

# Feeding Bees



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# Most New Beekeepers Feed Too Much OR Not Enough



- Always have a **purpose** when you feed.
- What you feed and how you feed depend on the purpose and the time of year.
- **You can do damage** by feeding the wrong thing at the wrong time or with the wrong delivery system.

Let's Look at Why, What,  
and How We Feed Bees  
Starting in Late Winter and  
Progressing Through The  
Beekeeping Year

# First, Let's Look at Feeding Equipment



<b>Feeder</b>	<b>Good in Cool Weather?</b>	<b>Can Many Bees Get to Syrup at Once?</b>	<b>Easy To Use?</b>	<b>Robbing Issues</b>	<b>Large Capacity?</b>
Division Board (Frame)	Yes	Yes	Yes, as outer frame	Maybe	1 gal with 2 frame feeder
Boardman	No	No	Yes	Yes	No
Bucket	Yes, with no inner cover	No	Yes	Maybe	1 to 2 gallons
Hive Top	No	Yes	Yes	Maybe	3- 3 1/2 gals.
Open	Yes	Yes	Yes	No	As much as you want
Quail Waterers	Yes, with no inner cover	Yes	No	Maybe	4 gals.

# Reasons to Feed Bees

- To help the bees draw out foundation
- To stimulate queens to lay
- To build up stores for winter
- When introducing new queens during a dearth
- To provide emergency nutrition in late winter when the bees may be running out of winter stores

# Late Winter Feeding

- In late January and February, bees begin raising a lot of brood. They need both pollen and carbohydrates to support brood-rearing.
- Of the 60# of stored honey in the hive, the bees probably only eat about 15# before brood-rearing starts. Most of their winter stores are used in late winter and early spring.



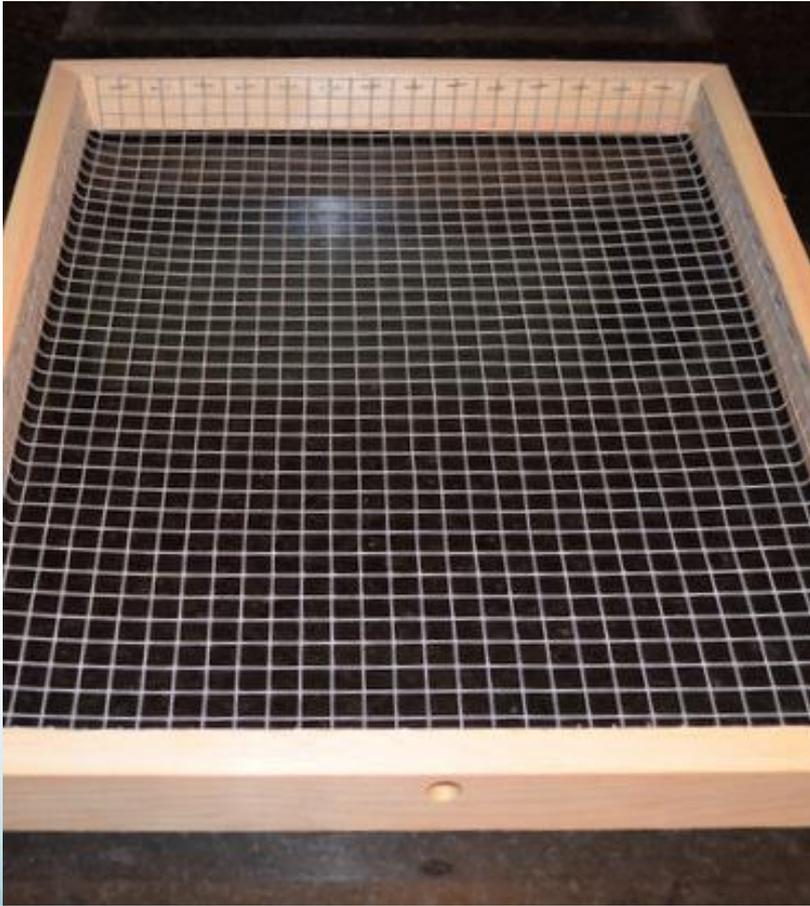
This is when the bees are at greatest risk of starvation.

