

DECEMBER

December is the quietest month for bees and beekeepers alike. Our bees are in their winter cluster – secure, warm, dry and well-provisioned if we beekeepers have done our job properly – and will not be seen outside the hive unless on a cleansing flight or to collect water.

The population of each hive is now very much diminished, as few as 5,000 bees, and these form a cluster with the queen and remaining brood at the centre. The priority now is heat conservation and the protection of queen, brood and colony through the coldest months of the year. The cluster is formed with an outer shell of bees facing inwards, abdomens outwards, creating an insulating layer against heat loss: the bees can also protrude their stings should an intruder threaten the cluster. Within this outer shell the bees can move freely and can access their stores – vital as they maintain heat in the centre of the cluster by eating honey and vibrating their strong flight muscles. Larvae also produce heat by consuming food.

During a broodless period the temperature within the cluster is between 20-30C.

The cluster can expand or contract to maintain this range and ensure that the outer wall does not get too cold. Bees from the centre will change places with bees from the outer layer to give them some time in the warmth and the cluster will loosen from time to time in order to move to a new area of stores. In very cold weather the bees may be unable to move far enough and can perish through isolation starvation – beekeeper vigilance is required here.

Regularly checking the varroa floor inserts for signs of uncapping will show you if the bees are working through their stores. Importantly, this will indicate the position of the cluster, which will help you to work quickly and effectively if you need to move food frames closer or wish to apply an oxalic acid treatment by the trickle method.

In the apiary there is little to do other than to continue checking that hives are intact and sound and that entrances are not blocked by snow, debris or dead bees. Check also that your equipment stacks haven't shifted and developed gaps to let in water or unwelcome visitors. A couple of hefty bricks on top will keep roofs secure. If your apiary is in an exposed or windy spot then rope and pegs might be a better option and you may wish to think about extra hive insulation.

It is very important to regularly heft the hives to estimate the amount of stores remaining and to take action if there is cause for concern – a quick look in does no harm if you suspect isolation starvation to be a risk. Many beekeepers give their bees a present of fondant on Christmas Day, and why not? They will ignore it if they don't need it and it will be welcome if they do.

Around New Year there is often a broodless period when oxalic acid treatment can be applied: on a still day put on suit, gloves and veil and work quickly with warmed solution. If using the sublimation method, be sure to wear adequate protection: if inhaled, the vapour can crystallise in the lungs. Winter is also a good time to move hives as the bees aren't flying so you can ignore the "less than 3 feet or more than 3 miles" rule: the bees will re-orientate when they start flying again in warmer weather.

In common with other wasp and hornet species, Asian hornet colonies will have dwindled away and the newly mated queens will be hibernating. Look out for them tucked away in roofs and stored boxes and don't forget to check sheds, garages and leaf litter. Keep an eye open for any signs of old nests in trees, hedges or shrubbery.

December Summary

Pay attention to hive insulation and ventilation.

Continue to visually check hives and equipment stacks.

Continue to heft the hives to estimate stores; feed if required. Keep track of the cluster by regularly checking the varroa floor insert.

Continue to monitor varroa drop.

Treat with oxalic acid if that is part of your Integrated Pest Management plan.

Maintain vigilance for the presence of Asian hornets and their nests.

Continue to clean and repair last season's equipment – soda crystals and a blowtorch are your best friends here.

Make up all the flatpacks you bought in the sales.

Make up plenty of frames but don't wax them until you need them.

Read and learn, watch some of the excellent talks available online or join in some webinars, maybe sign up for a course.