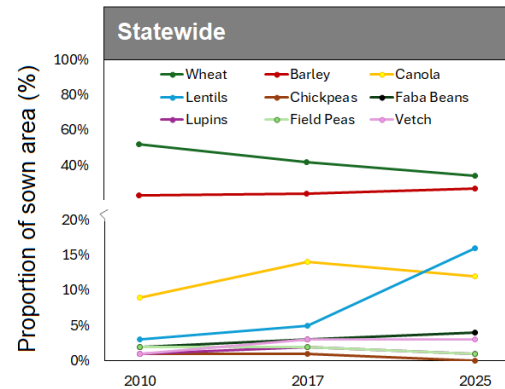




1

Expansion of the Pulse in Victoria



- Lentil area has tripled in the Mallee
- Faba beans and canola up in the NC and NE
- Wheat area down by a third
- 1 in 4 Mallee paddocks sown to lentils

*Agriculture Victoria courtesy of Dale Grey

2

2



Vic Pulse Trials 2023

	Wimmera (Dooen) Cracking Clay		Mallee (Woomelang) Sandy Loam		West Wimmera (Gerang Gerung)			
					Duplex		Sand	
CROP	GY (t/ha)	Profit (\$)	GY (t/ha)	Profit (\$)	GY (t/ha)	Profit (\$)	GY (t/ha)	Profit (\$)
Lentil	1.84	\$ 914	2.52	\$ 1,492	0.52	-\$ 211	1.32	\$ 474
Faba Bean	4.40	\$ 1,550	3.25	\$ 975	2.80	\$ 750	2.86	\$ 782
Chickpea	2.17	\$ 869	2.52	\$ 1,114	1.31	\$ 264	0.87	-\$ 44
Field Pea	3.20	\$ 1,050	2.89	\$ 895	1.78	\$ 340	2.35	\$ 627

	Grain Price (\$/t)	Production Cost (\$/ha)
CROP		
Lentil	\$ 850	\$ 650
Faba Bean	\$ 500	\$ 650
Chickpea	\$ 700	\$ 650
Field Pea	\$ 500	\$ 550

