The New Zealand Institute for Plant & Food Research Limited

Protectants for Pruning Wounds & Infection Risk via Girdling Wounds

Bill Snelgar, Brian Ward, Shirley Miller, Peter Blattman, Joy Tyson and Mike Manning

Partners in **Your Future**

www.plantandfood.co.nz/**letsbeatpsa**

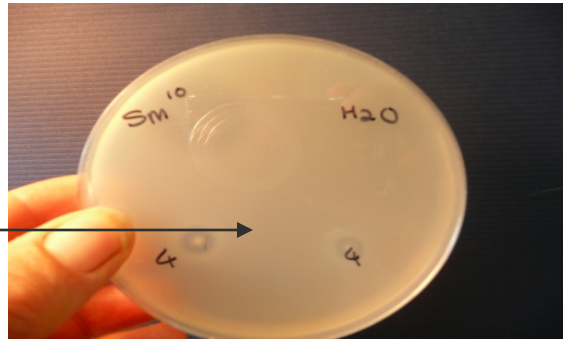
Protection of Pruning Wounds

- Focus at this stage is on summer pruning

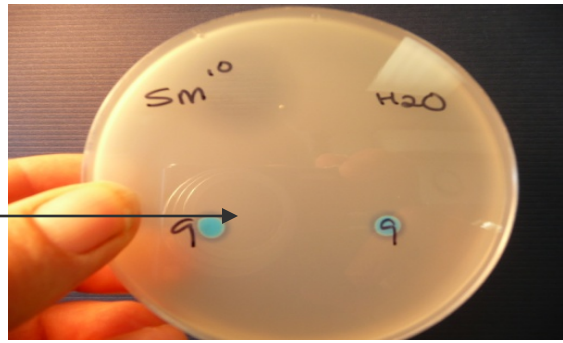
- Ideally products that can be applied at the same time as pruning cuts will be most practical for growers

Bioassay Results

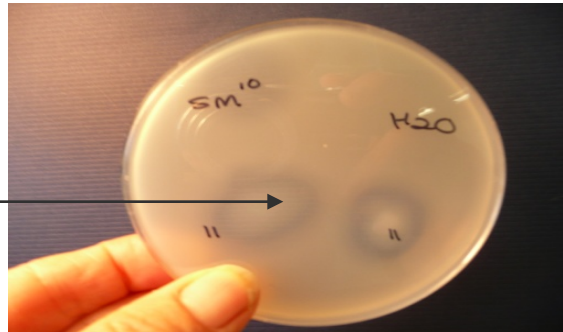
- Products showing promise include:
- **Gels** containing octhilinone, tebuconazole and sodium acetate



- **Paints** eg Garrison BacSeal, Greenseal,



- **Solutions** such as Spotless



Field trials next:

