

The Needs of Bees

April 11, 2017

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Review - What we've learned so far...

History
Equipment
Installing a package
Hive management by Season
Building frames

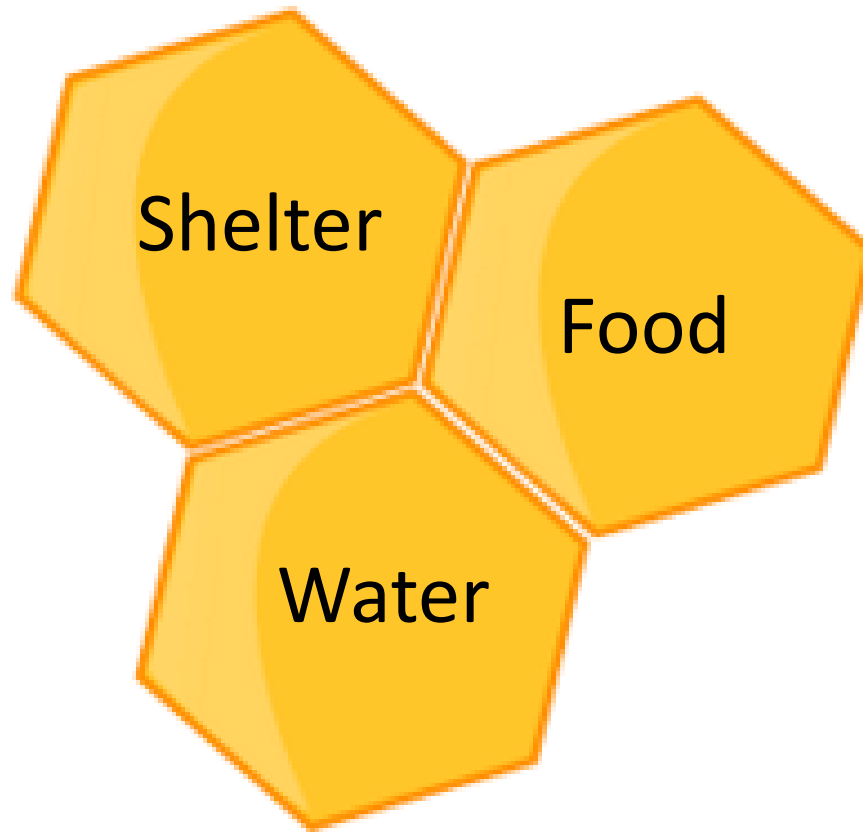
Life Cycle & Bee Biology
Understanding Bee-havior
Hive Location
Pests, Parasites & Diseases
How to Control Diseases



