

Hort Innovation



Ashley Zamek, R&D Manager

Who is Hort Innovation?

Hort Innovation is the grower-owned, not-for-profit research and development corporation (RDC) for Australia's horticulture sector. We work with the sector to invest levy, co-investment and Australian Government dollars into initiatives spanning research and development, extension and communication, trade, marketing and more.

37

The number of horticulture industries that Hort Innovation currently invests on behalf of

7

The number of Hort Innovation's Hort Frontiers strategic partnerships funds, which include the...

- » Advanced Production Systems Fund
- » Asian Markets Fund
- » Fruit Fly Fund
- » Green Cities Fund
- » Health, Nutrition & Food Safety Fund
- » Leadership Fund
- » Pollination Fund

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Strategic levy investment

Levy based
Specific industries
Maintain the industry
Focus on today's issues

The strategic levy investment funding model



A grower levy is raised.

The levy is collected. Statutory levies are collected by the Australian Government. Voluntary levies, organised through a collective industry fund (CIF) arrangement, are collected by a third party nominated by the industry.

The levy is entrusted to Hort Innovation to procure and manage investments on behalf of growers.

Investments are made that deliver a ROI for growers. Investments are made in consultation with industry and are aligned to the needs and opportunities outlined in each industry's Strategic Investment Plan.

RD&E investments attract a contribution from the Australian Government, leveraging public money (marketing investments do not involve any government funds).

Outcomes from the investments are delivered back to industry, helping growers to be more productive, profitable and competitive.

Co-investment based
All of horticulture
Focus on key issues now
to deliver in 2025
Invest for future

The Hort Frontiers funding model





POLLINATION
FUND

Investment themes:

1. Improving management of European Honey Bee for pollination
2. Optimise crop pollination
3. Developing alternate pollination options

<https://www.horticulture.com.au/hort-innovation/our-work/hort-frontiers-strategic-partnership-initiative/pollination-fund/>

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Current Partnerships

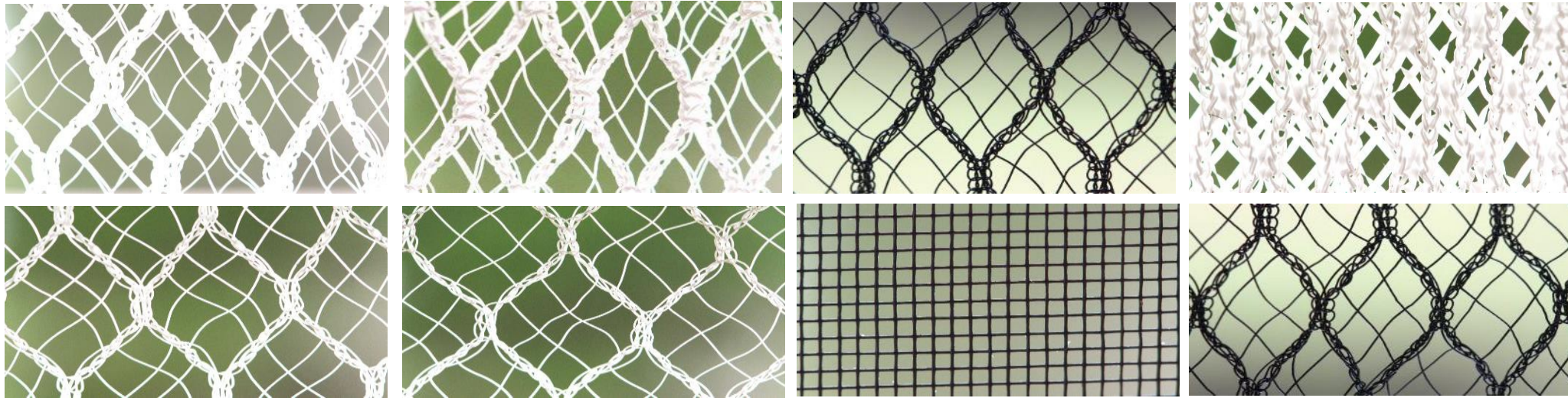


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Novel technologies and practices for the optimisation of pollination within protected cropping environments