# Late Winter Feeding: When & What to Feed



- On a nice day in late February/early March, we generally check the hives' weights and feed if they seem light.
- If the bees are on top of the top bars in the top box, you should feed them.
- Feed dry granulated sugar or fondant.
- You may also choose to feed pollen or a pollen substitute.

# Late Winter Feeding: How to Feed



- Use a candy board (with 1/2" hardware cloth) or a simple rim or shim the same dimensions as a super.
- Sugar or fondant can be placed on a sheet of newspaper or wax paper with a few slits cut into it.
- Pollen or pollen substitute patties are fed the same way.

Photo: BeverlyBees.co

# Winter Feeding of Pollen or Pollen Substitute

- Bees usually store bee bread in the bottom box. If temperatures are low, you may not be able to check on their stores.
- In our area, pollen is abundant. The bees usually have plenty of pollen.
- Even so, pollen is *crucial* to raising healthy brood. It's not a bad idea to give some protein patties in late winter as insurance. This way, if they run out of natural pollen in-hive (or cannot break cluster to access it), they will still be able to feed the larvae.

# Early Spring Feeding: mid-March to early April

- Feeding syrup too early in the year can give the bees dysentery and cause moisture problems in the hive, but by early spring, it is usually okay to switch from solid food to syrup. Watch the weather!
- *Why Feed:* You may choose to give an overwintered colony syrup if they have run out of food, and/or if there is an extended cold/rainy/snowy period where the bees cannot forage.
- *Why Feed:* Early packages or nucs acquired during this time should be fed syrup to help draw out foundation.
- *Why Feed:* Very experienced beekeepers planning to make splits will feed syrup to stimulate queens to lay. There is a risk of chilled brood using this method.

# Early Spring Feeding: HOW to Feed



There are choices – some better than others!



# Important Points to Remember in Early Spring

- Small, weak colonies (like packages) must have the syrup *right next to the cluster*. If you feed using a method like hive top feeders, it may be too cold for them to break cluster and get to the food.
- This is not as serious an issue with strong, overwintered colonies. But even these may not be able to get to the syrup after you have reversed supers for swarm control if there is a severe cold snap.

