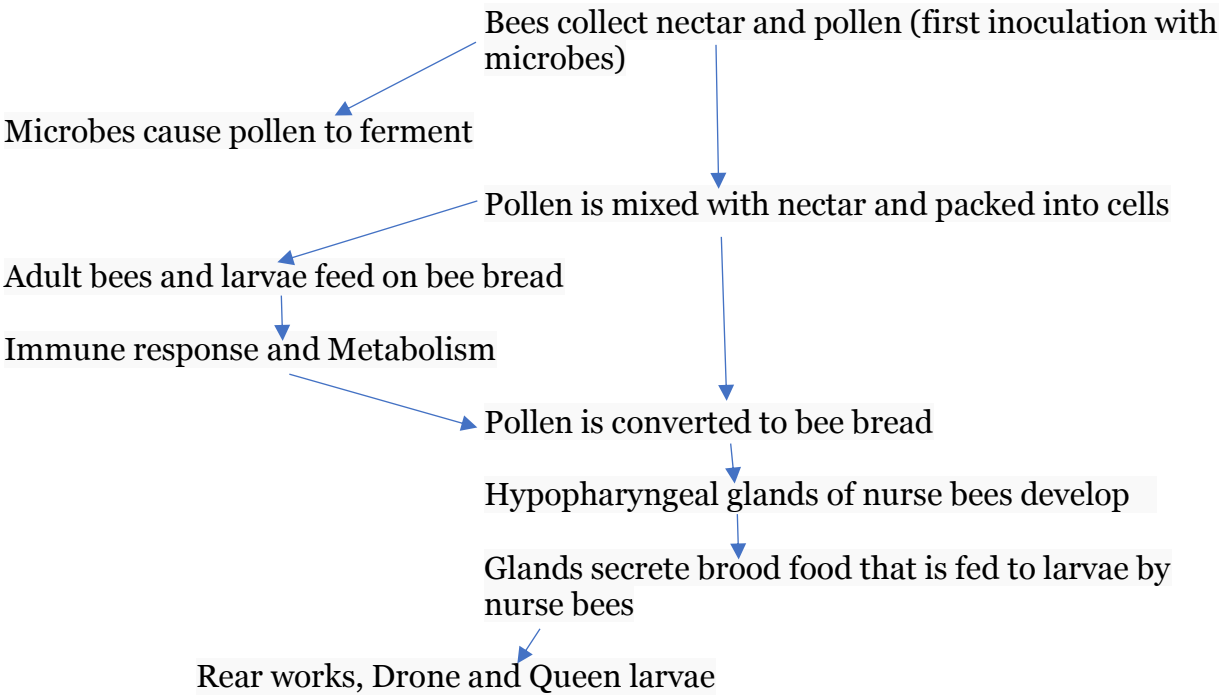
Pollen and Bee Bread

- Majority of nutrients for the Honey Bee comes from the Pollen
- Pollen is resistant to enzymatic digestion.
- Symbiotic microbes help protect the food source.
- Bee bread takes about seven days to mature.
- Bee bread is a combination of nectar and pollen stored in a cell.



Twenty-three different bacterial groups isolate the Honey Bee from American Foulbrood.

Bee bread helps the whole hive fight of infections.

Microbes: a microorganism, especially a bacterium causing disease or fermentation.

Adult Honey Bees inoculate new Honey Bees as well as pollen with microbes. This starts the fermentation that leads to bee bread.

Metabolic rate doesn't rely on the host genes. The rely on symbolic microbes.

It is important to maintain a healthy environment for microbes to grow and flourish.

It is important to first diagnose the disease then diagnose the Honey Bee and treatment.

It is more important to keep the Honey Bee healthy than treating the colony.

Organisms that do not make the Honey Bee sick are called normal microflora's.

1. Resident microflora – Always present
2. Transient microflora – Changes with the season
3. Opportunists – They take advantage of opportunities to cause diseases.
    a. Failure of host's normal defense
    b. Introduction of organisms into unusual body parts.
    c. Disruptions of the normal microflora

In the winter months, the rectum becomes enlarged. There is stored about 10^6 microorganisms. This mixture helps the Honey Bee to digest food and detoxify undigested food. The microflora's have been present in the Honey Bees for thousands of years.

Because of the closeness of the Honey Bees to each other. Their digestive system starts to resemble each other. At the end of their cleansing flight they digestive system starts to return to individual Honey Bees. The first spring flight is important for better health for the Honey Bee.

A balance between symbolic and competitive microflorae promotes a well-functioning healthy Honey Bee.

Treating for American Foulbrood (AFB) antibiotics should not be used. Currently tetracycline is being used against both AFB and EFB. Using this antibiotic has an adverse effect on the normal microflora. The pathogens will become resistant to the bacteria. The digestive tract will be interfered with along with their physiology has been disrupted.

Extreme weather changes will have an adverse effect on normal microflora. That is too hot or too cold. Opportunistic microorganisms will then enter the intestinal system. If the growth is large enough then can cause Septicemia. This is a blood disease of the hemolymph. Once the opportunistic have entered the body of the Honey Bee other virus will fill the void of bacteria or fungi.