Netting texture and colour





Nets affect hive health

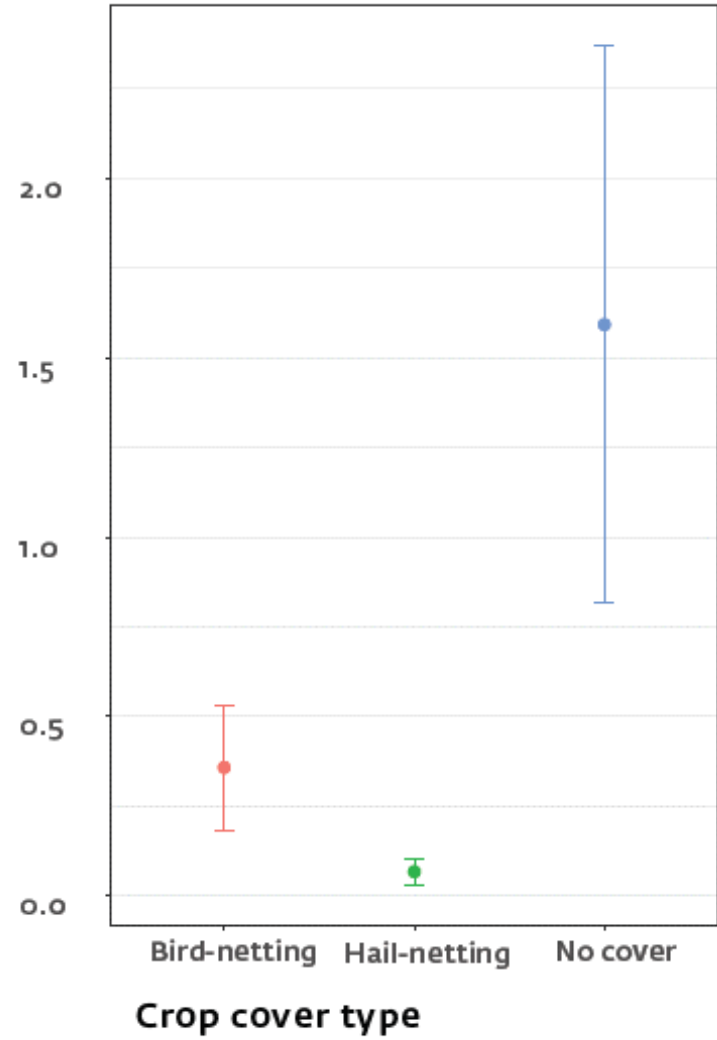
How much?
Why?
What can we do?

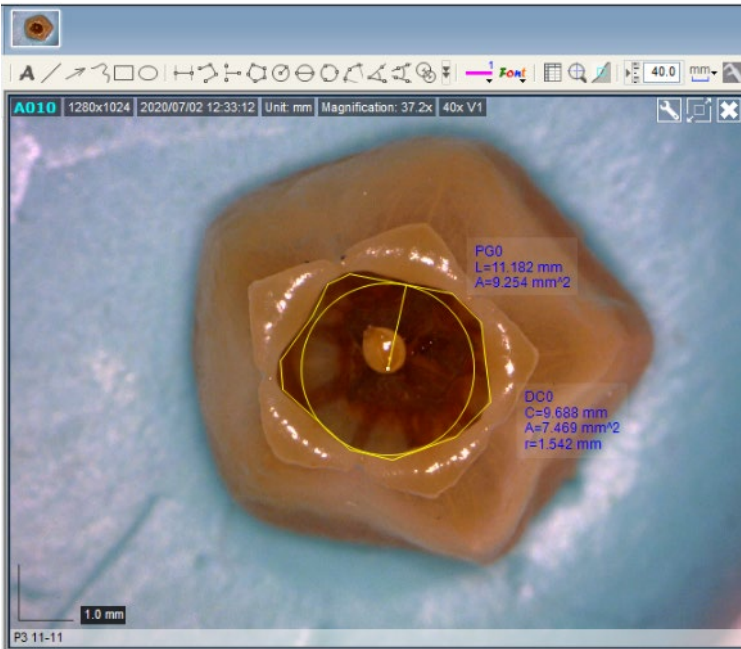


- Quantifying effect on hive health
- Under net: bee visitation and set down by 30 to 70%
- Why?
 - Height above canopy
 - Area covered
 - Can the bees forage outside?