Research model, established 2000



Lentil



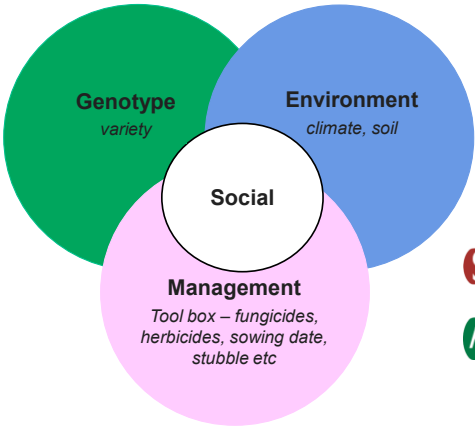
Faba bean



Faba bean



Field pea



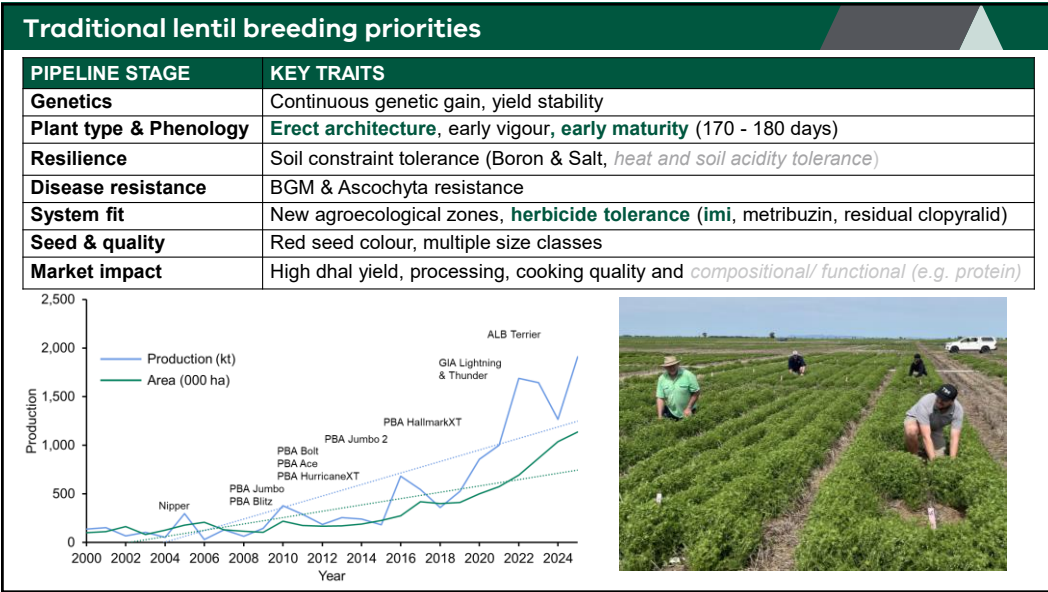
Genotype
variety

Environment
climate, soil

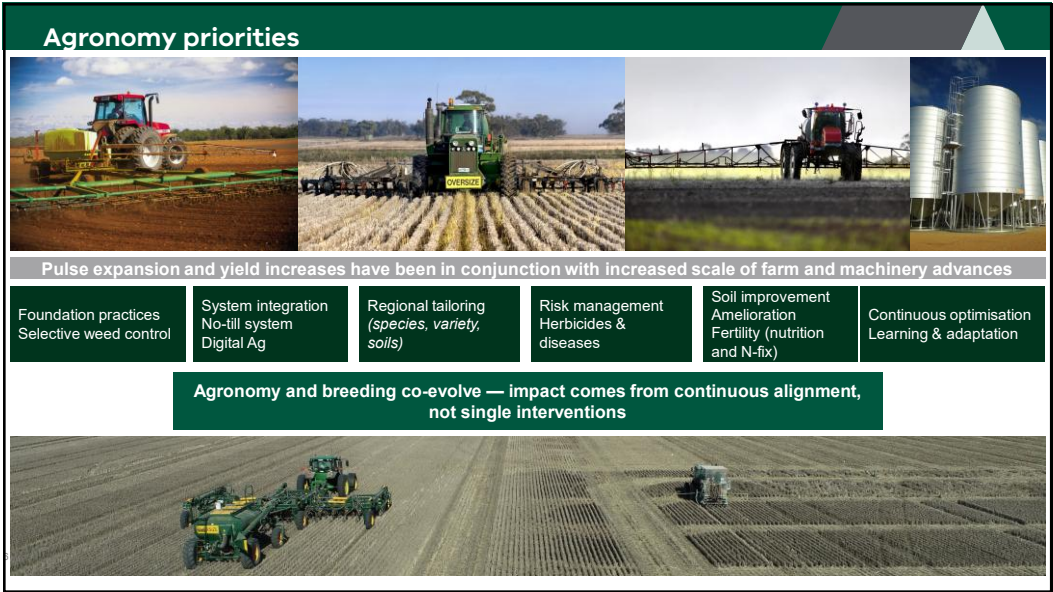
Social

Management
Tool box – fungicides, herbicides, sowing date, stubble etc



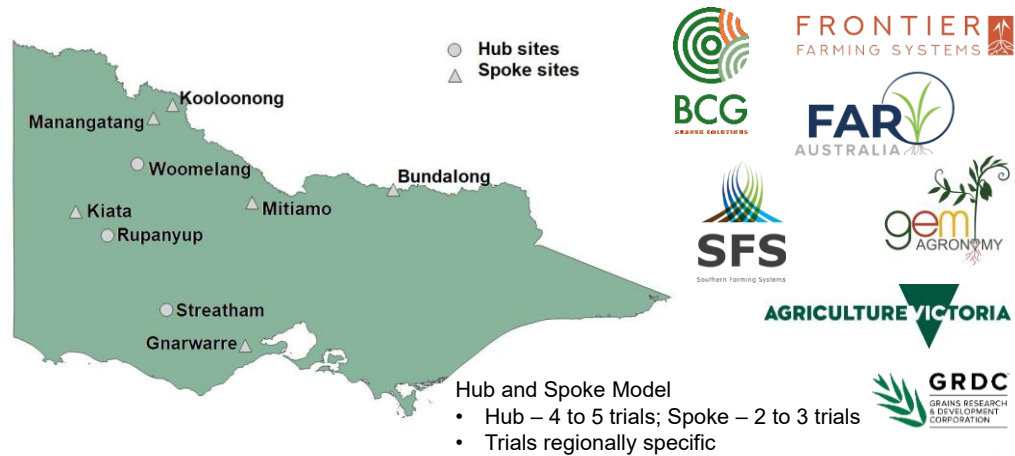


5



6

Victorian sites & collaborators



7

D&E Priorities (2021 to now)

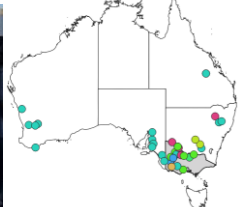
Five practice change principles

1. Ameliorating sandy soils by deep ripping for improved pulse production
2. Managing acid soils by using lime for improved pulse crop growth and yield
3. Targeting optimal fungicide strategy based on physiology
4. Achieving problem weed control using Metribuzin tolerant lentils
5. Increasing grain yields through earlier sowing of pulses



8

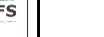
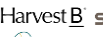
Collaboration – the key ingredient!





AGRICULTURE VICTORIA





9

Extension, Monitoring and Evaluation

2025: Engaged over 600 Victorian growers and agronomists



WIMMERA PULSE FIELD DAY
Is going ahead!
Rescheduled for a later date due to inclement weather
Wednesday 23 October 2025
Wimmera City Entertainment Centre
For more information visit:
wimmerapulsefieldday.com.au

Chickpea Breeding

Pulse Protein Field Trip

Pulse Protein Nutrition & Protein Chains

Pathology Chickpeas

Pathology Faba Beans

Pulse Protein Lentils

Faba Bean Nutrition

Lentil Heart Chambers

Canola Establishment

Faba Bean Demos

Lentil Nutrition

Lentil Time of Sowing

Lentil Disease Management

Pathology Lentils - BOM

Lentil Roll Up

Demonstrate Options

Complete fungicide control

No Control

10

5

Agronomic considerations

Practice	Note
Soil amelioration	Lime acid soils (pH >5.5), Rip & spade sands, Rip some clays
Inoculation and nutrition	Granular and peat is best, Good P levels critical
Sowing time	Sow earlyish (In Vic median break 2 nd week May). E.g. Canola #1
Rolling	Around 6 node
Stubble	Standing if possible
Sowing rate	Refer to GRDC grower guides
Disease management	Prevention better than cure, start early. Plan your strategy pre-season.
Weed management	Utilise newer products and 'Imi' Varieties; Crop Top Apply at recommended rates. Consider plant back for your soil type
Harvest	Priorities harvesting, susceptible to harvest losses (pod drop)

11

Species and Varietal choice

Considerations

- Grain yield
- Grain quality
- Herbicide tolerance
- Disease ratings
- Phenology
- Architecture/ Physiology

Seednet



Large Imi-tolerant red lentil

ALB Dane[♢]

