

[Last month](#) I went over three ideas that I consider fundamental for controlling winter losses: treat for varroa mites, feed when necessary and cull lousy hives. But those aren't the only things we can do to help ensure that our hives are in good shape when spring arrives.

Equalize hives in fall

Beekeepers with more than one hive will undoubtedly have a colony that has lots of bees, another with fewer; one with lots of honey (maybe too much), another with not enough; one with plenty of pollen, and so on. Equalizing is just as it sounds. If one hive is very heavy with honey, maybe to the point where it is nearly honey-bound (no open cells for the queen to lay eggs), take full honey frames from that hive and swap them for empty frames from a less-advantaged hive. Do the same with brood frames: if a hive would benefit from a boost in population, give it a frame or two of capped brood from a hive that is overflowing with bees.

Do not use this technique to try to rescue worthless hives. That would be a waste of resources. If a particular hive is nothing but a drain on your time and energy, dispatch the queen and give the worker bees to a decent hive (this is called combining). Give the drawn comb, honey, pollen and equipment to more worthy hives in your apiary.

Swapping bees and frames around should only be done with your own hives. Trying to do this with a buddy's hives is a risky thing to do. Not only will you share bees and honey, you'll also share any diseases that may be lurking unnoticed, such as American Foulbrood (AFB).

Mouse Guards

I have done early spring inspections and found acorns inside a hive on the bottom board. I'm pretty sure the bees didn't go out and gather them. I've also found snug little nests between frames that were made of dried grass and fluffy brown fur. Want to guess where these came from?



Above: homemade 1/2 inch wire mesh mouse guard.
Below: shiny commercial version of the same thing.



When it gets cold and the bees go into cluster, mice are attracted to hives by the warmth the cluster generates. They can come and go with impunity as long as the bees are huddled in a cluster. Who wouldn't want a nice dry, heated home for the winter, complete with snacks?

Fortunately it is easy to keep mice out by installing a mouse guard over the entrance. Many beekeepers simply use a standard wooden entrance reducer as a mouse guard, and that seems to work fine. I prefer to use a strip of 1/2-inch wire mesh, a few inches wide and the length of the entrance, bent long-wise into an L shape. I fit this along the bottom board and tack it into place. Since this screen doesn't hinder the transit of the bees, it is okay to leave it on the entire year. However I usually take these off in spring just to make it a little easier for bees to drag out corpses, etc. I try to remember to put mouse guards on my hives before the first hard frost in the fall.

Which feeders are best?

What is the best way to feed bees? As with just about everything else in beekeeping, the correct answer is, "Whatever works well for you." There are many ways to skin this cat. Each has benefits and drawbacks. The time of year, the amount of feed that you need to provide, your budget, degree of cleverness and personal preferences all come into the decision.

Any feeder must allow the bees to have access to syrup while preventing them from drowning. A good feeder should be easily accessible by the beekeeper for refilling. It should be designed to minimize robbing by other hives. Beyond these factors, any feeding gadget can work. The only limits to the design are your imagination and access to suitable containers. Common techniques (some good, some bad) include:

1. Boardman feeder

Description:

A Mason jar (pint or quart) with a special holder sits on the bottom board and fits into the entrance

Advantages:

- a) comes included with most beginner kits
- b) easy to see whether refilling is needed

Disadvantages:

- a) very easy for other bees to rob
- b) small capacity, needs frequent refilling
- c) bees cannot access syrup in cold weather
- d) syrup can freeze in cold weather

2. Traditional Miller feeder

Description:

Special super that sits on top of hive. Bees enter via slots either on the ends or in the middle. A floating rack keeps the bees from drowning. See photo at top right.

Advantages:

- a) top feeders deter robbing
- b) large capacity
- c) can check syrup level and fill without exposing bees to cold air
- d) bees can access syrup as long as they aren't in a tight cluster

Disadvantages:

- a) awkward to remove when full



Traditional Miller feeder

- b) beekeeper is exposed to flying bees when refilling (traditional model)
 - c) extra space can harbor small hive beetles
3. "Black" top feeder

Description:

Variation on the traditional Miller feeder described above. Two plastic tanks are separated by a screen-covered access channel.

The unit fits inside a spare honey super. See photo at right.

Advantages:

- a) same advantages as the traditional Miller feeder

- b) when refilling, a screen separates bees from the beekeeper

Disadvantages:

- a) awkward to remove when full
 - b) large access channel in center violates bee space. This tends to be filled with burr comb in spring, but not when used for winter feeding.
4. Division board feeder

Description:

A plastic or wooden tank that replaces two frames inside the hive. Note that sales descriptions say these replace one frame, but I've never seen one that is actually as narrow as that. Typically they are as wide as about 1½ frames.

Advantages:

- a) deters robbing
- b) puts food directly adjacent to the nest
- c) an extra empty super isn't required



Disadvantages:

- a) less capacity than top feeders
- b) hive must be opened to check syrup level and refill
- c) refilling can be a bit messy; this can be addressed by using a funnel or hose.

5. DIY jars – inside hive

Description:

Jars or pails with a few pin-prick holes in the lids are inverted over the inner cover hand-hold (close off the inner cover entrance notch if present) or directly over the frame top bars. An empty super(s) or deep surrounds the jars.

Advantages:

- a) deters robbing
- b) syrup can be added or removed in any quantity desired. For example, 2 jars can be used, and if up-take is slow, one can be removed.

Disadvantages:

- a) beekeeper is exposed to bees when checking or refilling

6. DIY Jar --- on top of hive cover

Description:

A special hive cover is constructed with a hole in it. The hole is sized so that a jar lid will fit directly over it. A jar or pail with a few pin-prick holes in the lid is inverted over the hole in the outer cover.

Advantages:

- a) deters robbing
- b) very easy to check syrup level
- c) an extra empty super isn't required

Disadvantages:

- a) syrup can freeze in cold weather

7. Baggies

Zip-lock baggies are filled with syrup. The baggies are placed directly on the frame top bars or on the inner cover (being careful not to block the hand-hold opening). A couple of small slits are cut into the top of the baggie. Miraculously, the syrup doesn't gush out; it sits there, patiently waiting for the bees to lap it up. An empty super is placed around the baggie.

- a) deters robbing
- b) quick and easy

c) works great for feeding honey as well as syrup

Disadvantages:

- a) limited capacity
- b) baggies aren't reusable

8. Chick waterer

Description:

A commercial chick waterer is filled with syrup and used in the same manner as DIY jars inside the hive. Pebbles or floats may be placed in the trough to prevent drowning. Advantages and disadvantages are similar to DIY jars inside the hive.

9. Open feeding

Description:

A barrel or bucket is filled with syrup and placed near the hives. Some sort of float (Styrofoam peanuts, straw, etc.) is provided to help prevent drowning. Bees from all hives feed from the same source.

Advantages:

- a) easiest method for the lazy beekeeper

Disadvantages:

- a) incites robbing among all hives
- b) bees will fight at the syrup source
- c) cannot distribute syrup according to the needs of particular hives
- d) syrup cannot be accessed when temperatures are below foraging temperature (mid/low 50s). (Note: bees will take cleansing flights at lower temperatures but they don't forage when it is too cold.)
- e) you'll be feeding every bee in the neighborhood, not just your own

These are just a few of the feeding schemes that are commonly used. Experiment with different methods and use what works best for you.

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