# Hive Top Feeders

## Advantages

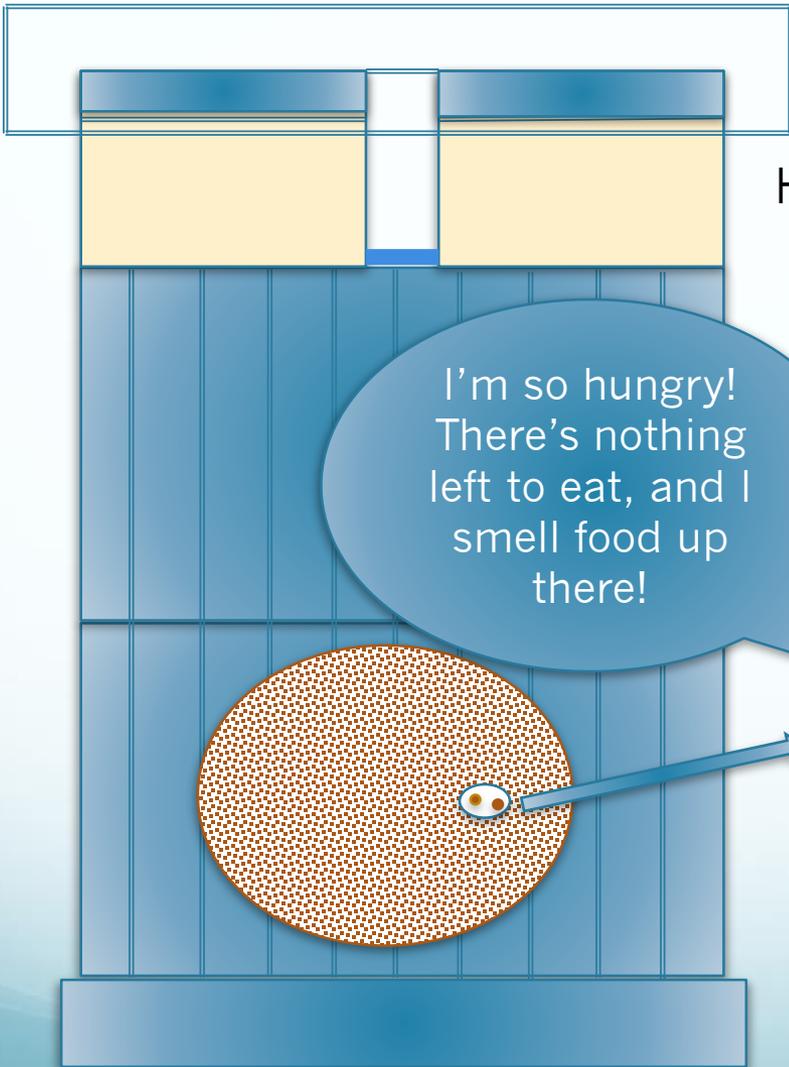
- EASY to use
- Holds around 3 gallons
- A strong colony can empty the feeder in a few days



## Disadvantages

- Difficult to move when full to examine colony if needed
- Some models drown a lot of bees. Cracks or warping of outer covers may permit access even in bee-tight models.
- Weaker colonies may not be able to access syrup, especially as the weather cools.

*We applied this caulk line to keep the bees from getting under the screen and drowning.*



Hive Top Feeder



I'm so hungry!  
There's nothing  
left to eat, and I  
smell food up  
there!



Don't even think  
about it. It's too far.  
You'll never make it  
back alive. Better to  
starve together than  
freeze alone!



Now that's more like it!



And this totally rocks! Look at all this comb I just made!



Sweet!

# Mid-Spring Feeding- Why?

- Once dandelions have bloomed, the bees are generally no longer in danger of starvation.
- Pollen and nectar are abundantly available.
- Temperatures have warmed enough that bees can forage regularly.
- Experienced beekeepers might choose to feed if making splits.
- *For most beekeepers, the only reason to feed in mid-spring is to help new colonies draw out foundation in the brood nest!*

Once you add honey supers,  
**STOP FEEDING!**



# Feeding after comb in the brood nest is drawn

- Gives you a crop of sugar syrup honey.
- Plugs the brood nest with sugar syrup so the queen has nowhere to lay eggs. Your bees swarm.
- So..... as soon as you put on your first honey super, whether it's drawn comb or foundation, **STOP** feeding and let the bees work from natural nectar!
- If you have a legitimate reason to feed during the spring flows, almost any method works.

# Late Summer Feeding: Why?

- In northern NJ, we generally pull our honey supers by mid-July. After this time, the bees go into dearth. It is an important time to do mite treatments because mite populations are peaking and the bees are scaling down brood rearing.
- Feeding in dearth stimulates queens to lay several cycles of strong, healthy brood that have never had a mite feeding on them. Early in dearth, these bees will be the nurse bees that feed the brood that will hatch a month or so later and become the colony's winter bees.
- *Varroa* **damages brood food glands** and **reduces life span** by 20 to 80%. That is why summer mite management is so critical.

# Feeding in Dearth – Why?

- In our area, fall flows are not always reliable. If no fall flows occur, the bees may not have enough stores to get through winter, even if you have left them plenty when you pulled the spring crop. Feeding is insurance that they have enough for winter.
- The bonus is that if there *are* fall nectar flows, the brood nest will already be full of ripened food, and the beekeeper can add honey supers for a fall crop.

