

Colony Management – Winter Feeding



Preparing for winter, thinking of spring.

Colony strength, an important consideration. At the end of autumn the colony will consist of mature adult workers and young newly hatched bees who will not fly much before winter sets in. During the winter the mature adults will slowly die off leaving the remaining young bees to help the queen get the colony going again in the spring when the weather starts to improve and she starts laying. Sufficient healthy workers to do the spring foraging and brood maintenance is key to colony build up therefore careful thought should be given to this in late summer and autumn months. Replacement of poor performing queens during the summer when there is still time for a new queen to mate and lay, and uniting weaker colonies may be required to ensure spring buildup is possible.

Feeding honeybees up for the winter

Honeybees spend the majority of the year buzzing around the countryside and gardens collecting pollen and nectar to build wax comb, to feed the thousands of young bees reproduced to form new generations, and to make honey. Over the year a colony of honeybees will naturally store up a sizeable stock of honey (100lbs or more in a good year!) to support the colony through the winter months when they can't get out to forage due to weather conditions.



It's easy to forget just how much an average colony of 40,000 or more individuals will need in winter. In a mild location and in favourable conditions a colony may survive happily on around 15kg (33lbs). In harder conditions this may be as much as 45kg (100lbs). The trick is to keep an eye on your hives from the autumn onwards. During normal manipulations you will already have an idea of what stores they have in the brood box, and what honey you've taken off, so you'll know if they need feeding up.

Location location location! Where you site your hives in winter is an important consideration. Bee colonies must keep themselves, any brood present, and the queen at exactly the right temperature in order to survive, queens require about 20C and brood about 36C (yes there is normally some brood right through the winter!). Colonies maintain the right temperature by clustering tightly around the queen and any brood when the temperature drops to lessen heat loss, and may loosen off when the midday sun hits the hive heating it up. It's during the loose cluster time that the colony can move 'en mass' from one frame to another to reach new food stores. Site your hives where they can enjoy the winter sun and where they will not be subjected to cold winter blasts.

Hefting or weighing your hives lets you know how much or little stores they contain. Experienced beekeepers can do this by hand, but for the inexperienced, a simple spring balance can be used to lift up and check either side in turn, then add the two weights to get the overall weight of the hive. You can use the results to monitor how much stores are being used or needed.

Supplement Stores When pollen and nectar ceases to be available (usually October onwards) the colony starts to survive on the honey and pollen stored in the hive. If you have taken honey off during the summer then what is left won't last long. To help build them up you should supplement stores with a heavy liquid feed using contact feeders or similar - if there is

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a lot of feed easily available they will store it as well as feed on it. Home brewed Sugar Syrup or commercially available feeds such as Ambrosia (a mixture of sucrose, glucose, and fructose) should be fed this way when there is still a warmth in the air, if its too cold they can't convert it and it may cause dysentery.

Wasps can be a nuisance at the end of summer when food is getting scarce. They will pester a hive that has food stores and can cause considerable damage if there are significant numbers. Consider closing down the hive entrance to a couple of centimetres wide so that the guards can defend easily. Baited traps can be set to attract wasps away from the hives, use an old honey jar with an 8mm hole in the lid, half fill with water and drop a chunk of honey on the comb in.



Check Regularly When temperatures drop and flying activity stops its time to carry out regular checks on available feed. Hefting (lifting a hive side) lets you assess the weight of stores present without disturbing the colony. If in doubt gently lift off the lid and check visually. Choose a milder day to do this so as not to chill the colony unnecessarily but **do not delay** if you suspect they need feeding. The colony will die very quickly if there is no food available. If the bees are at the top of the frames and clustered and not showing any activity then they may already be starving.

Feed with solid food placed right on top of the frames where the bees are. Use candy, fondant, moistened sugar bags, or commercial products such as Apifonda or bakers fondant. Keep checking every couple of weeks and estimate consumption to plan top ups. Remember, **if its very cold they will not move to where the feed is**, even if it's just the next frame, and will starve to death. Ensure the feed is always easily available.

Snowboarding Bees The bright reflection of snow can fool bees into thinking it's warmer outside than it actually is. If they come out from the cosy cluster for cleansing flights they will perish as soon as they meet the freezing air. Prevent this by placing a board over, but not blocking, the entrance to keep the bright glare of sun on snow out.

March - April is the danger zone when temperatures and weather are unpredictable, don't stop feeding until there is a steady reliable flow of pollen and nectar going into the hive



Sugar or honey feeding? Many consider that there are less solids in sugar, therefore the bees have less feces to vent during cleansing flights. You can feed honey waste etc. from the

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autumn extracting, but you should not use heated honey in any form, otherwise dysentery is almost guaranteed. The alternative thinking is that sugar has little nutritional value, so honey is really the better winter feed if you are willing leave it for them. You can make your own mix of sugar and honey to produce a useful winter feed.

When the weather is reliably milder towards the end of March a liquid feed and pollen substitute can be fed to give colonies a boost and encourage queen activity.

You can make your own feeds without much fuss by using these easy to follow recipes for winter feeds.

- **Heavy Syrup** Suitable liquid pre-winter feed
- **Light Syrup** Suitable liquid supplementary and swarm feed
- **Candy** Suitable solid feed for late winter / early spring
- **Fondant** Suitable for winter feed
- **Sugar / Honey Mix** Suitable for winter feed

Do's

- Position hives in a sheltered spot, winter sun on the hive is very important
- Check hives regularly from October through April
- Check on good days if possible
- Pay particular attention to strong colonies
- Position feed directly over cluster
- Estimate consumption, plan top ups
- Protect against mouse intrusion

Dont's

- Don't leave hives in exposed situations
- Don't allow drafts to enter the brood chamber
- Don't delay in feeding your bees
- Don't liquid feed when it becomes too cold
- Don't assume that strong colonies need less looking after, they need more food
- Don't stop feeding until there are reliable sources of forage available
- Don't let debris or snow build up at the entrance of the hive

Apiary Housekeeping:

- Always maintain a high level of hygiene in all your beekeeping practices
- Carry out methodical health inspections on a regular basis, checking for brood disease particularly in spring and autumn.
- Never transfer combs between colonies without checking for brood diseases
- Systematically replace old brood combs in your hives melting down the old comb to maintain clean and healthy brood.
- Never bring colonies or equipment into your apiary without establishing their origin, condition, and disease status.
- Sterilise any second-hand equipment or hive components before introducing them into your apiary
- Discourage drifting and robbing in the apiary
- Suspect stray swarm health until you know otherwise
- Report any incidence of disease or suspicious conditions immediately to your local association