Luna® Experience

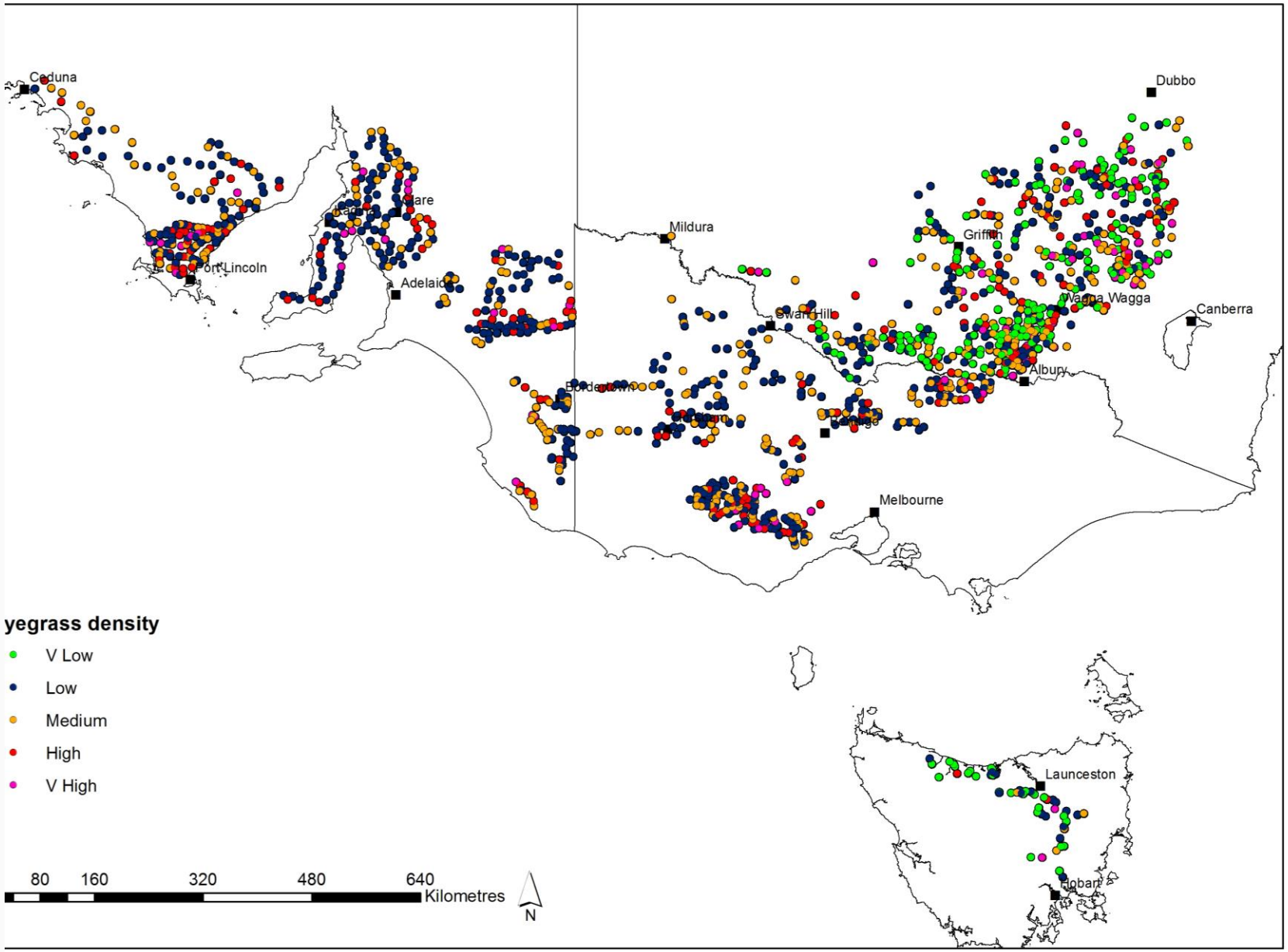
A new tool for botrytis blight control in pistachios