# Feeding in Dearth is Tricky



- Robbing is a huge concern.
- Robbing kills colonies.
- Robbing can cause problems with neighbors.
- We want to feed our bees in dearth *but how can we do it without starting a robbing frenzy?*

# Barrel (Open) Feeding

- Open feeding is by far the safest way to feed bees during dearth.
- The bees view the feeding station as a *nectar source*.
- Bees *never* rob during a nectar flow.
- Barrel feeding is not suitable in urban areas. The feeding station must be far from human traffic.



# How to Open Feed



- Prepare 1:1 sugar syrup, adding a few drops of essential oils or a feeding supplement such as HBH.
- Transport buckets to the site.
- Add a couple of generous handfuls of straw to each bucket, and a stick or branch. Push the stick *all the way to the bottom of the bucket so bees can climb out.*
- Push the lid down to hold the stick in place.

# Where to Open Feed

- AWAY from people!
- Far enough from the apiary that the syrup does not start bees robbing.
- The books say 300'.
- Bees don't read the books.
- We have done as little as 50' with trees or a building between the hives and feeding station.
- Evaluate each situation on its own merits.

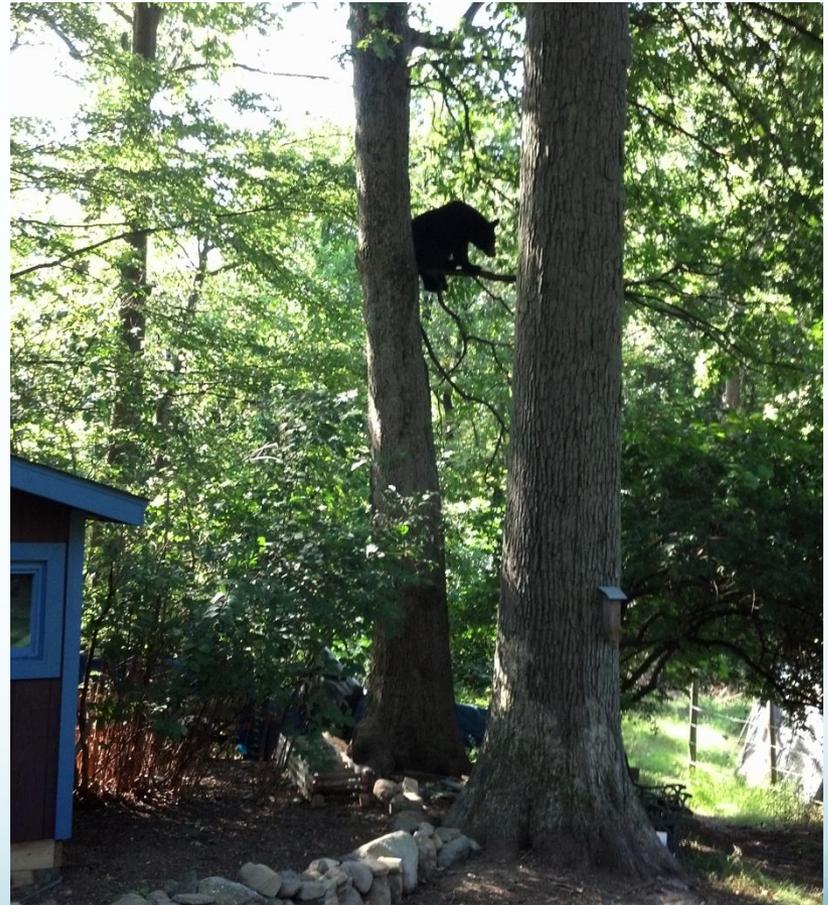


Check out these  
big weird-looking  
flowers!  
Amazing nectar!



# Drawbacks of Open Feeding

- You are feeding not only your bees, but every bee, yellow jacket, bald-faced hornet, and European hornet in the neighborhood. You need to budget a bit more for sugar!
- You *may* be feeding a few bears, too. We've fed the bears once or twice, but usually the bees clean out the buckets within a few days so bears are rarely a problem.



