Official curriculum for the NCSBA Master Beekeeper Program Certified Level course of instruction

Products of the Hive

Honey

Honey

Bees gather nectar from flowers, add invertase, dehydrate, and cap it with wax

Honey

2 simple sugars:

Glucose

Fructose

Honey

Moisture content of
15.5 – 18.6%

Honey

- Sold by **WEIGHT**
- Labeling laws
  https://www.ncbeekeepers.org/resources/labeling

HONEY

Name of producer
Address of producer

Weight in Ounces and Grams

Honey

- Estimated that NC Beekeepers produce **$15 million/year**

(Dr. David Tarpy, NCSU)

Wax

Wax

- Bees consume approx. 8 lbs of honey to produce 1 lb of wax

Wax

#1 consumer of Beeswax:
COSMETIC INDUSTRY

Wax

#2 consumer of Beeswax:
ROMAN CATHOLIC CHURCH

Wax

#3 consumer of Beeswax: BEEKEEPERS

Wax

#4 consumer of Beeswax:
HOBBYIST & HOME USE

Pollen

Pollen

- Branched body hairs, plumose hairs are adapted to pick up and retain pollen grains

Pollen

- Branched body hairs, plumose hairs are adapted to pick up and retain pollen grains

Pollen

- Protein portion of a bees diet

Pollen

- Also contains lipids, minerals, vitamins and polyphenols
- Known as “Bee Bread”

Pollen

- Beekeepers may feed pollen, pollen substitute or pollen patties to provide needed nutrients

Royal Jelly

Royal Jelly

- Protein rich secretion of the hypopharyngeal gland of workers used to feed larvae in their early development

Salivary glands
Hypopharyngeal gland
Tergal glands
Venom gland
Koshevnikov gland
Mandibular gland
Dufour's gland
Tarsal glands
Queen signal

Royal Jelly

- Queen larvae are strictly fed royal jelly during their entire feeding

Propolis

Propolis

- Resin collected from trees & plants by foragers

Propolis

- Used to seal holes & surfaces in the hive
- Anti-microbial properties

Propolis

- “Bee Glue”
- Collected in a trap

Apitherapy

Apitherapy

- “Bee Therapy” (from the Latin *Apis* meaning bee)
- Medicinal use of products made by honeybees

Apitherapy

- Honey
- Beeswax
- Pollen
- Royal Jelly
- Propolis

Apitherapy

- Bee Venom Therapy or Bee Sting Therapy
- Austrian physician, Philip Terc published his findings in 1888 about "…Peculiar Connection between the Bee Stings and Rheumatism"

Mead

Mead

- Oldest alcohol in the world:
  - -in China (6500 BC)
  - -in Europe (2800-1800BC)
  - -in Africa

- “Nectar of the Gods”

Mead

- Alcoholic beverage made with fermented honey mixed with water
- Also known as hydromel

Mead

- Add spices => metheglin
- Add fruit => melomel

Food

Food

- In many countries, honey bees and their brood are an ideal source of nutrition

Pollination

Pollination

- Essential to production of over 90 crops

Pollination

- Important NC Crops: apples, blueberries, cucumbers, squash, watermelon
- Estimated >$Hundreds of Millions in NC

Sources: Calderone, 2012 estimates. Dr. Tarpy, NCSU Extension 2015)

Bees

Bees

- Packages, Queens & Nucs
- Hardware & other Equipment
- Bee Schools & Mentoring

????