Introduction

April 2024

Credit: www.thespruce.com

RANDOM WEED SURVEY RESISTANCE 2020



Victoria: National herbicide resistance survey in 2020- Ryegrass- Post-Emergence

Region & Samples tested	% resistant samples (resistant ≥20% survival in pot trial)					
	Axial 300ml/ha	Clethodim 500ml/ha	Hussar OD 100ml/ha	Intervix 750ml/ha	Paraquat 1.2L/ha	Glyphosate 1.5L/ha
National (1,353)	**71**	**23**	**91**	**79**	**0**	**16**
VICTORIA (187)	**73**	**10**	**95**	**86**	**22**	**0**
VIC Mallee (32)	28	0	84	78	0	0
VIC Wimmera (39)	**87**	**15**	**97**	**82**	**0**	**26**
VIC North-Central (13)	62	15	85	77	0	46
VIC North-East (43)	79	2	98	88	0	9
VIC Southern (60)	87	17	100	92	0	37

Resistance management

Resistance to chemistry

Definitions:

Resistance:
'*a heritable change in the sensitivity of a pest population that is reflected in the repeated failure of a product to achieve the expected level of control when used according to the label recommendation for that pest species*' (IRAC).

Mode of action groups

- Compounds act by **targeting specific cell processes**. This **process-specific activity is termed 'mode of action' (MOA).**
- In Australia all compounds are classified into groups based on their MOA. MOA group classifications can be found on all labels, to identify the group to which an active ingredient belongs.
- https://www.croplife.org.au/resources/programs/resistance-management/
- MOA groups are ranked according to the risk of populations becoming resistant to those groups.

Resistance management

Types of resistance

There are multiple ways that a pest or pathogen can overcome chemistry

Target Site or Qualitative resistance:

- Based on a **genetic modification of this target site**. When this happens, the interaction of the selecting compound with its target site is impaired and the **compound loses its pesticidal efficacy.**

Resistance management

Types of resistance

There are multiple ways that a pest or pathogen can overcome chemistry

Non-target (metabolic) or qualitative resistance:

- Enhanced metabolism by enzymes within the pest. Such metabolic resistance mechanisms are not linked to any specific site of action classification and therefore they **may confer** resistance to insecticides in more than one MoA group.
- Also known as creeping resistance because rates keep increasing to get the same level of control.

Resistance management (Almond – rust)

1. **Do not** apply consecutive sprays of solo products containing **Group 7** or **11** if applied solo. Consecutive sprays include mixtures containing **Group 7** or 11. If applying **Group 7 7** or **Group 11** fungicides in mixtures e.g. **Group 11+7**, consecutive application is allowed. **Do not** apply more than two consecutive sprays before changing to another group.
2. If two consecutive sprays of **Group 3** or **Group 11+3** fungicides are used, then use the same number of sprays of an alternative group(s) before using another **Group 3**, including sprays in the following seasons.
3. If applying **Group 7** or **Group 11** fungicides in mixtures e.g. **Group 11+7**. **Do not** apply more than two consecutive sprays before changing to another group.
4. Rotate with products from Groups **M**.
5. No specific resistance management strategy has been developed for low-risk fungicides, including those in **Group M** and **BM**. These products should be included in a management strategy as per label recommendations.
6. The spray program should be considered and the strategy applied on a whole-orchard basis.