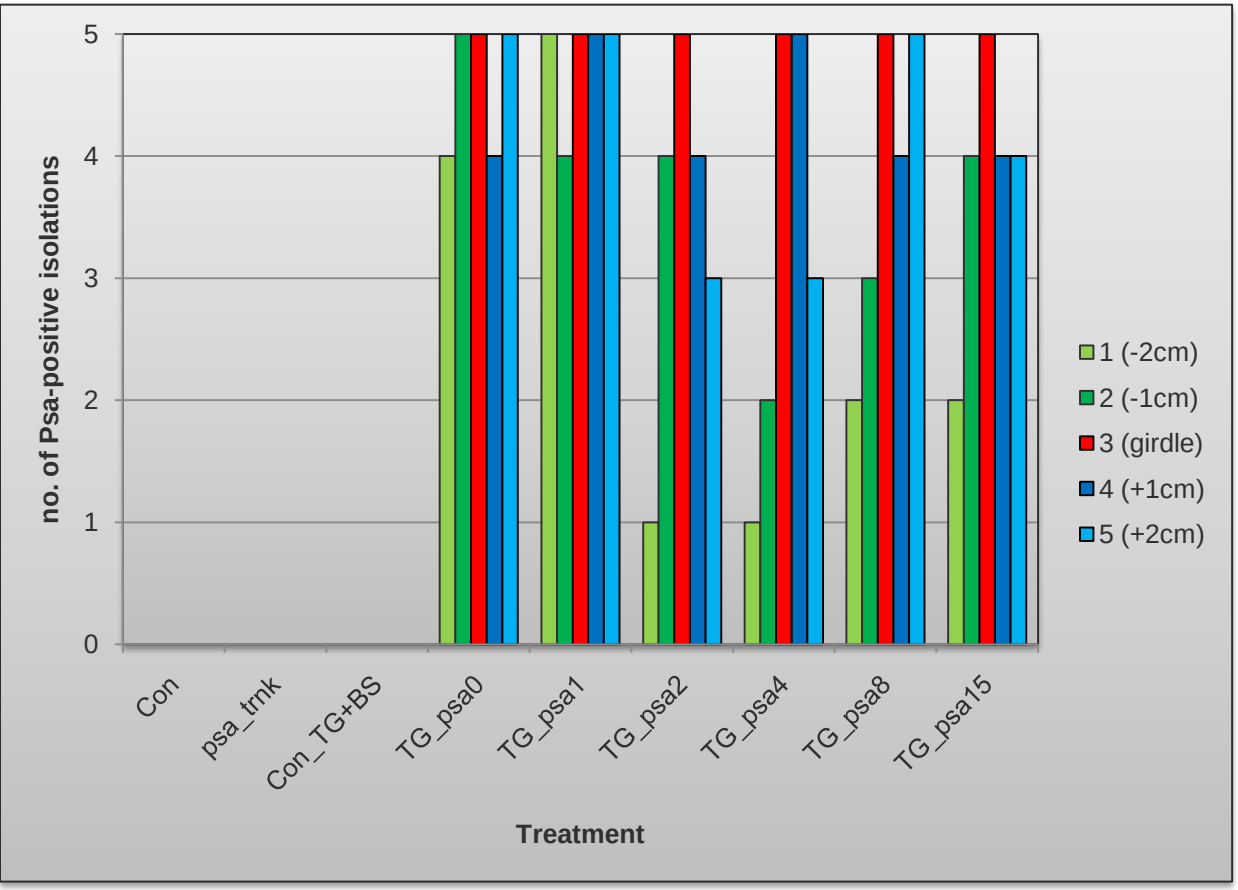
- Healthy 16A vines on grower property
- One round of summer pruning
- Natural infection
- Check for symptom development

Girdling potted Hort16a vines in greenhouse

- Needed fast result for this season
- So vines forced in hot house
- Girdles inoculated with high load of Psa
- Tried to reduce infection by:
  - protecting girdle with
    - Greenseal
    - Nordox (1.1g/litre)
    - Oxywash (49 ppm)
  - heal girdle prior to inoculation

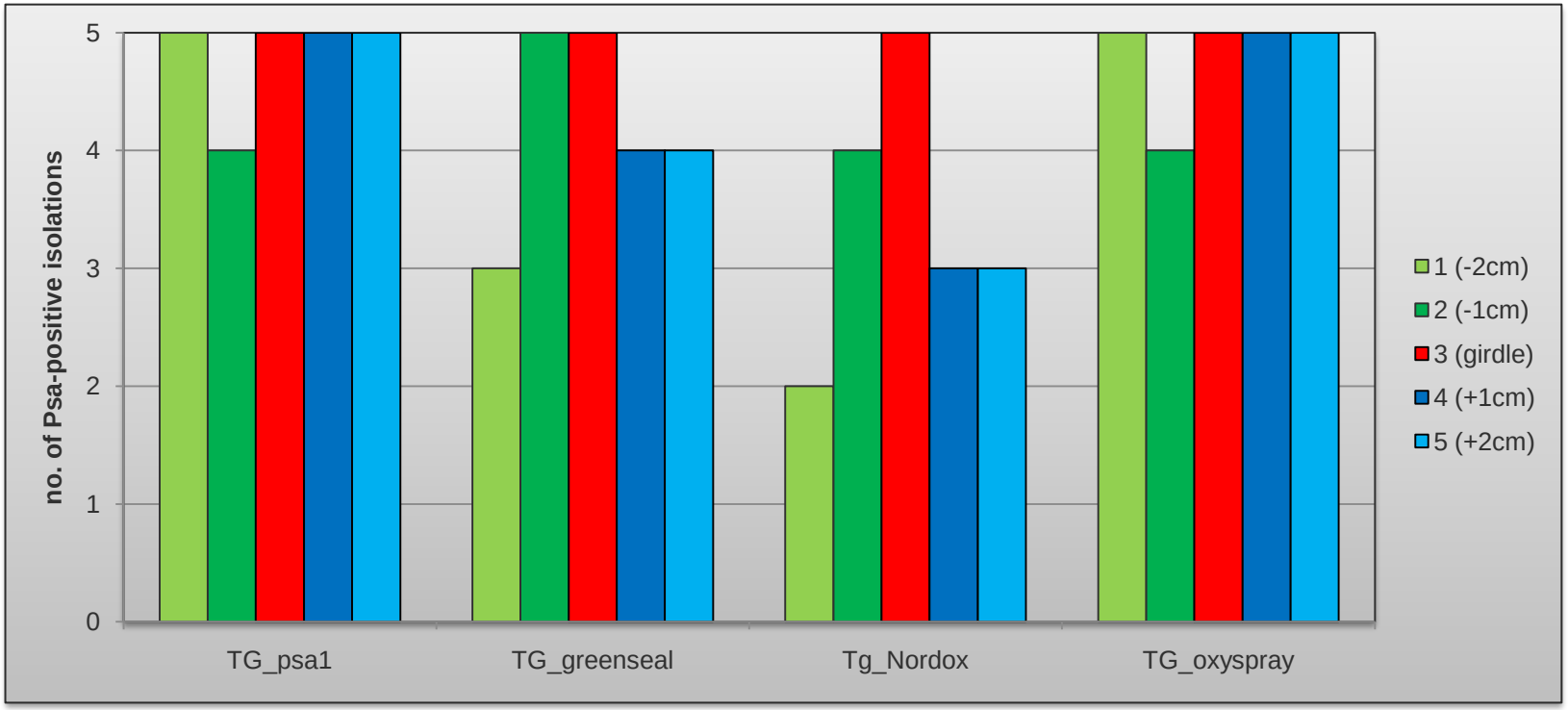
Plant & Food RESEARCH
RANGAHAU AHUMĀRA KAI

