

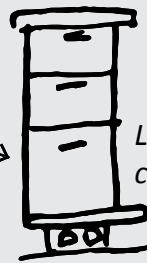
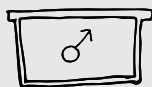
Drone Brood Removal For *Varroa* Mite Control

Drone brood removal (DBR) is a **proactive** mite management tool that you should use **before** mites become a problem. It is a common springtime practice in parts of Europe. Mites are >10x more likely to invade drone cells than worker cells, and produce more offspring in drone cells^{1,2}; so adding and removing a drone frame (or two) is an efficient way to bait, trap and destroy mites. **Plan on removing drone brood regularly in the spring and early summer.** In mid or late summer, when drone production slows, simply remove the drone frames, or move them to the outer edge of the hive, where the bees will fill them with nectar.

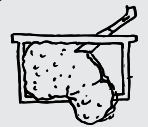
Studies show that DBR can be an effective way to reduce mite build-up. However, it is not a silver bullet, and should be used as part of a comprehensive integrated pest management (IPM) strategy: check your mite levels using an alcohol wash once a month, and treat chemically when mites are prevalent. To learn more about IPM visit ag.umass.edu/resources/pollinators/varroa.

HOW TO REMOVE DRONE BROOD (the basics):

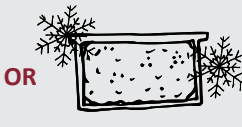
START Insert 1 or 2 drone frames
HERE at edge of brood nest
(position 3 or 7)



Leave until brood is capped (2-3 weeks)



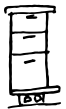
A. Cut out brood



B. Freeze frame and replace with empty or previously frozen frame*

TIPS

- Works best with strong hives that produce copious drones



- Use a calendar and keep good records!

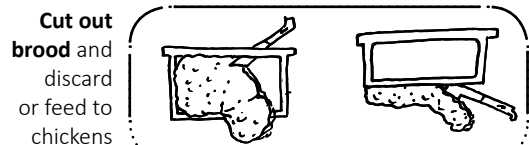


A. Cutting Version³

Commonly used in Europe in the spring

PROS: No equipment to carry; Logistically easy

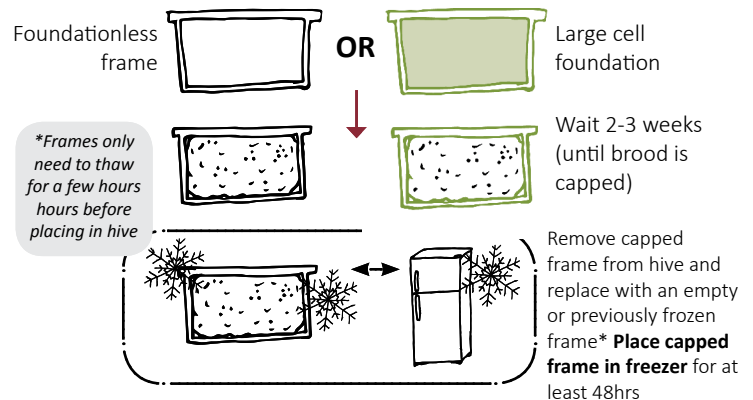
CONS: Bees need to re-build wax. Can only use in spring and early summer.



B. Freezing Version⁴

PROS: Wax is not destroyed; Can use in mid-summer

CONS: Requires freezer space. Logistics of swapping frames between freezer and field adds an extra step



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