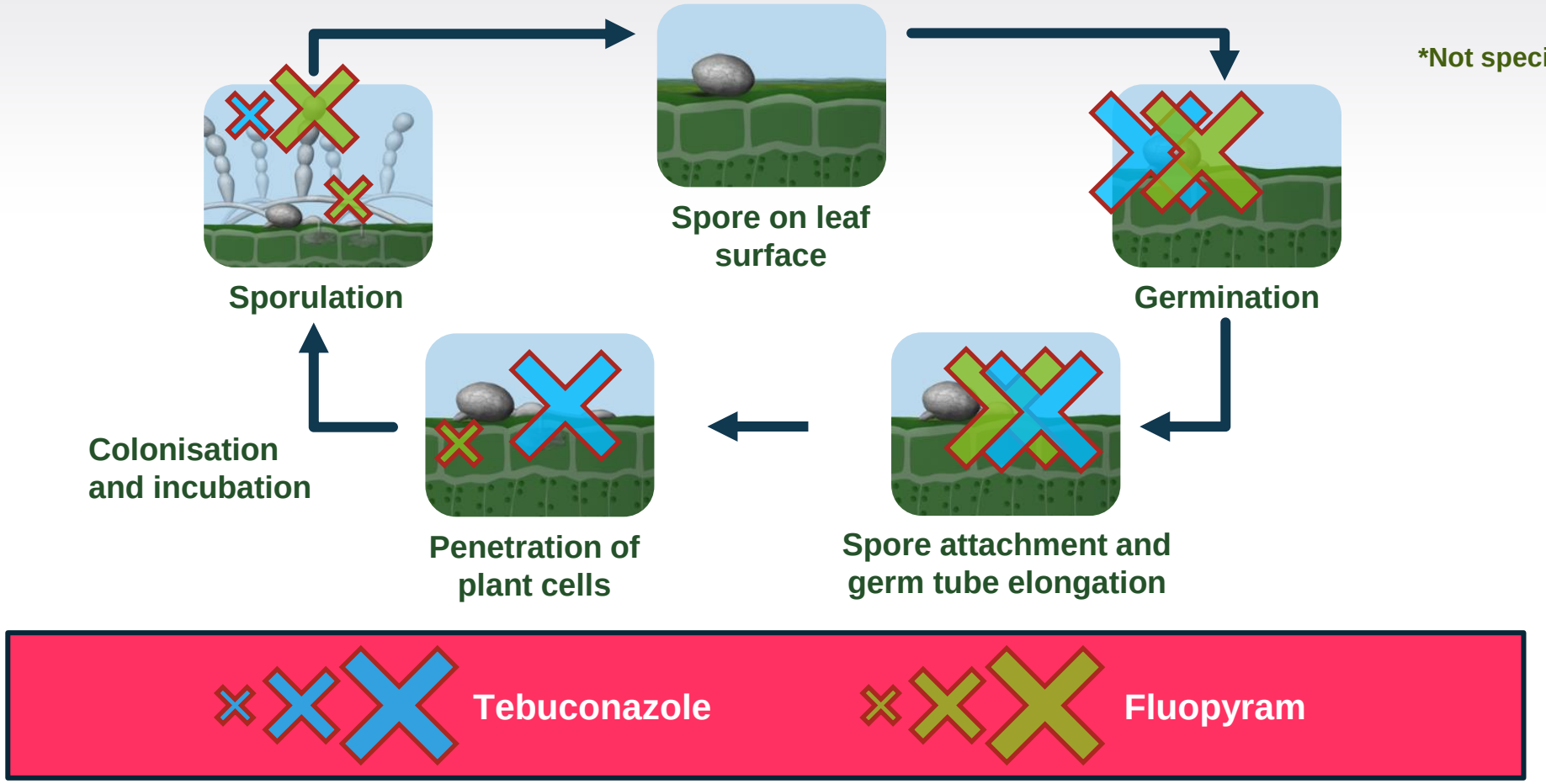
MOA fungicides in Pistachios

Registered	Permit
Captan (M4)	Bravo (M5)
Azoxystrobin (11) High	Mancozeb (M3)
Luna Experience (7/3) High	Switch (9/12)
	Pristine (7/11) High

WHY ARE FUNGICIDES INCREASINGLY EXPENSIVE?

New generation fungicides may cost $250 million AUD and may take over a decade or more to develop. This cost and investment into a new product is reflected in the retail price. As such, replacement of a fungicide lost to resistance can not be guaranteed; everyone must do their part to reduce the incidence of fungicide resistance.

Fluopyram and tebuconazole complementary activity on fungal life-cycle*



*Not specific to any pathogen

Directions For Use Table

CROP	DISEASE	RATE	WHP	CRITICAL COMMENTS
Pistachios	Botrytis blight	50 mL/100 L	Nil	Luna Experience should be applied as part of a regular fungicide program, in alternation with fungicides from a different chemical mode of action group. **Botrytis blight:** Apply as part of a preventative botrytis blight spray program. Begin applications at flower bloom, prior to disease development. Intervals between applications should be approximately 20-22 days, but modified for locality and disease conditions. Use the shorter interval when applied during conditions favourable to disease development. Luna Experience should be diluted with sufficient water to ensure thorough coverage of all fruiting parts of the trees.
				Apply a maximum of 2 applications to any pistachio block in a 12-month period. DO NOT apply more than 1.25 L/ha of Luna Experience per application.

Thank you!

Questions?