Allowing girdle to heal did not prevent infection at high inoculum

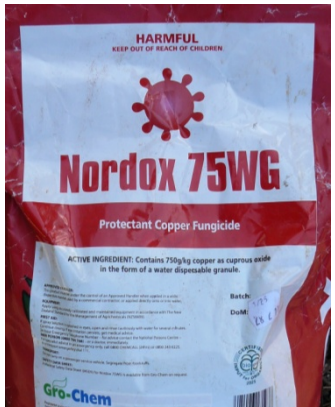


Data from Tyson, Manning, Snelgar, Blattmann

Protectants did not prevent infection at high inoculum



Unprotected control



Plant & Food RESEARCH
RANGAHAU AHUMĀRA KAI

High load of Psa slowed callusing

39 days after girdling

•Control girdle, no Psa

•Psa inoculated on the
day of girdling

Plant & Food RESEARCH
RANGAHAU AHUMĀRA KAI

Next

- Clean young 16A vines planted at TPRO
- Evaluate risk from natural inoculum loads
- With and without protectants

Mature Hort16A at Te Puke Research Orchard

	Vines with secondary infection	Number of vines (Total)
Control	60%	9
TG last summer	60%	10
TG spring & summer	30%	10

- *No evidence that TG increased infection*
- *But was inoculum load high?*

Data from Mike Currie

Plant & Food RESEARCH
RANGAHAU AHUMĀRA KAI

DISCLAIMER

Unless agreed otherwise, The New Zealand Institute for Plant & Food Research Limited does not give any prediction, warranty or assurance in relation to the accuracy of or fitness for any particular use or application of, any information or scientific or other result contained in this report/presentation. Neither Plant & Food Research nor any of its employees shall be liable for any cost (including legal costs), claim, liability, loss, damage, injury or the like, which may be suffered or incurred as a direct or indirect result of the reliance by any person on any information contained in this report/presentation.

LIMITED PROTECTION

CONFIDENTIALITY

This report/presentation contains valuable information in relation to the Psa research programme that is confidential to the business of Plant & Food Research and ZESPRI Group Limited. This report/presentation is provided solely for the purpose of advising on the progress of the Psa research programme, and the information it contains should be treated as "Confidential Information" in accord with the Plant & Food Research Agreement with ZESPRI Group Limited.

KVH Recommendations

- Potential for Psa-V to enter via callusing wounds
- Balance risk vs benefits:
  - fruit size and dry matter
  - vigour reduction (less pruning/coverage)
- Risk no greater than other practices (e.g. pruning)

  provided growers:
  - have good hygiene practices
  - girdle during dry weather
  - reduce inoculum environment by spraying
  - apply protectants to girdles
  - avoid girdling stressed vines