



Getting Your Hives Ready for Maximum Honey Production

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Keys to Honey Production

- Strong overwintered bee populations
- Know when the flow starts in your area
- Have bees built-up and ready for flow
- Nutrition and feeding
- Control disease and pests (mites)
- Swarm management
- Weather

For Good Honey Production You must have strong overwintered colonies



Spring Buildup

- **Number one reason for weak honey crop is the bees build up on the honey flow**
- **Start feeding 1:1 syrup 1st to mid February until honey flow begins**
 - 1:1 Stimulates queen to start laying, once you start feeding you should continue until natural nectar is available
 - Depends on temperature, need 3-4 days a week in high 40's to low 50's
 - If feeding winter food, leave it in until last of March
- **Start Feeding Protein Patties 1st to mid February until honey flow begins**
 - Queen requires protein to lay eggs
 - Feed only what bees will take (Small Hive Beetles love protein patties)
 - Continue to feed protein patties even after bees start bringing in pollen from Maples in early March
- **Have drawn honey supers on by April 1st, stop any syrup feeding but continue with protein feeding for couple weeks.**

Pollen Substitute

- **Natural pollen varies from 10%-36% in proteins (avg is 24%)**
 - The minimum protein percentage needed for honey bees from pollen is 20-25%
- Not all pollen substitutes is created equal
- Comparison of a few high grade pollen substitutes
 - **Ultra Bee** 58% crude protein Patties 15% protein
 - **AP23** 47% crude protein Patties 15% protein
 - **Bee-Pro** 40% crude protein Patties 10% protein
 - **Mega Bee** 38% crude protein Patties 13% protein
 - **Brood Builder** 26% crude protein Patties 10% protein

 - **Pro-Winter Patties** 4% protein
 - **AP23 Winter Patties** 2.5% protein

Spring Feeding



Spring Buildup

- **Hive and Queen evaluation**
 - **Late February-March 1st** I want **7-8 solid frames bees minimum**, 1250 average each side, so 2500 per frame
 - Russian bees can be an exception to this, they usually have less
 - **Around first or second week of March inspect hive and brood**
 - Depends on temperature, need 3-4 days a week in mid to high 50's
 - Want to see 4-5 frames brood (a frame with 70% brood is about 2300 cells each side (6500 cells total on deep frame) so that is 4600 bees to hatch per frame.
 - 5 frames = 23,000 bees to hatch
 - **Egg to forager is 42 days**
 - First 21 days egg to hatch
 - Second 21 days in hive as nurse, worker, guard
 - Honey flow begins in my area is late April- first week May (Tulip Poplar)
 - **Grade bees A-C and record frames of brood**
 - A's and B+'s are your honey producers and cell builders for queen production
 - B's and C's are used to make nucs for sale or increase
 - **Watch for honey bound hive, no laying space for queen**
- **Remember you must have a STRONG colony of bees to produce honey**

Swarm Cells



Spring Buildup

- **Swarming Reasons**

- Congestion
- Weak queen pheromone (queen perfume)
- Lack of egg laying space (honey bound)

- **Swarm Prevention**

- **Have young queens, they produce more pheromone**
- If you find swarm cells, break hive down into nucs.
 - Almost impossible to remove all swarm cells and control swarming urge once started
- Reverse hive bodies
 - Need nightly temperatures averaging around 40-45 degrees
 - Don't separate a cluster
 - Reverse more than once if necessary
- Re-arrange frames, create queen laying space, keep her laying in the center and in bottom box
- **Equalizing brood / swapping frames of capped brood from strong hive to weaker hive**
 - **Brood frames with bees or without bees (depends on hive strength)**
- Remove honey if necessary to provide laying space
- Add supers of drawn comb, foundation doesn't work

Honey Flow Management

- **Remember you must have a STRONG colony of bees to produce honey**
 - You want 50,000 to 60,000 bees around first of May if possible for main honey flow
 - One large colony 50,000 bees will out produce two colonies of 25,000 bees
 - **In a single deep colony, about 20% of the bees are making honey**
 - **In a double deep colony, about 60% of the bees are making honey**
 - Example of a 50,000 double verses a 25,000 single colony
 - **50,000 colony has 30,000 foragers**
 - **25,000 colony has 5,000 foragers**
- Your foraging bees must be built up before the flow starts
- **Number one reason for weak honey crop is the bees build up on the flow**
- Combine hives if necessary to create a strong honey production hive
- Boost a weak hive with a overwintered nuc
- Boost a weak hive with frames of capped brood or brood and bees
- Re-queen a weak Spring hive ASAP
 - One of the main reasons to overwinter a couple nucs
 - Spare queens when needed