Contrary to some comments you may see on the internet, this method does NOT transmit diseases or mites!

# What if I Can't Open Feed?

- First make sure EVERY crack and hole is sealed! Blue painters's tape works well for this.
- Use entrance reducers on weak colonies.
- It may help to feed late in the day.
- *Never* leave any syrup, honey, or frames with pollen or nectar on them exposed in the apiary, even for half a minute!
- If you feed one hive, you must feed every hive in the yard, whether they need it or not and you must keep the feeders full. *Remember the strong ones will run out of food before the weak ones and they'll go looking for more.*
- Hive top feeders work fine in summer, as do division board feeders and quail waterers. Throw away the Boardman feeders.

# Fall Feeding – Why?

- If your bees are not heavy enough to make it through the winter.



# What if some are heavy and others are not?

- A strong colony may have plenty of food but what if it's in the same yard as a colony that swarmed late in the season? How do you prevent the strong one from robbing the weak one while you feed it?
- Of course, you can always take a box of honey from a very heavy hive and give it to a light one.



# Feeding During Dearth: What if there are no Fall Flows or I need to feed a weak hive?

- You can also *combine* barrel feeding with individual feeding of light colonies.
- Day 1: Set out several buckets of syrup for the bees to rob out. How many depends on how light they are and how many hives are in the apiary.
- Day 2: Return and feed individual colonies while the bees are working the syrup.
- You can always feed individual hives during a flow without risk of robbing.



# Fall Feeding: How?

- **Early** in fall, while the weather is still warm, preventing **robbing is the biggest consideration**. This is why open feeding is the best choice at that time, perhaps combined with individually feeding weak, light colonies
- **Later** in fall, as the weather cools, the risk of robbing decreases and the focus shifts to using feeding techniques that get the most syrup to the bees in the shortest time. The **food MUST be close to the cluster** as the temperatures decrease.

# Quail Waterers

## Advantages

- Can feed 4 gallons at a time
- Highly accessible to bees, even when colony is weak and/or weather cool
- Because many bees can drink simultaneously, feeders will empty fast
- Very few drowned bees unless colony is especially weak.
- Bees will take syrup from QWs even if they are unable to break cluster to use HTFs.

## Disadvantages

- If feeder is not level, syrup will leak
- More difficult to use: hive must be level or shims used to level feeders. Takes longer to fill and set up. Messy.
- Requires an empty deep to cover feeders



These are made by Kuhl Corp., Flemington, NJ

# Quail Waterers: Over the inner cover or not?

- In spring, when feeding nucs or packages drawing foundation, put the feeders OVER the inner cover. Because there is also natural nectar coming in at this time, the bees will build burr comb if you put the feeders directly on the frames. *You will have a big mess!* Use the inner cover in early fall during a nectar flow, for the same reason.
- In mid to late fall or very early spring, it is best to put the feeders right on the frames. This gives the greatest access to the bees so they get the syrup down and ripened fastest. They will not build significant burr comb if there are no natural flows.
- The same is true for bucket feeders.



# Bucket Feeders

- Like quail waterers, this feeder can go above or below the inner cover, depending on the weather.
- They can hold 1 to 2½ gallons of syrup, and must be covered by an empty deep.
- Biggest problem is that very few bees can access the syrup because the screened hole is small.
- If the plug comes out, you have a huge mess.



# Winter Feeding: Is It Really Necessary?

- We do our winter preparation in **summer**: treating for mites, feeding colonies, replacing queens as needed so the bees are:



**Strong**



**Healthy**

**Queenright**

**Heavy**

- **BEFORE WINTER IS EVEN CLOSE**

Once we install mouse guards, reverse inner covers, and add ventilation shims, we don't open the hives again until late February.



Many thanks to my family, workers, and the bees!



And Thank You!