

Understanding & managing insects on pistachio orchards (PS16000)

Pistachio AGM

Mildura, September 11th 2019

Objectives of PS16000

1. Review scouting data from previous seasons
2. “Broad” orchard assessments in 2017/18
3. Focus on *Carpophilus* & beneficials - 2018/19
4. Recommendations on potential pests
5. The role of ‘mummies’ and orchard hygiene
6. Why so many beneficials?

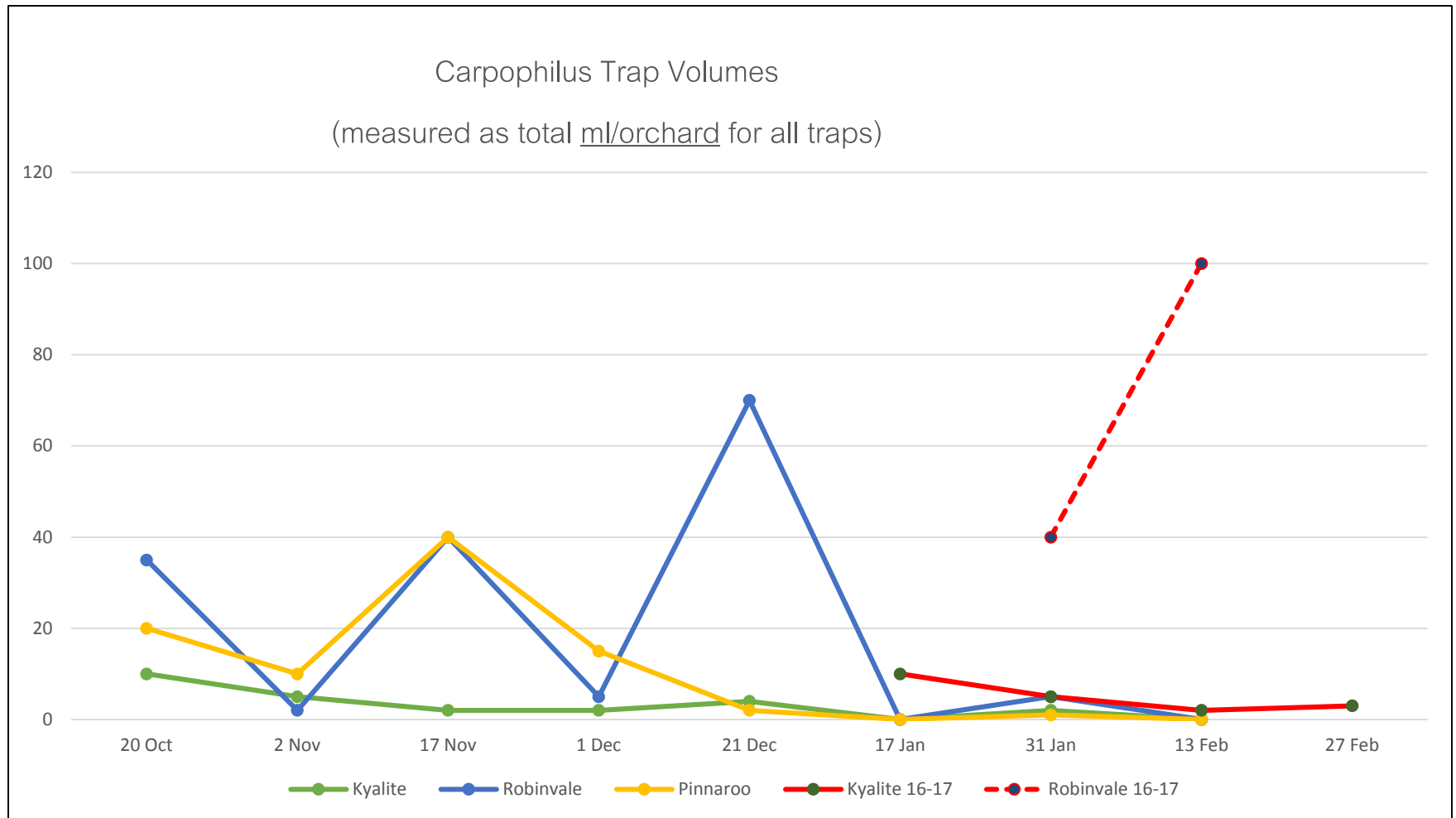
What do we know so far



Year 1 Activities (2017/18)