Insect visits per flower per 15 minutes





Department of
Primary Industries

primefact

Best practice bee management - berries

April 2020, Primefact [number], First edition

Melinda Simpson, Blueberry development officer, Horticulture, Wollongbar

Bees (Honey and Native bees) and other insects play a vital role in pollinating berry crops. Inadequate pollination results in smaller or imperfect fruit since not all seeds and drupelets are formed. Thus, bees and other insect pollinators require protection during flowering to ensure successful pollination of berry crops.

of crop protection activities near their beehives.

- As a BeeConnected user, growers input the location of their property which if within 10 km of a BeeConnected registered hive the app will notify both grower and beekeeper to enable proactive discussion around orchard activities and maintenance of hive health.



Strategies to consider for protecting bees

Communication

- Communication between beekeeper, grower, spray operator and neighbours are vital especially as honeybees can easily fly two kilometres from their hive to forage on flowers.
- The [BeeConnected](#) app is a great digital tool for growers who would like to be informed of, and connected with, beekeepers near their farm, and beekeepers who want to be informed



- When engaging in commercial pollination services growers and beekeepers should agree upon each other's responsibilities in the following areas:

- Pesticide applications
- Number of frames/health of hives
- Date and location for placement

www.dpi.nsw.gov.au

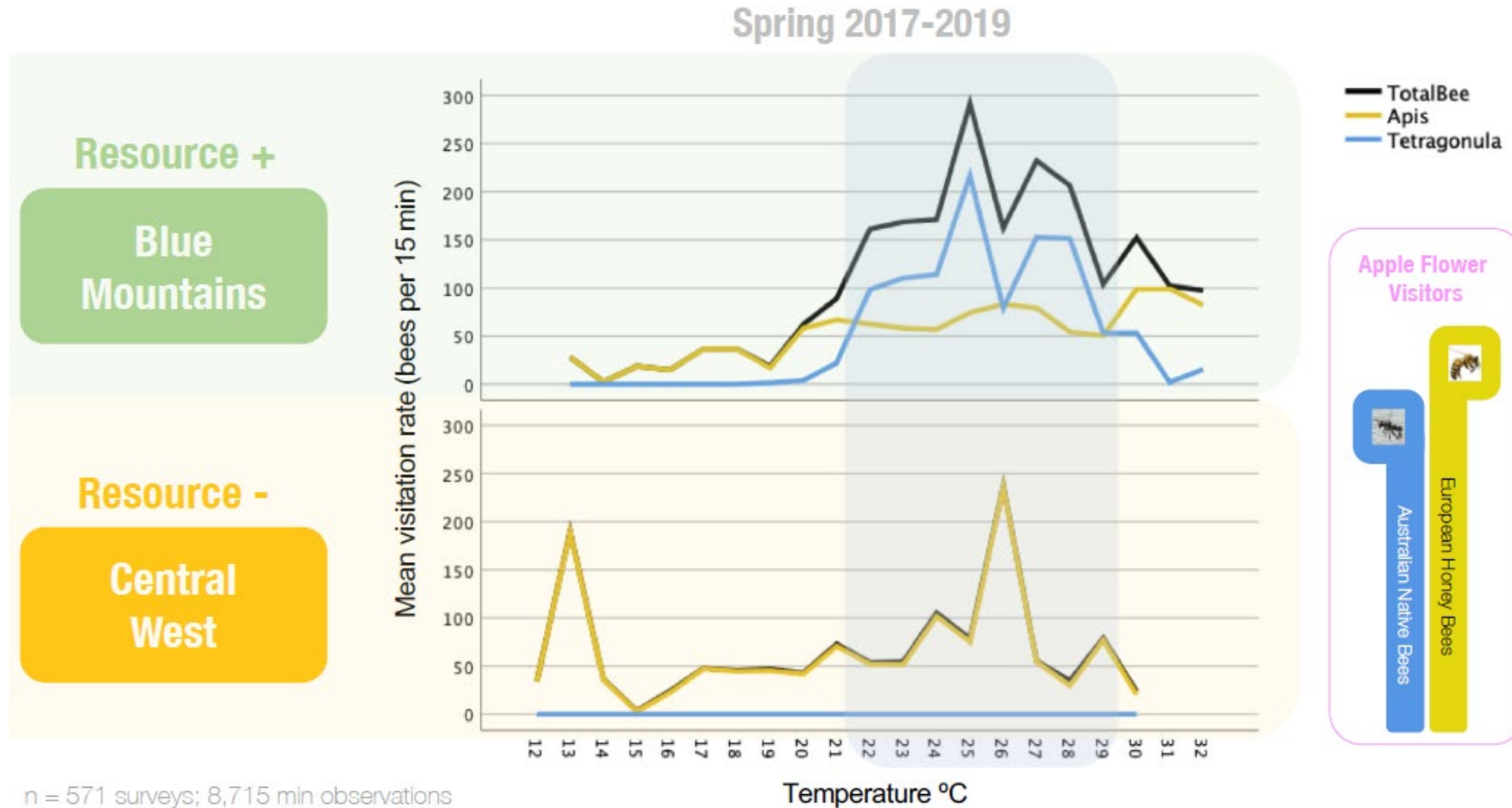
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**Healthy bee populations for sustainable pollination in horticulture
(PH15001)**