Variety	Vigour	Vegetative Frost	Flowering time	Maturity time	Lodging resistance	Pod drop	Shattering	Betrayis grey mould	Ascochyta blight			Boron	Salt	Year of Release
									Nipper virulent	Hurticaine virulent				
Small red														
ALB Terrier	Mod	Mod	Mid	Mid	MRMS	MR	MR	MRMS	R	MR	MI	MI	MI	2023
GIA Thunder	Mod	Mod-Good	Mid	Mid	MRMS	MR	RMR(P)	MRMS	R(P)	MRMS(P)	MI	MI	MI	2022
GIA Lightning	Mod	Mod	Mid-Late	Mid	MR	MR	RMR(P)	MS	R(P)	MRMS(P)	MI	MI	MI	2022
GIA Sire	Poor	Very Poor	Mid-Late	Mid	MR	MR	RMR(P)	MS	R(P)	MRMS	I	MI(P)	MI	2022
Medium red														
GIA Leader	Mod	Mod-Good	Mid-Late	Mid-Late	MR	MR	RMR(P)	MRMS	MR	MR	I	I	I	2021
PBA Hallmark XT	Mod-Good	Poor-Mod	Mid	Mid	MR	MR	R	MRMS	RMR	MRMS	I	MI	MI	2018
PBA Ace	Good	Mod-Good	Mid	Mid	MRMS	MR	MRMS	MS	R	MR	I	I	I	2012
PBA Blitz	Mod-Good	-	Early	Early	MR	MR	MR	MRMS(P)	MRMS	MR	I	I	I	2010
PBA Bolt	Mod-Good	Mod-Good	Early-Mid	Early-Mid	R	R	R	S	MR	MRMS	MI	MI	MI	2012
PBA Flash	Mod	-	Early-Mid	Early-Mid	MR	MR	MR	MS	MS	MS	MI	MI	MI	2009
Large red														
ALB Dane	Good	Mod-Good	Mid-Late	Mid-Late	MRMS	-	MR	MRMS	R(P)	MR(P)	MI(P)	MT(P)	-	-
GIA Metro	Poor-Mod	Good	Late	Mid-Late	MR	MR	RMR(P)	MRMS	MR	RMR	I	I	I	2022
GIA Colombo	Mod	Mod-Good	Mid-Late	Mid	MR(P)	-	RMR(P)	MRMS(P)	R(P)	RMR(P)	I	I	I	-
PBA Jumbo2	Mod-Good	Mod-Good	Mid	Mid	MRMS	MR	R	MR	R	RMR	MI	I	I	2014
Medium green														
PBA Greenfield	Good	-	Mid	Mid-Late	MS	R	MR	MR	MRMS	MRMS	I	MI	MI	2014
Large green														
PBA Giant	Good	-	Mid	Mid/Late	MS	R	MRMS	MS	MR	MS	MI	I	I	2014

[♢] Plant breeders rights apply to varieties listed.

12

Frost susceptibility in pulses

Crop	Comments
Field pea	Highly susceptible due to thin pods walls and exposure of the pods to the atmosphere.
Lentil	Highly susceptible during flowering, pod formation & grain filling.
Chickpea	Highly susceptible due to the exposed nature of the flowers. High indeterminacy provides capacity to recover.
Lupins	Modest susceptibility. Generally able to compensate by extending flowering. Most sensitive during early pod fill.
Faba beans	Medium susceptibility to frost due to thick pod walls, which provide insulation to seeds.



