

# PSBA Package & Nuc Primer

A **Package of Bees** is an artificial swarm, generally measured by how many pounds of bees are in it.

- The bees are usually obtained by shaking bees from several colonies into a large box that is further divided into smaller shipping cages by weight
- Your package bees include workers of all ages, and usually a few drones
- Includes a caged queen (unrelated to the bees in the package) which needs to be released over time after installation in the hive box
  - There is a risk that the bees will not accept this queen and kill her before she starts laying eggs.
    - Highest risk when the queen is released directly while installing the package
    - Best results are obtained when the queen is released over 3-4 days using a candy marshmallow plug
- There are 3- 4000 bees per pound and NW package deliveries usually include 3 or 4 pounds
- Advantages of 4 pound packages vs 3 pound packages
  - More bees in the work force will exponentially increase their chance of successful buildup and survival. It will also speed up the wax production & brood rearing capacity
  - Some math
    - Summer bees live 4-6 weeks
    - Your colony may be in the cage 3-7 days before you receive it
    - It will take at least a week for your queen to be freed & start laying eggs
    - Your queen can lay up to 2 thousand eggs per day at peak performance, in drawn wax
      - If there aren't enough young worker bees to take care of those eggs, and/or not enough resources to feed them, the workers will eat them
    - It takes worker eggs 21 days to develop into an adult bee
    - That means that only 1/3-1/2 of the bees you receive will still be alive when the new bees start to emerge, which is a razor thin margin, especially in our cold wet spring weather, particularly when you buy a 3 pound package.

A **NUC, or nucleus hive** is a mini colony which builds up faster than a package since it already comes with resources

- Sold as 5 deep frames (or 8 medium frames) which includes the following
  - 3 + frames well covered in bees and brood of all ages, including the queen (which may be marked)
  - 1 frame of honey
  - 1 frame of honey and pollen
  - NOTE: If you use all medium frames, not to worry, you can buy a deep nuc and convert everything over to medium frames in 3-4 weeks. Requires 3 medium boxes and temporary use of a queen excluder. *Instructions will be shared at PSBA beginner lessons*
- Includes an accepted laying queen (not a caged one), plus fully drawn wax in all of these frames
- Advantages include:
  - An accepted laying queen with eggs & larvae of all ages
  - Fully drawn wax (although this might be old, so consider rotating it out next year)
  - Honey & pollen to feed the bees and the brood while they're finding new sources

**Mite Treatment:** Since varroa mites are the leading cause of bee diseases, it is recommended that you ask your supplier the following, and immediately treat your new bees if either answer is no:

- Whether and when the bees were last treated for mites (and with what)
- Is the queen varroa sensitive hygienic, (VSH), which produces bees that are resistant to the mites either by pulling out the invested pupae or by biting the mites and grooming them off

# PSBA Package & Nuc Primer

**Feeding Your Bees:** Bee colonies need both carb's (sugar) and protein (pollen) in order to be healthy. Since your new bees (Packages *and* Nucs) will need to build (make) LOTS wax in your new frames, they will need LOTS of energy, which is why you must feed them syrup constantly, even when the flowers are blooming.

- Frame and Top feeders are the most secure from robbing by other insects & bees
- It takes roughly 10 pounds of honey to make only 1 pound of wax
  - DO NOT feed store-bought or honey from unknown sources to your bees as it may contain American or European foulbrood spores that will infect & kill your bees
- Spring/Summer syrup is made by mixing 1 part water with 1 part cane sugar (by weight or volume, both work). This is the ratio most use for drawing wax
  - For best 1<sup>st</sup> year build-up, keep feeding them until ALL their frames are drawn with wax, even during a honey flow. Only after your frames are all drawn out should you consider letting the bees try & collect honey for you and stop feeding syrup
  - High fructose corn syrup is slightly cheaper, but not as healthy for the bees. It is also poisonous to bees (but not humans) when it's been over-heated (think train car baking in the summer heat)
- Fall syrup is made by mixing 1 part water with 2 parts cane sugar
- Many beekeepers add commercially available essential oil supplements, i.e. Pro Health or Honey Bee Healthy to their syrup. These also prevent fermentation as well as algae & mold growth
- Pollen patties are also advisable the 1<sup>st</sup> month or so, and during a pollen dearth since they help the bees feed the larvae while they're finding new pollen sources near them.
- Highly recommended education: "First Year Beekeeping" on <http://scientificbeekeeping.com/first-year-care-for-your-nuc/> by Randy Oliver

## Most Common Races of Bees

### Italian

- Light yellow in color, making the queens easier to find for beginners
- Steady, predictable population growth in spring
- Tend to be strong honey producers
- Will swarm if population grows ahead of space provided
- Over winters in larger clusters than Carniolan bees, so uses more honey comparatively

### Carniolan

- Darker in color than Italian bees, making the queens more difficult to spot
- Population growth is fast in spring & summer so need to add space ahead of this in order to prevent swarming
- Tend to over winter in smaller clusters, therefore using less honey than Italian bees
- Many believe they better survive our wet, cold winters compared with Italian bees

### International Queen Marking Colors

COLOR	For Year Ending
White	1 or 6
Yellow	2 or 7
Red	3 or 8
Green	4 or 9
Blue	5 or 0