Apples

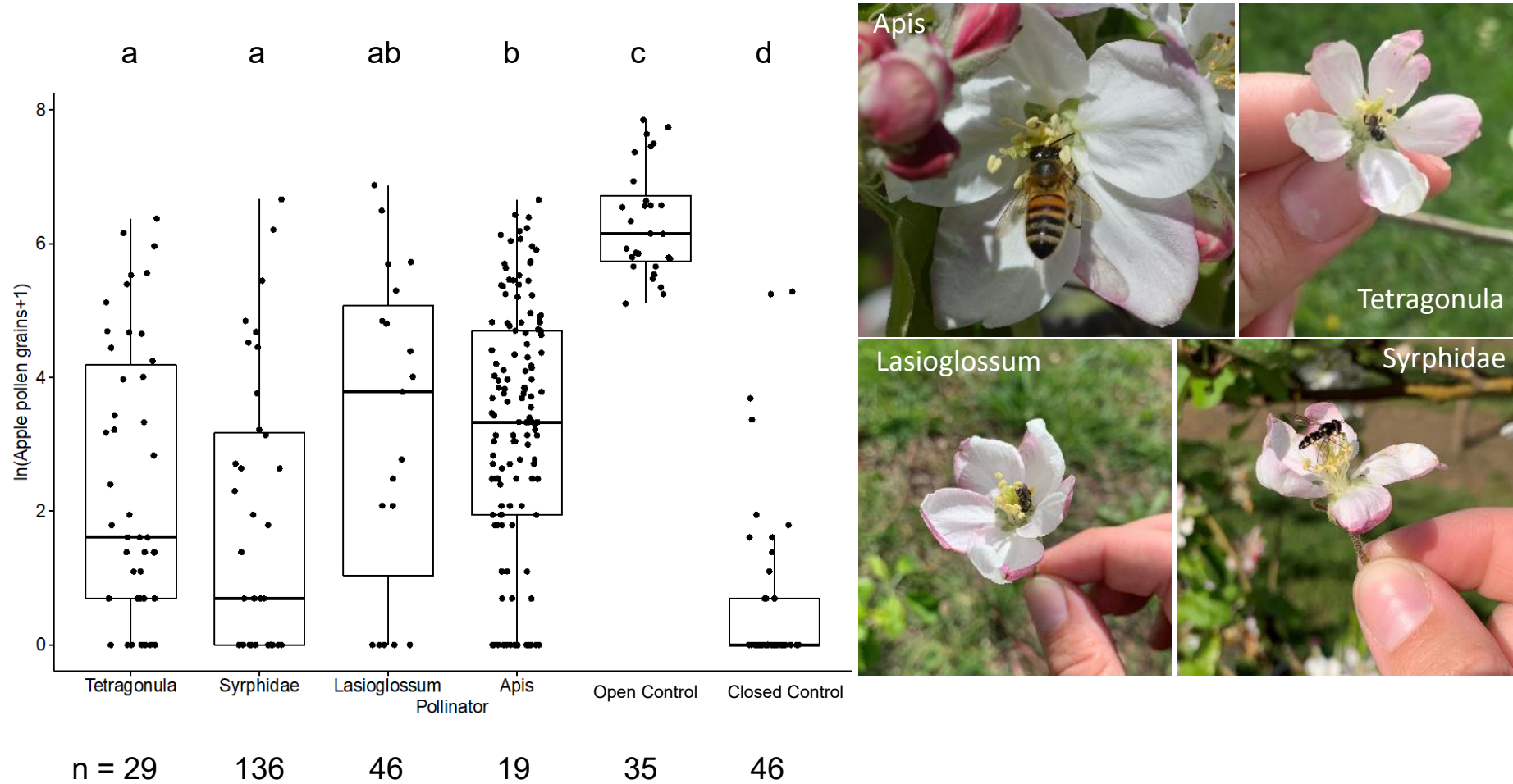
Temperature dependent foraging behaviour – 2017-2019