PBA Jumbo 2



PBA HurricaneXT

Canopy dynamics impacts frost response

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13

Variety choice – Trait considerations

Imi Tolerance



PBA Amberley



PBA Bendoc

But we have some good alternatives e.g. Overwatch® & Reflex®

Chocolate Spot Resistance



PBA Amberley

2.75 t/ha



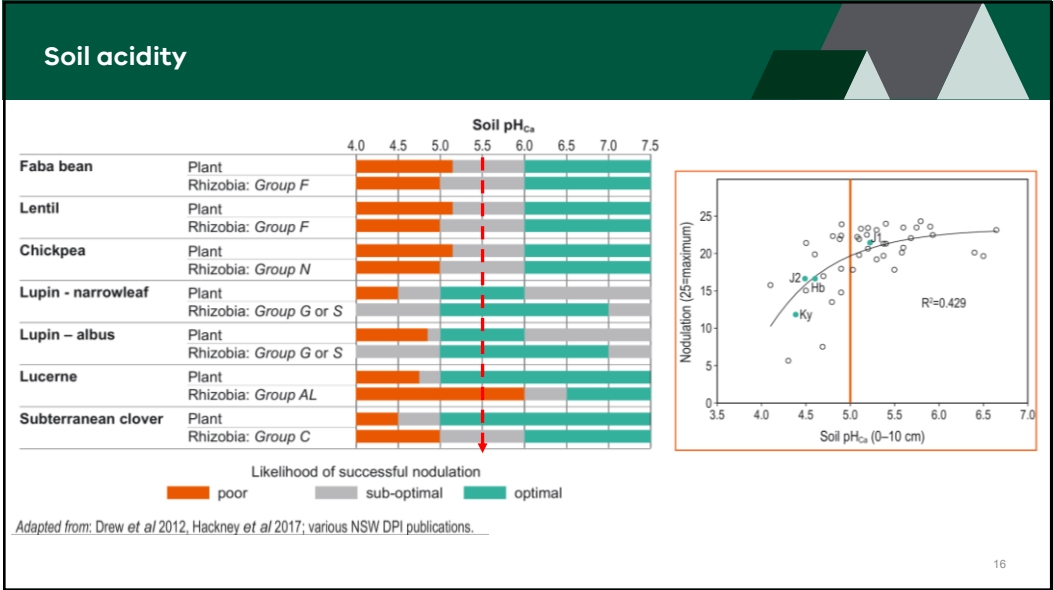
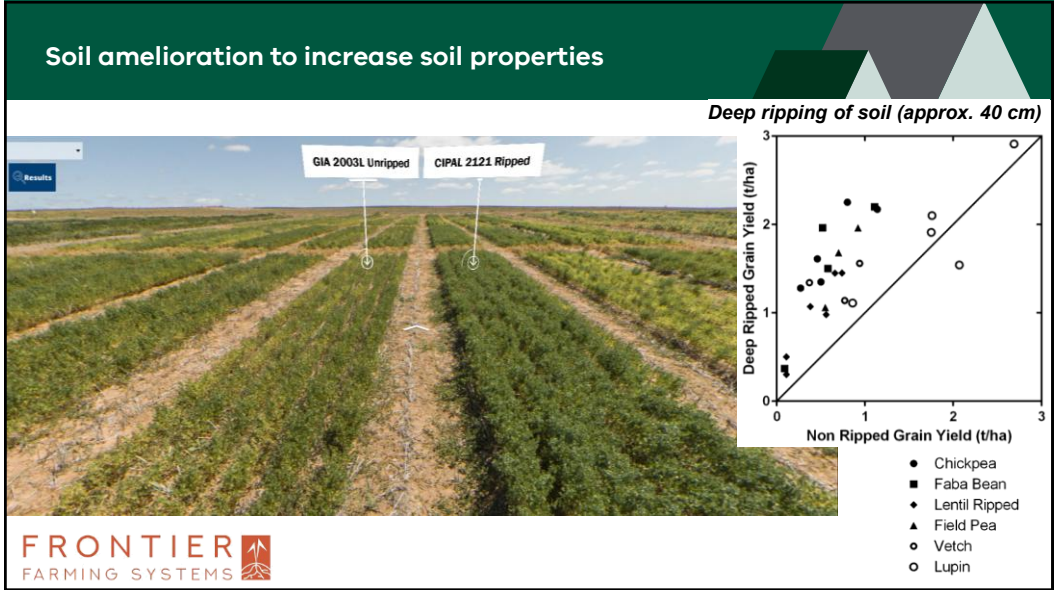
PBA Bendoc

0.62 t/ha

Unsprayed 2020 SW Vic

14

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Benefits of good nodulation

- A pulse fixes about 20 – 30 kg N per tonne of biomass and removes about 40 kg N per tonne of grain (assuming 25% protein).

