

This module was prepared for members of the New Westminster Beekeeper's Association and is intended to be augmented by hands-on experience in a classroom.

## **Pollen Processing**

Pursuant to our summer discussion on freezing pollen immediately after collecting, this module is about processing the frozen pollen into a product suitable for human consumption. The pollen needs to be cleaned and packaged before it is used or sold.

When pollen is first collected, it is soft and powdery and can break apart into pollen dust quite easily. Freezing not only retains the nutritional benefits of pollen, it also keeps it in packets intact which makes it fairly easy to clean.



### **Frozen versus Air Dried Pollen**

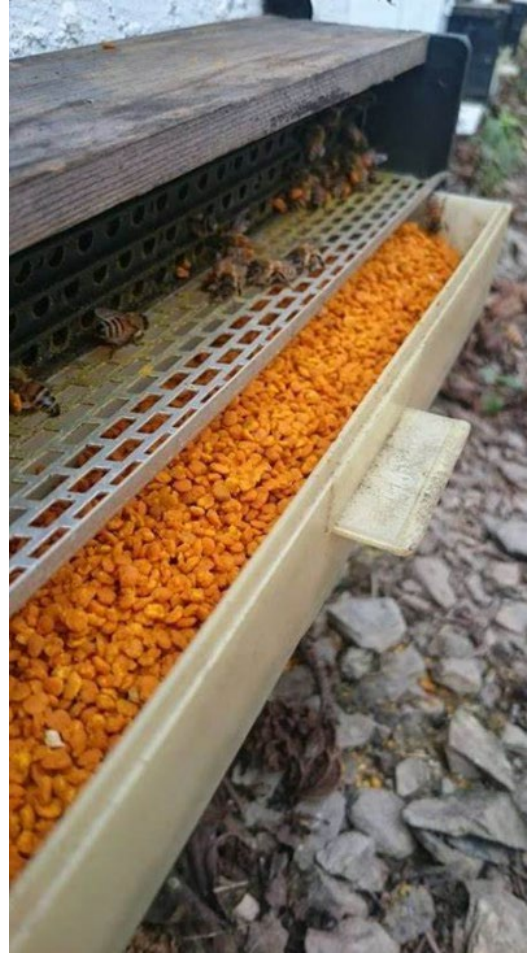
Some customers prefer fresh frozen pollen, even though it requires being stored in a freezer, because it contains nutrients that are lost in the drying process. For the beekeeper, cleaning and storing fresh frozen pollen is labour intensive, and demands a higher price, up to \$50-\$70 per pound.

Most customers are happy with air dried pollen because it is conveniently stored at room temperature or slightly cooler and has a desirable slightly chewy texture. For the beekeeper, air dried pollen is easier to clean, handle and store. Air dried pollen usually sells for about \$35-\$50 per pound.

One colony can produce up to 10 pounds of pollen per season.

### **Processing Fresh Frozen Pollen**

For a serious sidelinier beekeeper, the easiest way to clean fresh frozen pollen is to keep it in its frozen state by spreading it out on a chilled pan and using pair of tweezers to remove debris. It is time consuming, but the end product is of the highest quality.



## Processing Air Dried Pollen

The easiest way to clean air-dried pollen is using mechanical separation, identical to seed cleaning machines. In fact, pollen cleaning companies use modified grain seed cleaning equipment. However, prior to cleaning the pollen, it needs to be air dried into a firm and chewy consistency. There are several methods to air drying pollen:

1. Food dehydrator – works well for small batches, approximately 1-2 pounds at a time. Experimentation is required, but the process is usually completed in 6-7 hours.



2. Outdoor, shaded, drying room – works equally well as a food dehydrator, but takes a few days and requires 'shaking' the pollen once or twice a day. The drying room needs to have warm air flow, a rain-proof cover, and is fully screened to prevent bugs from infesting the product. The outdoor, shaded, drying room can process 400-500 pounds of pollen in two days.



3. Indoor, machine belt dryer, using a room dehydrator, high temperature, and an automatic feeding auger. The indoor, machine belt dryer, works continuously and can dry 100 pounds of pollen every hour.

## Cleaning Bee Pollen

There are several inexpensive ways to clean air-dried bee pollen. All methods use some form of wind, vibration, and various sized screens. In the basic cleaner, pollen is dropped through a pipe and air blows through an opening removing dust and light bee parts like wings and legs.



## Storage

Fresh frozen pollen is to be kept frozen. It has a shelf life exceeding 10 years.

Air-dried pollen is best kept frozen until sold. The shelf life varies according to the temperature of the storage:

- Frozen – 10 years
- Refrigerated – 1 year
- Room Temperature – 30-60 days

## Packaging

Although bee pollen has been used to treat allergies, dementia and prostate cancer, the studies are anecdotal at best. Therefore, no 'treatment' claim should be made. Bee pollen contains up to 22 amino acids, vitamin A, B, and C, thus the label should only state 'Pure Bee Pollen', and 'Food Supplement'.



End.