Honey Flow Management

- Have 3-4 boxes of pulled comb on every honey hive by April 15th tax day or earlier (I try to have them on by 1st April)
 - Helps to prevent swarming
 - Ready when the flow starts
 - Locust and tulip popular blooming soon
 - Nectar starts out at about 80% water and bees process it to 18.5% to create honey. You must have extra storage space for the nectar storage until bees can process it.
- **I place excluders after the first honey harvest but only my modified version**
- A super of honey is the best excluder
- Install ventilation spacers, helps with drying the nectar
- Remove Screen Bottom Boards by May 1st

Honey Flow Management

- If using foundation, use only one super at a time
- When foundation is 60-70% pulled, add another super on bottom
 - 8# of honey required to produce 1# wax (1# wax about 4-5 medium pulled combs)
 - Medium super requires approximately 2 pound wax or 16# honey
 - **At \$7.00 pound, box of foundation cost you \$112 in lost honey**
- use one or more hives to pull foundation only and then move to honey hives
- **Once honey flow starts LEAVE THEM ALONE**
- I harvest three times a year
 - 1st June, July 1st and August 1st
 - All supers off by August 1st and begin mite treatments
- Place extracted supers back on hives for additional honey or for cleanup
- As soon as last supers pulled I feed all honey hives 4-5 gallon syrup and 2 or more sugar/protein patties
- **Treat for mites (this is when mites are at there worst)**
- Continue to feed 1:1 if necessary
 - **August is usually a very poor month for nectar**
- Continue to feed protein patties
- Watch out for Robbing

**This is the desired results of our work
Strong honey hives headed up by great queens**





170 lbs

180 lbs

220 lbs



87 lbs

60 lbs





Recipes

- **1:1 Sugar Syrup:**
- 5 gallon syrup
 - 25 lbs. granulated sugar
 - 12.5 quarts water
 - Tablespoon vitamins & electrolytes plus
 - 4 oz (24 tsp) of Honey B Healthy per 5 gallon (**I don't use HBH during summer and fall feeding**)
 - 4 oz (24 tsp) of Amino-B-Booster per 5 gallon (**I use this year round**)
 - Three caps full of bleach (helps prevent mold)
- **Protein/Sugar Patties: (Spring Buildup)**
 - 9 cups Ultra Bee protein powder
 - 3 cups sugar
 - 1 cup corn oil (helps keep patties soft while adding lipids that help in stimulating pheromone production and the development of immature bees)
 - Teaspoon vitamins & electrolytes plus
 - Add enough 1:1 or 2:1 syrup to make consistence of peanut butter and form into patties on wax paper.

Recipes

- **2:1 Sugar Syrup:**
- 5 gallon syrup
 - 25 lbs. granulated sugar
 - 6.25 quarts water
 - 4 oz (24 tsp) of Honey B Healthy per 5 gallon (**I don't use HBH during summer and fall feeding**)
 - 4 oz (24 tsp) of Amino-B-Booster per 5 gallon
 - Three caps full of bleach (helps prevent mold)
- **Sugar/Protein Patties: (Summer and Fall Feeding)**
 - 9 cups sugar
 - 3 cups Ultra Bee protein powder
 - 1 cup corn oil (helps keep patties soft while adding lipids that help in stimulating pheromone production and the development of immature bees)
 - Teaspoon vitamins & electrolytes plus
 - Add enough 1:1 or 2:1 syrup to make consistence of peanut butter and form into patties on wax paper.

Recipes

- **Hard Sugar/Protein Blocks:**

- 1 quart water
- 12 lb. sugar (24 cups)
- 3 cups protein powder (I use Ultra Bee)
- 6 teaspoons Honey B Healthy
- 1 teaspoon vitamins & electrolytes plus
- 2 tablespoon white vinegar (helps make sugar more digestible for bees)
- Five 7"x7"x1.25" cake pans or five 9" pie pans (makes five 2 lb. pans)
- Add water, sugar, HBH, vinegar, vitamins & electrolytes, heat to 250 deg. mixing occasionally, remove from heat add protein powder and mix in quickly. Once mixed, pour into pans, let harden.