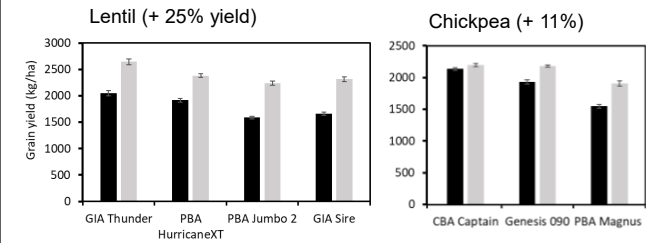
Example, based on 20 kg N per tonne of biomass

Grain yield (t/ha)	Biomass (t/ha)	N fixed (kg N/ha)*	N removed in grain (kg N/ha)**	Net N balance (kg N/ha)
1.0	4	80	40	+40
2.0	4	80	80	0
3.0	6	120	120	0
4.0	8	160	160	0

INOCULATING LEGUMES:
PRACTICE AND SCIENCE



Stubble management, inter row sowing of pulses



Worth at least \$360/ha (based on yields of 1.5t/ha and price of lentils at \$800/t).

Key diseases in pulses

Crop	Major diseases
Field pea	Blackspot (Ascochyta), Bacterial blight, Powdery mildew
Lentil	Ascochyta blight, Botrytis grey mould, Sclerotinia
Chickpea	Ascochyta blight, Phytophthora root rot, Sclerotinia
Faba bean	Chocolate spot, Cercospora leaf spot, Ascochyta blight



Cercospora

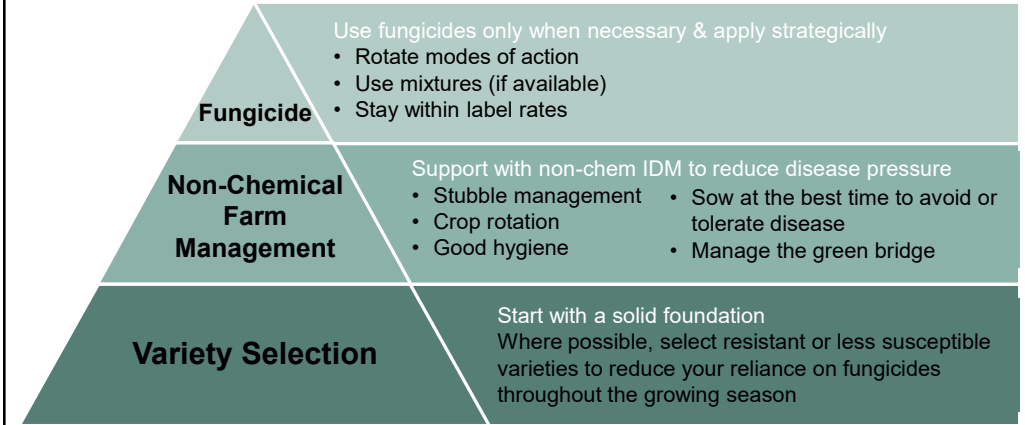


Ascochyta Blight



Chocolate Spot/
Botrytis Grey Mould

Integrated Disease Management



Metribuzin tolerant lentils – use patterns

Variety: GIA Metro



GIA Thunder yield from the site was 2.5 t/ha
Medium clay soil

Rupanyup, 2024

Grain yield (kg/ha)

3000

2500

2000

1500

1000

500

0

LSD (P<0.05)

	Nil	Metribuzin										
PSPE		140	140	280	380		380	380	950		Ter	
4-node			240	140	480		380	Bro	Int	950	Bro	

Terbyne rate – 700 g/ha
Brodal rate – 200 mL/ha

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Emerging options, e.g. Metribuzin tolerant

- GIA Metro, first metribuzin and imidazoline tolerant variety

Treatment	Weeds pl/sq.m	% NIL
NIL	23.5	100
Standard_GroupC	12.0	51
Standard_Metribuzin	16.3	69
Metribuzin_POST	4.5	19
Metribuzin_Combined	1.6	7
LSD(0.05)	9.3	

Weeds = 71% medic, 15% marshmallow, 7% rye grass, 5% cape weed, 2% brassica & thistle

Grain yield (t/ha)