- In the Blue Mountains, native stingless bees were the dominant visitor between 22-29 °C
- European honeybees - active across a broader range of temperatures

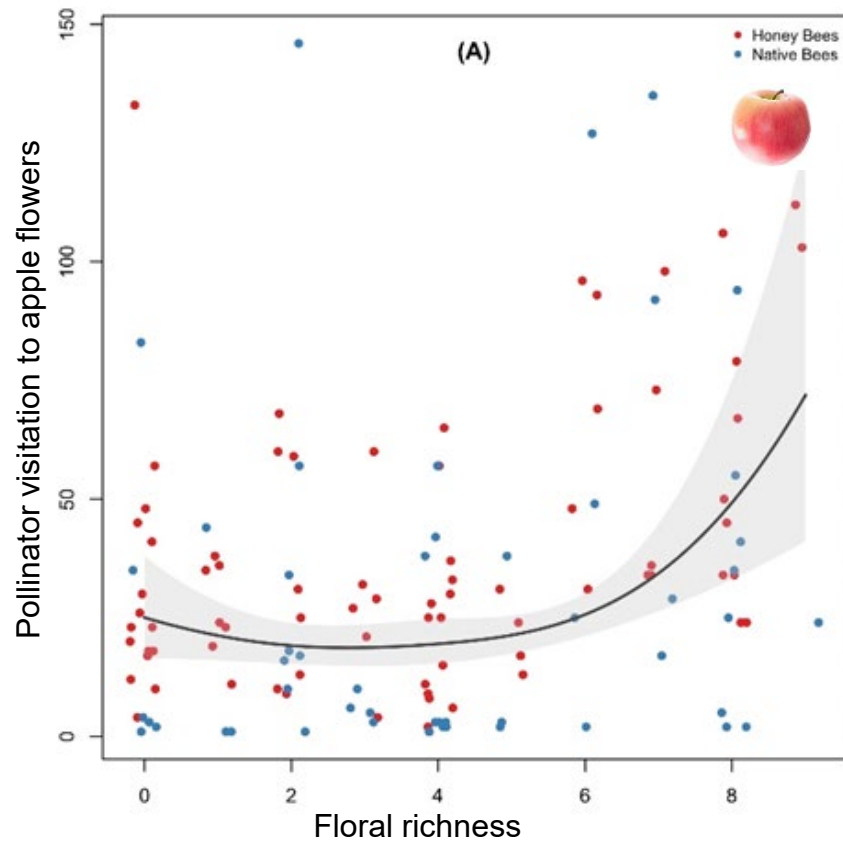
Apples

Pollen deposition in Pink Lady apples (2019)

