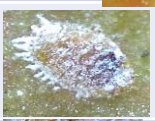
Citrus Mealybug Pest Memo
August 2025

Citrus mealybug activity typically peaks during the summer months. In August, it is critical to access both pest pressure and natural enemies' activity. This is a crucial period for making informed decisions that support biological control and avoid using products that harm natural enemies.

Monitoring CMB priorities for August

- **Inspect colonies carefully**: Focus on protected areas, between the cluster and under the calyces on fruit. Summer generations of CMB develop and multiply on fruit.
- **Record population trend**: Note any increase in crawler or nymph densities. Crawlers are highly mobile and can spread quickly.
- **Record if ants are present:** Note any CMB colonies attended by ants, ants disperse crawlers and nymphs, and disrupt biocontrol.
- **Watch for signs of parasitism:** Natural enemies are abundant and active in August. Watch for signs of parasitism of *Anagyrus*, *Leptomastix*, and other encyrtid wasps. Watch for Cryptolaemus or lacewing larvae.

How to differentiate a Healthy vs a Parasitized CMB colony?

Feature	Healthy Mealybugs	Parasitized	Parasitized Mealybugs
Color	White to grayish-white; waxy coating		Yellowish to brown as parasitoid develops, black spots can be visible
Appearance	Oval, soft-bodied, wax filaments visible		Shrunken or hardened; wax filaments absent
Colony Condition	Active movement, especially of crawlers		Fewer moving individuals; often immobile
Presence of Mummies	None		Rigid, tan-brown mummies indicate parasitism
Exit Holes (Advanced sign)	Absent		Round exit hole on mummy if parasitoid emerged

Natural enemies of citrus mealybug

Mealybug destroyer
Cryptolaemus montrouzieri

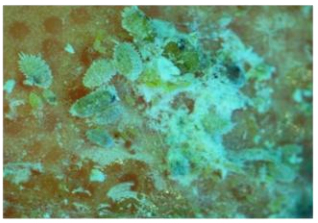
Lacewing
Chrysoperla carnea)

Anagyrus spp.

Leptomastix dactylopii

Coccidoxenoides perminutus

Parasitized CMB with black spots



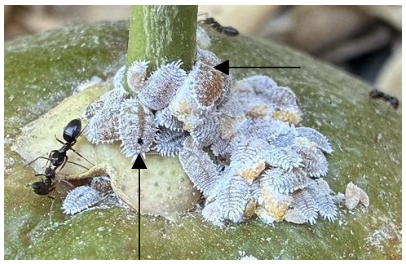
Parasitized CMB, parasite pupae

Parasitized CMB, parasite pupae

Parasitized colony

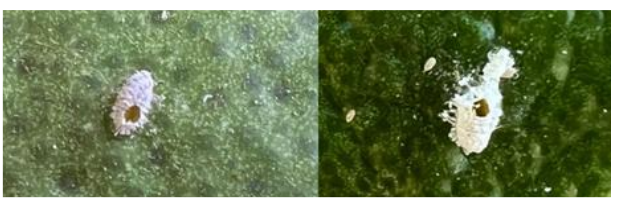
Exit holes after parasitoids have emerged

Signs of parasitism to look for in a citrus orchard.



Note mealybugs with a black spot visible, mealybugs with a hardened body and lack of wax are early signs of parasitism

Note, mealybugs without waxy filaments and parasitoid pupae



Exit hole left behind by a parasitoid

Natural enemies in action

Action Considerations

- **Avoid Broad-Spectrum Insecticides:** If natural enemies are present and parasitism is observed in your orchard, hold off on treatments, especially using broad-spectrum insecticides. Sprays may disrupt beneficial populations more than control the pest. If application is a must spray chemistries that are soft on natural enemies or choose a systemic product.
- **Ant control to support biocontrol:** Ants defend colonies from natural enemies. Minimize ant activity with treatments/bait stations to prevent disruption of parasitoid and predator access to mealybugs.
- **Map "Hot Spots":** Citrus mealybug actively feeds and multiplies through November in the San Joaquin Valley. Map hot spots to monitor and make targeted application if necessary, while preserving natural enemies elsewhere.

By closely monitoring parasitism and predator activity now, we can conserve and support natural biological control. If you're uncertain whether a colony is parasitized, collect samples and bring them to the local UCCE office or submit photos for verification.

More Resources

- CMB trial 2022-1
- CMB trial 2022-2
- CMB trial 2023-1
- Testing insecticide efficacy – Citrograph Article (pp 64)
- Core IPM Updates – Citrograph article pp 54

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