1.40

1.20

1.00

0.80

0.60

0.40

0.20

0.00

GIA METRO

PBA HIGHLANDXT

NIL

Standard_GroupC

Standard_Metribuzin

Metribuzin_POST

Metribuzin_Combined

Off label

FRONTIER
FARMING SYSTEMS

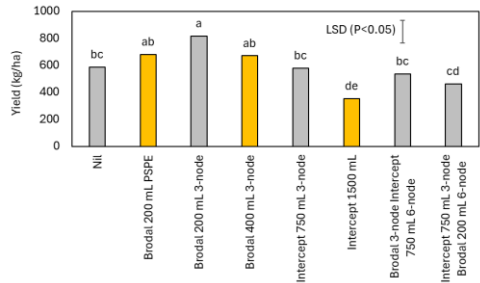




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Imi-tolerant lentils and interactions with Brodal

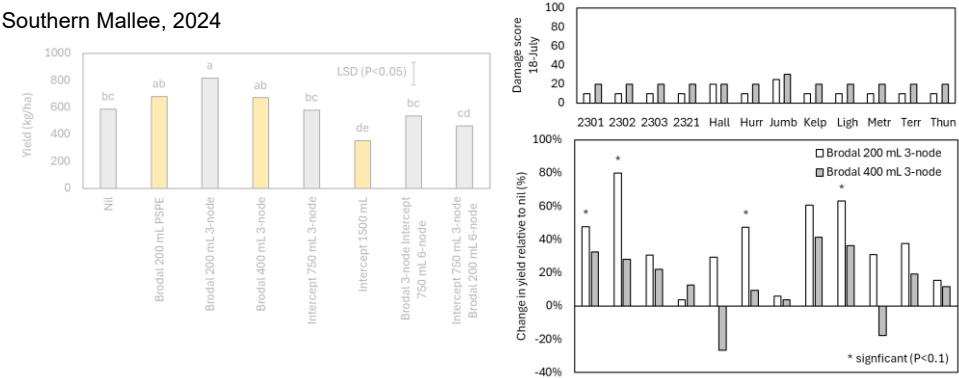
Southern Mallee, 2024
Rainfall 180 mm, GSR 80 mm



All varieties tested are imi tolerant
Off-label treatments

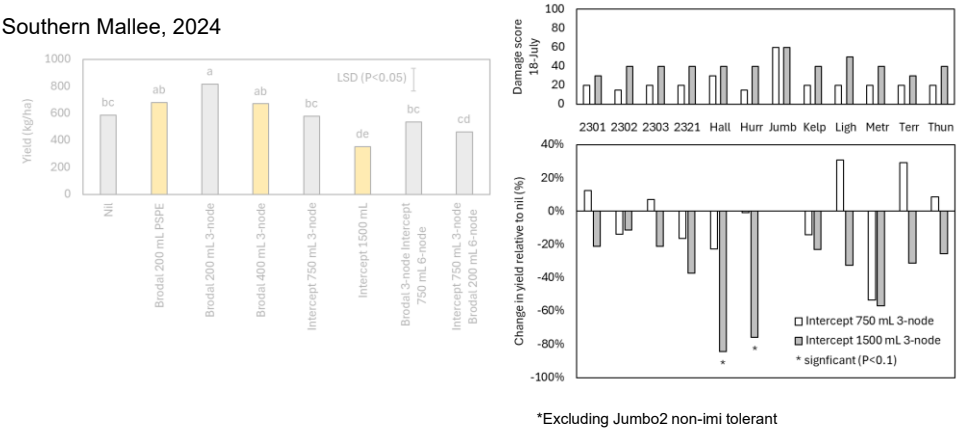
Imi-tolerant lentils and interactions with Brodal