1. Review scouting results from 2015/16 & 2016/17
2. Traps for LBAM, Carob, *Heliothis*, *Carpophilus*
3. Yellow sticky traps
4. Beat sampling & visual checks
5. 8 visits to each of the 3 orchards (in season)
6. Samples to Crop Health Services (Dec & Feb)
7. 1 visit post harvest (mummies)

Field Results – 2017/18 (Year 1)



Field Results – 2017/18 (Year 1)

- At least 8 species of carpophilus across sites
- C. nr. dimidiatus found at all sites:
 - December – found at all sites, but <1% of sample
 - February – Pinnaroo = nil

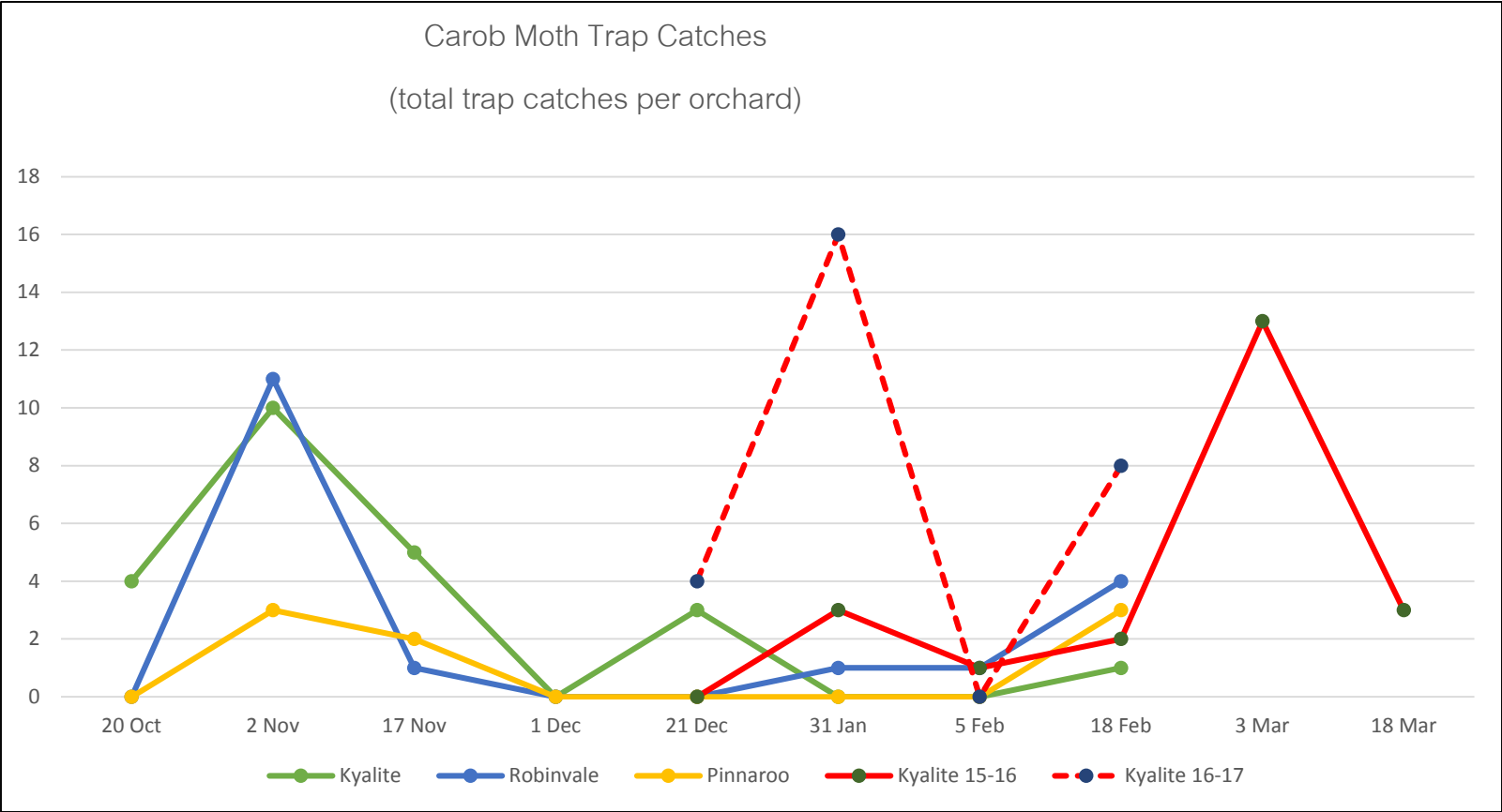
Kyalite = 2% to 10% of sample

Robinvale = 24% to 57% of sample

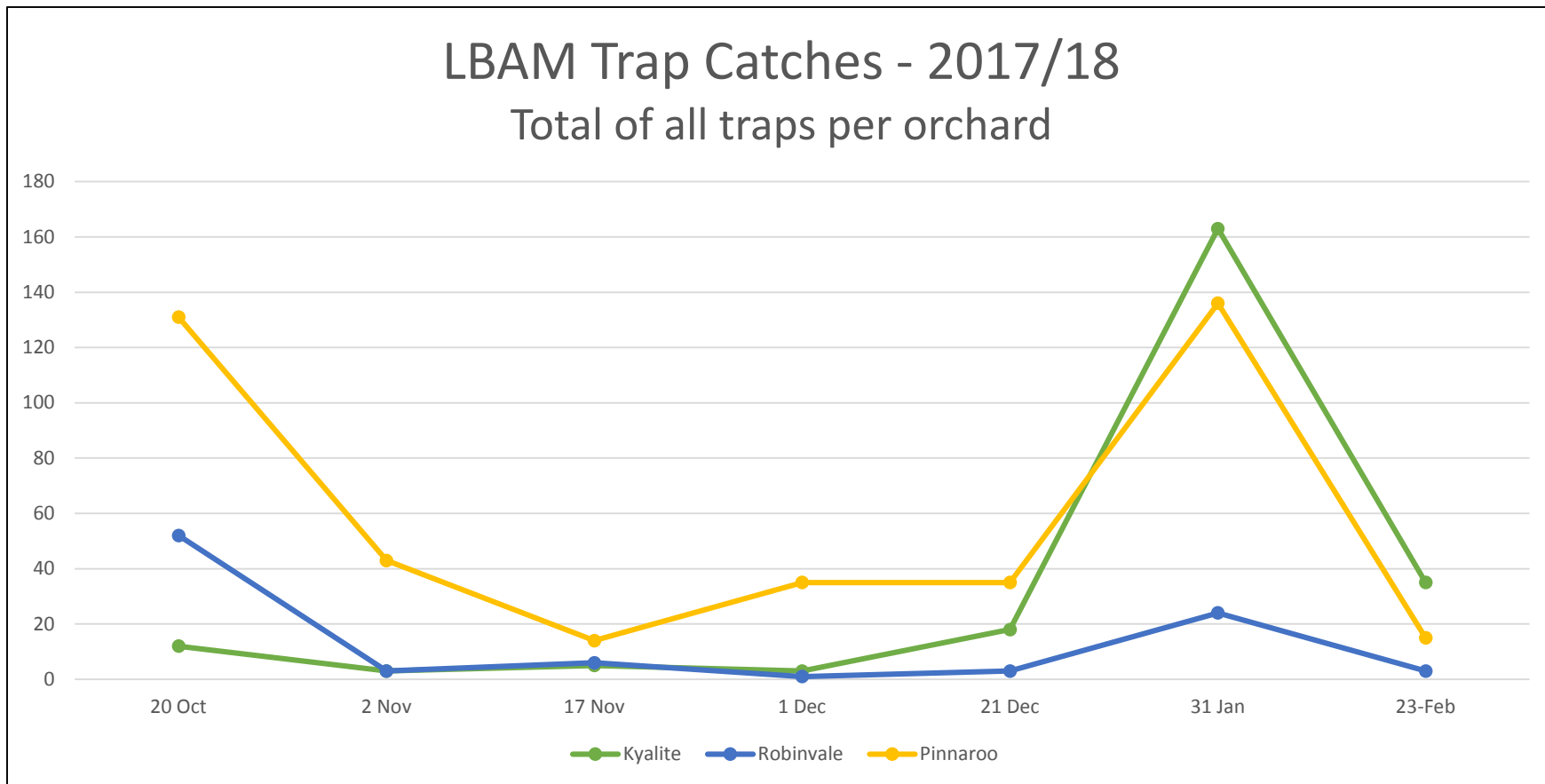
- 1500 nuts checked pre-harvest for CB & CM

BUT – no damage at any site

Field Results – 2017/18 (Year 1)



Field Results – 2017/18 (Year 1)



Field Results – 2017/18 (Year 1)



Some damage, no
significant pests found



Year 2 (2018/19)