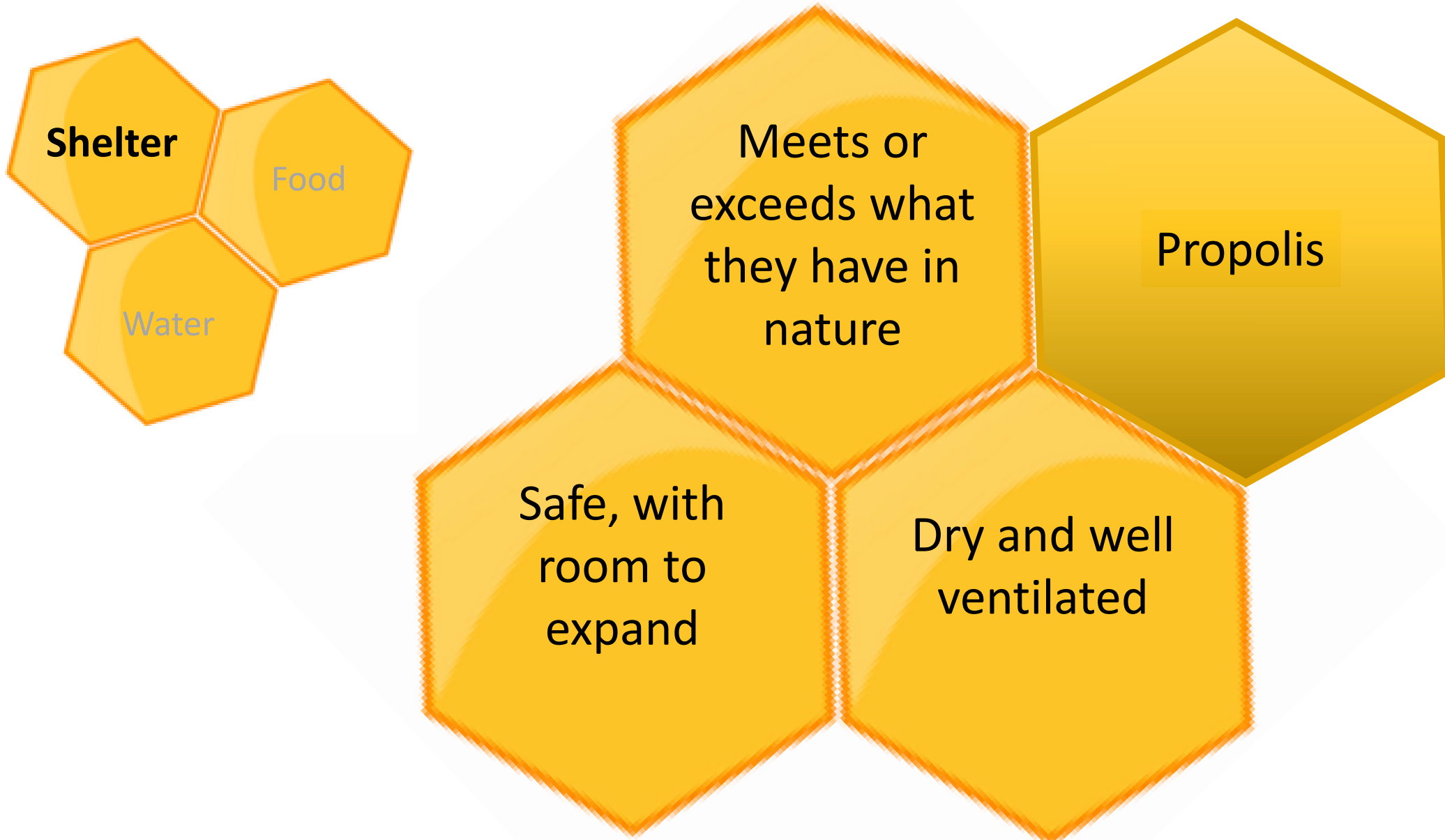
What do bees need?