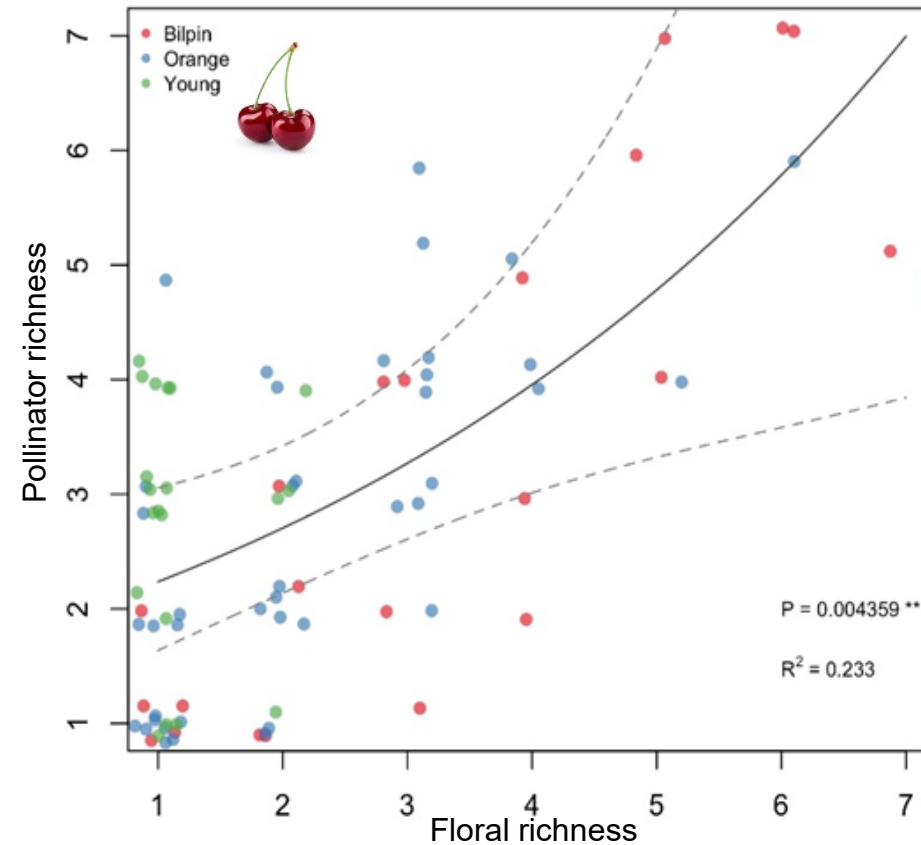


Apples and Cherries

Floral resources update



- a significant positive relationship between floral richness with the orchard and wider matrix and the number of pollinator visits to flowers.



- a significant positive relationship was observed between floral richness with the orchard and wider matrix and pollinator richness.

Enhanced National Bee Pest Surveillance Program (MT16005)



National Bee
Pest Surveillance
PROGRAM



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Surveillance types

33 ports, 178 hives, 170 catchboxes, 19 bee pests, diseases & pest bees, 6-weekly

