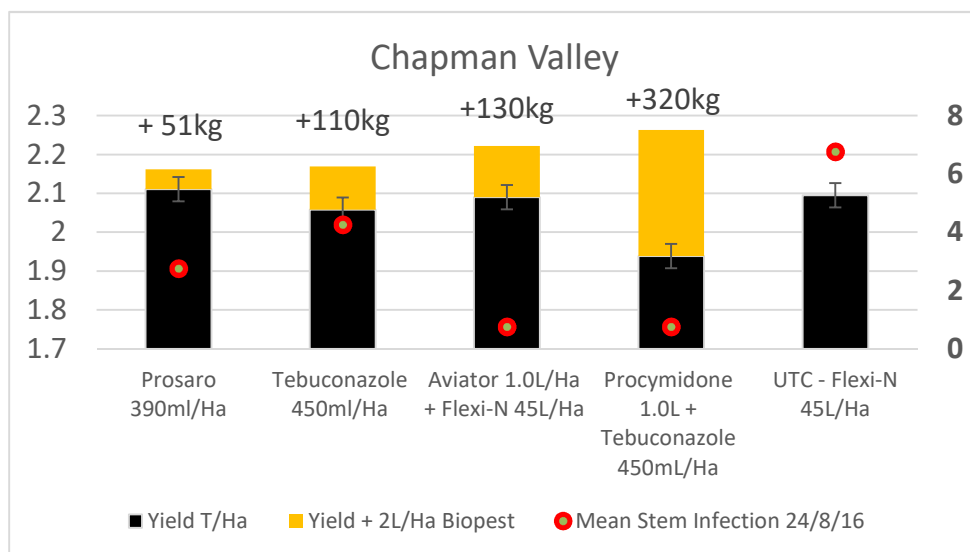
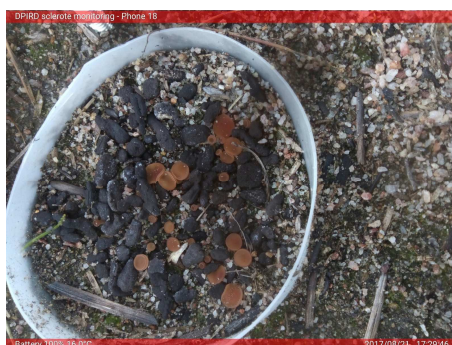


Fig 6: Canola yield from Biopest + fungicide mixtures

Source: SACOA/Planfarm DEC16- Application timing 50% flowering



Christiaan Valentine from DPIRD with new sclerotinia spore traps – A number are now in place across WA with the Wickepin area showing high levels of apothecia development

References

Managing Sclerotinia in Canola

<http://bit.ly/29FQbmT>

Serve-Ag Research – Control of Sclerotinia in Green beans

<http://bit.ly/29F38Mw>

Smart Traps

<http://bit.ly/2vX1Nxb>

Find Out More

Further product information is available online at sacoa.com.au/biopest.htm or by contacting SACOA on 08 9386 7666 or contact your local SACOA representative:

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