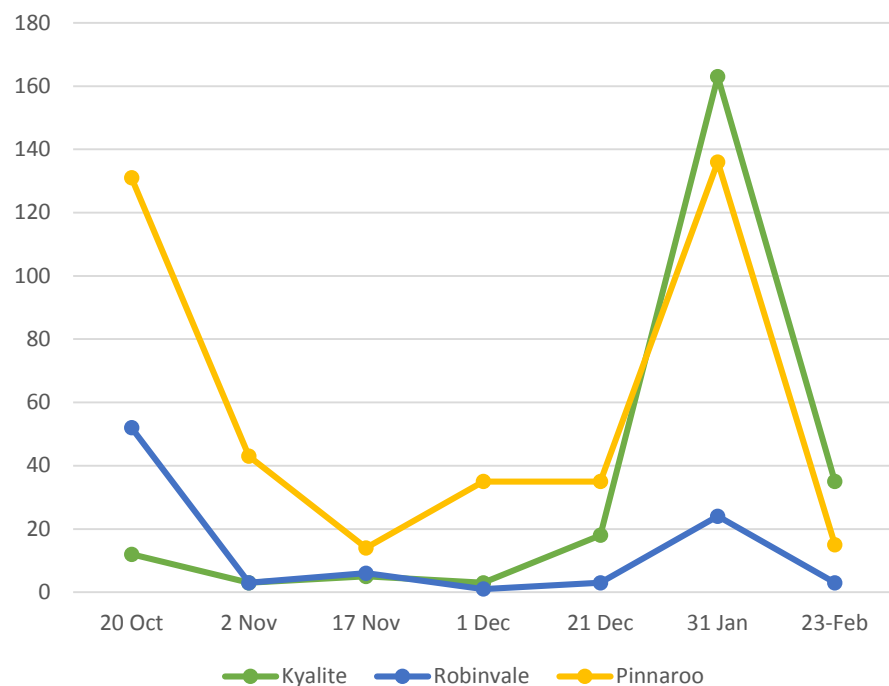


Year 2 Activities (2018/19)

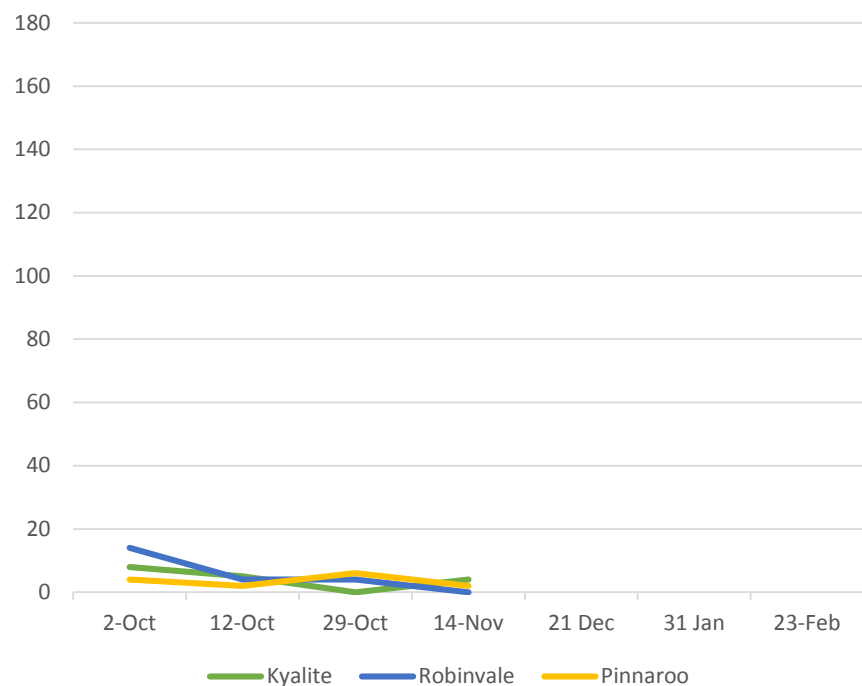
1. Early season trapping of LBAM
2. Focus on assessing beneficials
3. General pest scouting during field visits
4. Communicate early results to industry
5. Liaise with the almond industry on *Carpophilus* developments

Field Results – 2018/19 (Year 2)

LBAM Trap Catches - 2017/18



LBAM Trap Catches - 2018/19



No damage seen in either season

Field Results – 2018/19 (Year 2)

Year 1 and 2 - Extremely good levels
of beneficials



Field Results – 2018/19 (Year 2)