Active hives



Empty boxes



Sweep flowering plants



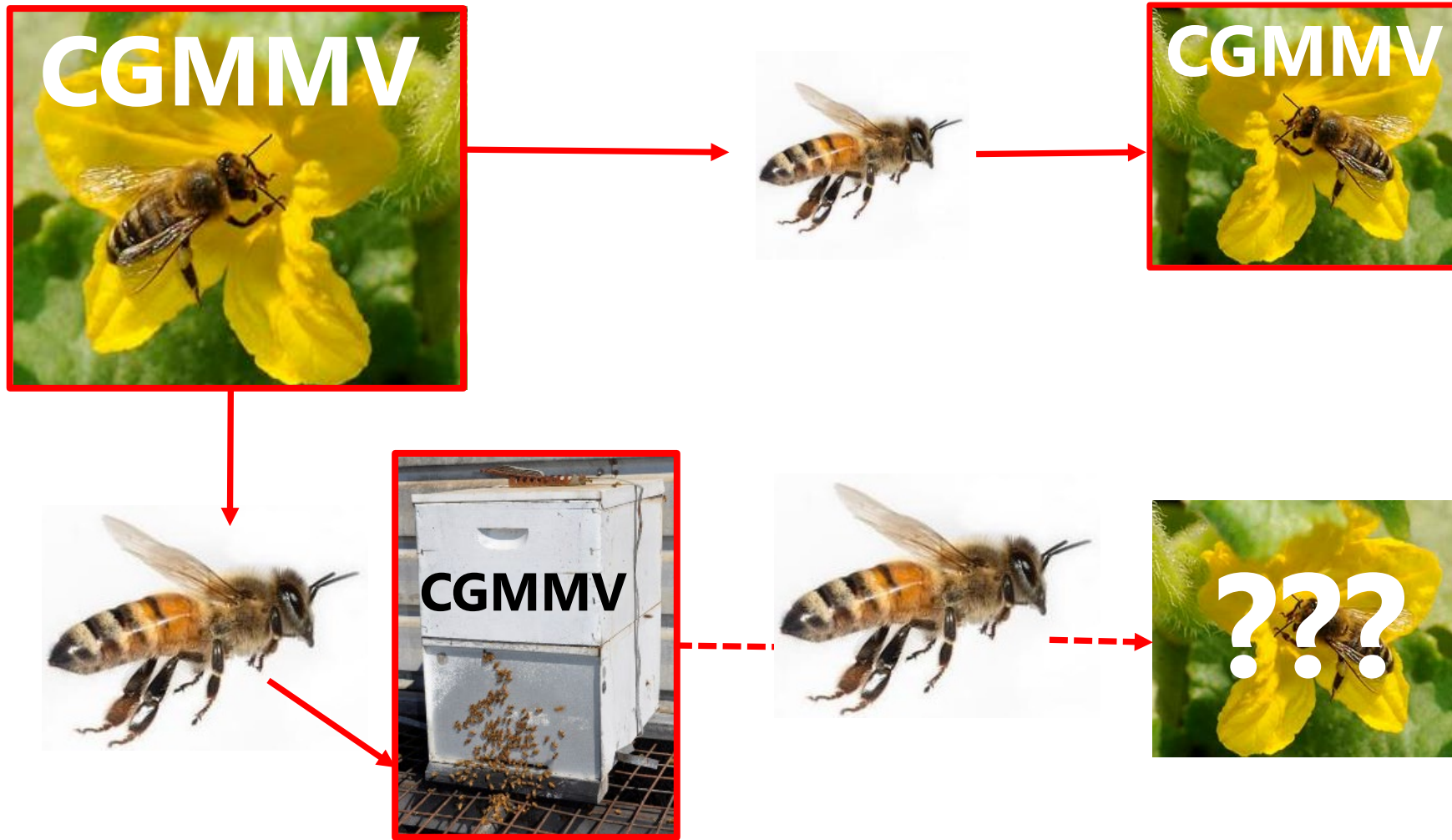
Swarms & nests



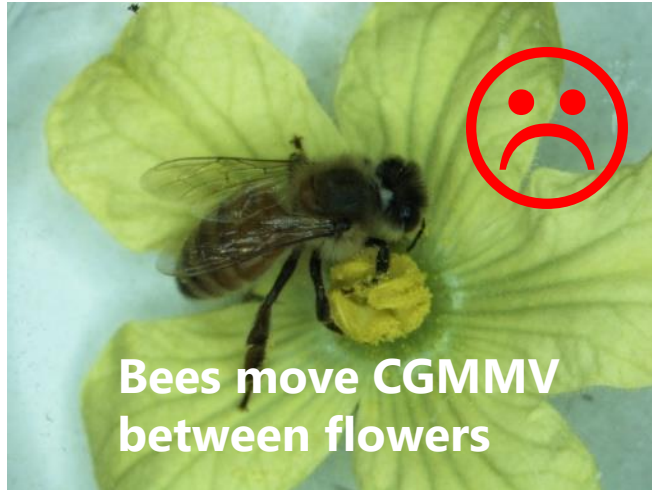
**Understanding and managing the role of Honey bees in CGMMV
epidemiology (VM18008)**



Can pollinating bees introduce CGMMV to melon crops?



Management options



Research ongoing

If you wish to discuss further:

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