

**'Introduction to Beekeeping Course'**  
**Feeding Bees**



**Moray Beekeepers Association SCIO**  
Scottish Charity Number: SC050177



<https://www.facebook.com/pages/Moray-Beekeepers-Association/147588325300455>

1

---

---

---

---

---

---



---

---


**Introduction**

**Bees require:**

Nectar/honey to provide carbohydrates (energy source)



Pollen to provide protein (fats, essential amino acids, vitamins, minerals)



2

---

---

---

---

---

---

---

---

**Feeding sugar to bees**

Feeding sugar can be divided into three categories

- Autumn feeding
- Emergency feeding
- Stimulative feeding



3

---

---

---

---

---

---

---

---

## Sugar syrup



- 1Kg. Sugar to 1 litre water gives a 50% sugar solution, the highest concentration bees can digest. This is fed for immediate use.
- 1.6 Kg to 1 litre water makes a concentrated syrup suitable for storage for winter. Add Thymol solution as preservative.
- 1Kg/2litres makes a thin syrup, sometimes used to stimulate laying/brood rearing in the Spring.



4

---

---

---

---

---

---

---

---

## Invert Syrup



- 14 kg jerrycan. Maybe only can per hive.
- Almost 50% monosaccharides. Easier for bees to digest.
- 18 months shelf life.
- Doesn't go off even if not sealed in comb.
- Expensive.



5

---

---

---

---

---

---

---

---

## Robbing



- Bees are inveterate robbers.
- Once started robbing is very difficult to stop.
- Hive can be robbed by bees or wasps.
- Can spread disease.
- Can result in fighting and death of a weaker colony.
- Usually starts after nectar flow and in times of dearth.
- Usually due to bad management practice eg-
  - Spilling syrup,
  - Dropping brace comb,
  - Forgetting to reduce entrances,
  - Feeding while bees still flying.



6

---

---

---

---

---

---

---

---

Reduced entrance is easier to defend




Photo by Gerry Collins NDB

7

---

---

---

---

---

---

---

---

**Fondant**






Baker's fondant  
 Inverted fondant from suppliers (expensive)  
 Home-made Candy



8

---

---

---

---

---

---

---

---

**What NOT to feed**


Honey – even from own bees? (AFB)

- Can spread disease
- Increases likelihood of robbing due to excitement

Brown or raw sugar

- Can cause digestive problems for the bees
- Not fully digestible so can result in dysentery

**The only sugar to feed is white refined sugar!**



9

---

---

---

---

---

---

---

---

## Feeding pollen

- In the spring to encourage brood production
- Pollen patty, supplement or raw pollen
- Collect pollen only from strong disease free colonies
- Do not use other beekeepers' pollen
- Use a pollen trap
- When feeding substitutes follow suppliers recommendations
- If regularly insufficient pollen in hive re-locate apiary



10

---

---

---

---

---

---

---

---

## Feeding water

- Bees need a supply of water especially during winter/spring
- Provide nearby water source
- Use an eke or super to provide room
- Or an entrance type water feeder



11

---

---

---

---

---

---

---

---

## Entrance feeders



12

---

---

---

---

---

---

---

---

## Autumn feeding

- To provide winter stores
- Assess colony stores
- Sugar syrup (2lb to 1 pint water or 1kg to 630mls water) or feed inverted syrup
- Use **rapid feeder** over feed hole in crown board or Miller/Ashforth type feeders
- Prevent robbing – don't spill syrup.
- Colony needs at least 45lb of stores to overwinter
- Complete feeding by end of September
- Some beekeepers overwinter bees solely on fondant



13

---

---

---

---

---

---

---

---

## Miller or Ashforth feeders



- Fit neatly on top of hive over brood chamber
- Ideal for autumn feeding especially at out-piaries (8+litres capacity)
- Use a cover board (to prevent bees gaining access and drowning)
- Not suitable for use in a cool spring
- Regular maintenance needed. Seal with silicone, PVA etc
- Some need filling with water and leaving for a few hours to allow wood to swell
- Hives need to be level



14

---

---

---

---

---

---

---

---

## Polystyrene Feeders



Abelo Ashforth Feeder  
2 gals. 9 litres



Paynes Miller feeder  
2 gals. 9 litres



15

---

---

---

---

---

---

---

---

## Brother Adam feeder



Rapid feeder with feed hole in the middle



Other rapid feeder variants



---

---

---

---

---

---

---

---

16

## Large rapid feeder



English feeder  
1.3 gals. 6 litres  
Goes on the crownboard inside  
an eke or empty super.