Range of Beneficial Insects in Orchards

		October 2018	November 2018	January 2019
All Sites	Morphospecies	33	35	12
Kyalite	Morphospecies	18	11	8
	Main Families	Hymenoptera (wasps) Coleoptera (beetles) Spiders	Coccinellidae (ladybirds) Hemerobiidae (lacewing)	Coccinellidae (ladybirds) Melyridae (red/blue beetle)
Robinvale	Morphospecies	16	16	11
	Main Families	Hymenoptera (wasps) Coleoptera (beetles) Spiders	Coccinellidae (ladybirds) Hemerobiidae (lacewing)	Coccinellidae (ladybirds)
Pinnaroo	Morphospecies	14	23	14
	Main Families	Hymenoptera (wasps) Coleoptera (beetles) Spiders	Coccinellidae (ladybirds) Hemerobiidae (lacewing)	Coccinellidae (ladybirds)

Year 3 (2019/20)



Year 3 Activities (2019/20)

Carpophilus:

- Overwintering populations and orchard hygiene
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Beneficials:

- 3 visits - orchard management/insectary plants in IPM
-

Fact Sheets:

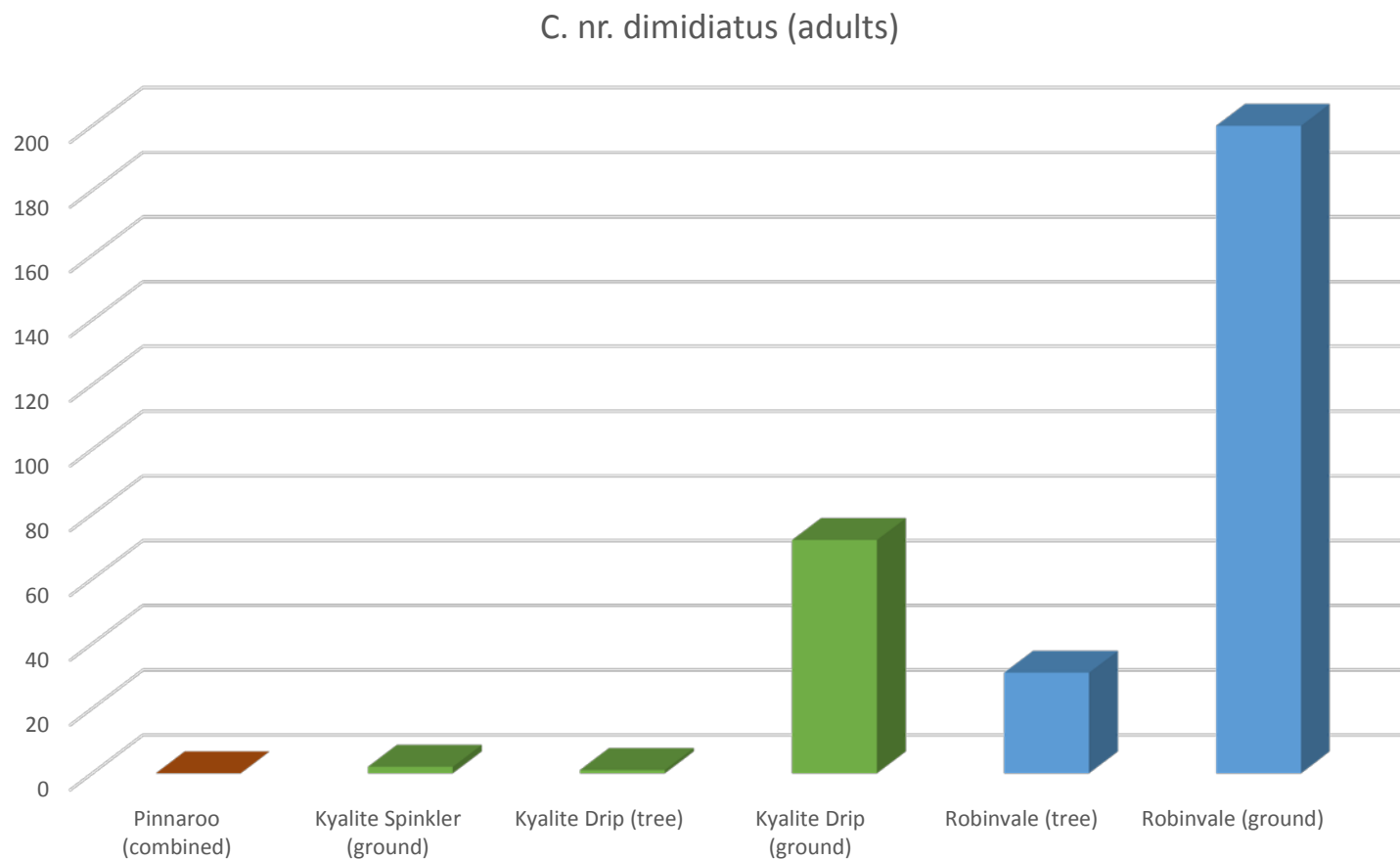
- With PGAI, update relevant Fact Sheets