Southern Mallee, 2024



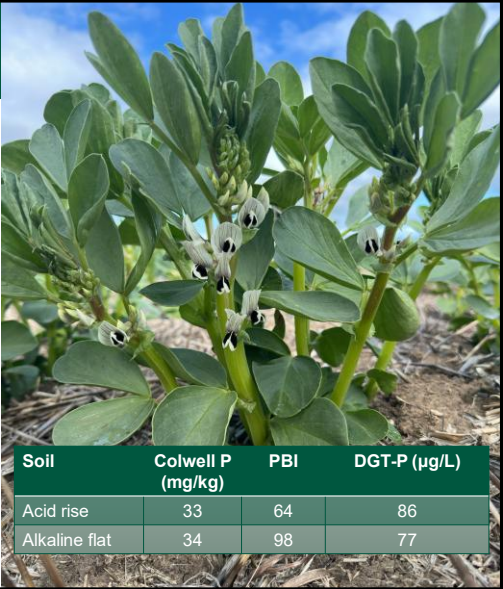
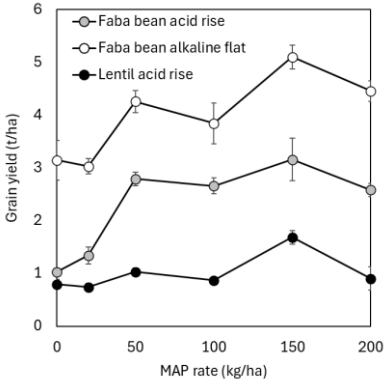
Imi-tolerant lentils

Southern Mallee, 2024

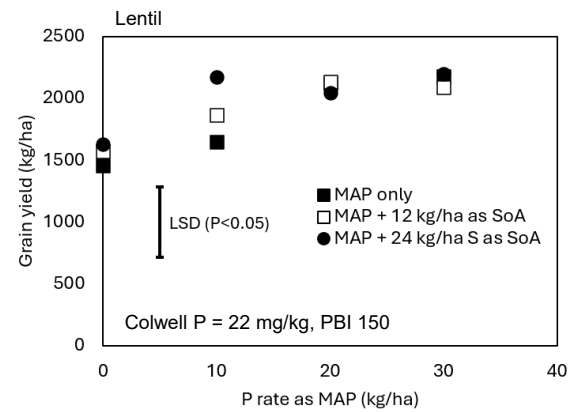


Nutrition Management: Phosphours

Demonstration trial (2024), formal trial conducted 2025



Nutrition Management: Phosphours

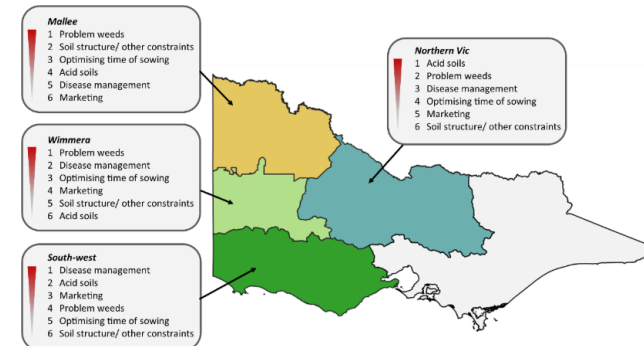


- Over 2 years and 4 soils types assessed benefit of P, Mo, S
- Significant benefit of P for lentil, chickpea and faba bean
- High MAP rates in-furrow reduced plant number

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Where are we now



AGRICULTURE VICTORIA

FRONTIER
FARMING SYSTEMS

BCG

SFS

FAR
AUSTRALIA

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Acknowledgments



Audrey Delahunty
Agriculture Victoria



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Agriculture Victoria



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Frontier Farming



Clair Pickles
BCG



Angus Butterfield
BCG



Aaron Vague
FAR



Ben Morris
FAR



Greta Duff
SFS



Tom Murray
Agriculture Victoria



Janaka Kumburage
Agriculture Victoria



Tyler Coutts
Agriculture Victoria



Andrew Bishop
Agriculture Victoria



Russel Argall
Agriculture Victoria



Prabath K Korpe J
Mudiyanselage



Josh Fanning
Agriculture Victoria