Lid on and in an eke



---

---

---

---

---

---

---

---

17

## Smaller rapid feeders



Rapid – plastic or metal

Limited amounts e.g. 1 to 4 pints.

Easy to refill in home apiary

They need an empty super around them to provide the space

Bees won't enter them in cold weather so are of no use for spring stimulation

Danger of drowning bees if lid not on properly



---

---

---

---

---

---

---

---

18

## Emergency feeding



Bees can starve at any time of year

It is your responsibility to ensure they don't

Whenever low on stores - FEED!

7 days inspections – 10lb stores (2 full BS deep frames)



19

---

---

---

---

---

---

---

---

## Emergency feeding in winter



- Correct autumn feeding prevents this!
- Isolation starvation – rearrange frames of food
- Heft the hive & quick peek inside
- Use fondant or candy
- Place on top bars above the cluster
- Check every 2/3 weeks



20

---

---

---

---

---

---

---

---

## Hefting the hive



Winter hefting of hive to assess stores

If the hive feels "light" you will need to feed them

But bear in mind isolation starvation



21

---

---

---

---

---

---

---

---

### Feeding fondant

Photos: G. Collins

22

---

---

---

---

---

---

---

---

### To prevent starvation in spring

Feed sugar syrup in **contact feeder** (1 to 1 ratio)

Fondant on top bars

Pollen patties

23

---

---

---

---

---

---

---

---

### Contact feeders

- Bucket operates on vacuum principle
- Invert over another container to avoid spills
- Slower than rapid feeders
- Can be used all year with no chance of drowning bees
- Need an empty super around them to provide the space.
- No contamination of contents
- Ideal for spring feeding
- However, need to remove feeder and lid to re-fill
- Sudden temperature change can cause leaks

24

---

---

---

---

---

---

---

---



## In extreme cases



- Bees may appear comatose
- Spray bees with thin (50%) syrup solution asap
- Fill an empty comb with sugar syrup
- Place comb adjacent to the bees
- When revived feed sugar syrup in contact feeder



25

---

---

---

---

---

---

---

---

## June gap



- Period between the spring flowers ending and the summer flowers starting
- When removing spring honey be prepared to feed the bees
- Never leave your bees short of stores



26

---

---

---

---

---

---

---

---

## Feeding in the June gap



- Don't feed syrup if there are supers on the hive
- Feed fondant over feed hole in crown board
- Bags of sugar, puncture bag, dunk in bucket of water for 20 seconds and place on top bars



27

---

---

---

---

---

---

---

---

## Stimulative feeding in spring



Strong colonies for Oil seed rape  
Building up a colony for queen rearing or for making nuclei  
If ample stores – feed small amounts in contact feeder  
Use a thin syrup, 1Kg/2litres  
Don't feed syrup until bees are flying freely i.e. not before March  
Pollen patties offer greatest stimulation  
Some beekeepers practice stimulation for bees in late summer before the main autumn feed  
**"If colony has sufficient stores it is arguably pointless"(NBU)**



28

---

---

---

---

---

---

---

---

## When else do we feed sugar to bees?



Making up nucleus /artificial swarm  
Shook swarm / Bailey comb change  
Hiving a swarm (after 48 hours)  
Uniting colonies  
Introducing queens  
Queen rearing  
After poisoning incident, spray damage  
When administering medicaments e.g. OTC



29

---

---

---

---

---

---

---

---

## Frame feeders



- Wooden, plastic or built-in
- Holds 2 or 3 pints
- Ideal for nucs
- Wooden float prevents bees drowning
- Safer to use grass stuffed in top of feeder as floats do get stuck
- Can adapt feeder to help bees e.g. chicken wire



30

---

---

---

---

---

---

---

---

## Late March in my apiary



The gorse flowers from December to June and often longer. It's an early source of pollen for brood rearing.



---

---

---

---

---

---

---

---