Field Results - 2019/20 (Year 3)

Mummies vs Blanks

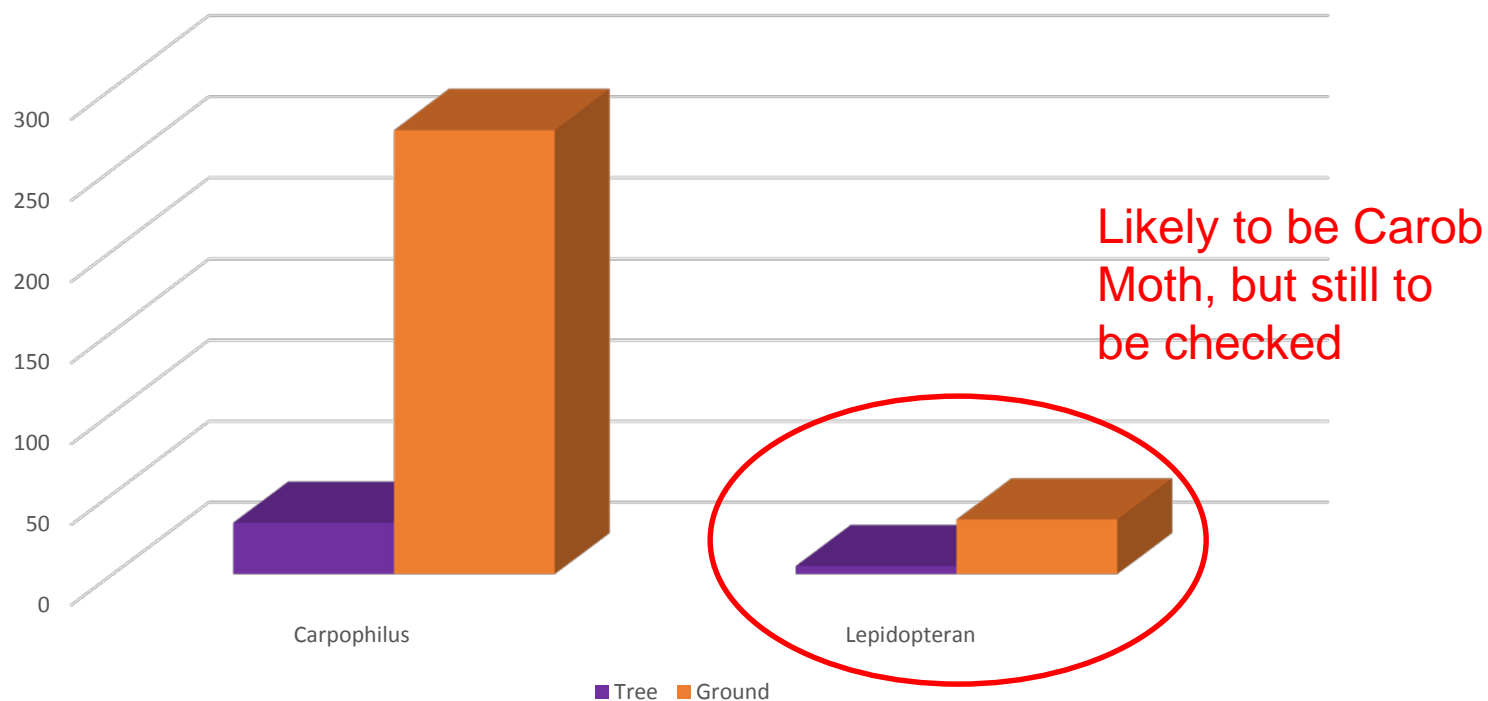


Field Results - 2019/20 (Year 3)



Field Results - 2019/20 (Year 3)

Tree vs. Ground



Field Results - 2019/20 (Year 3)

Carpophilus and Orchard Hygiene



- Carpophilus is also a storage pest
- Seen in processing/markets?
- No in-season evidence seen (yet)

Hygiene is the best line of defence

Thank you and Questions

Acknowledgements

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