Bees needs aren't that different
from what we need



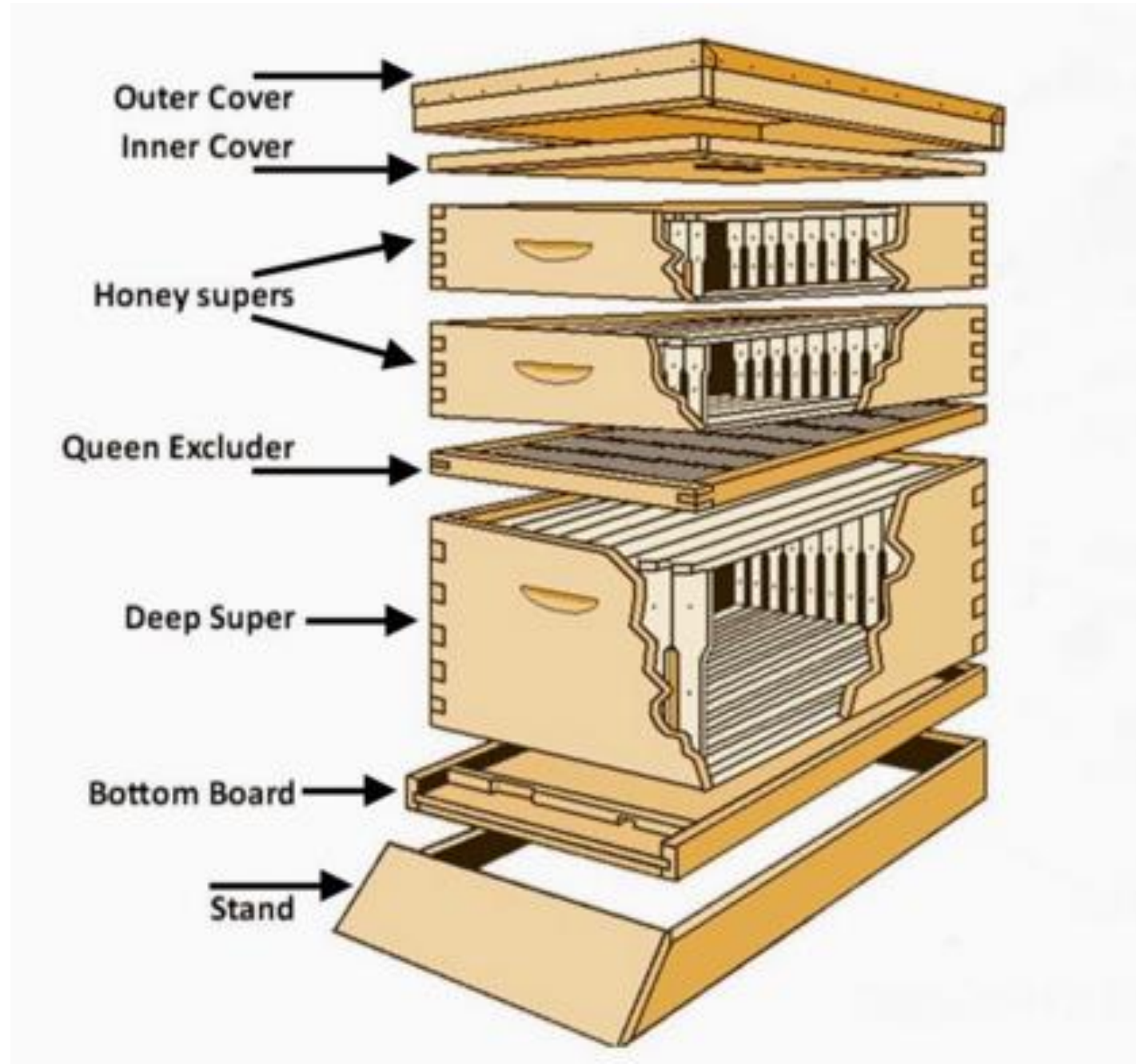
Shelter – Bees need a home



Shelter

Langstroth's Hive

- Room to grow
- Ventilation
- Equal to or better than natural hive (can be inspected and treated for parasites/disease)
- We can easily provide food when needed

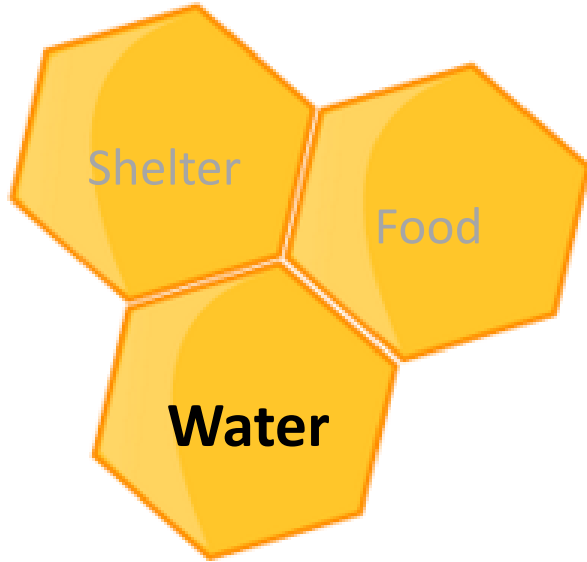


Propolis

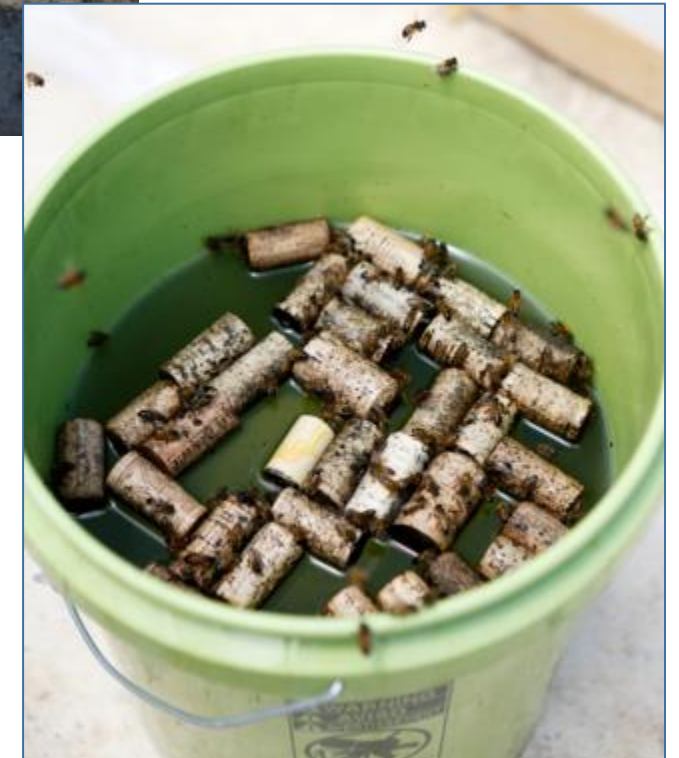
- Sticky, brownish-red resin collected from tree buds/sap
- Bee Glue
- Used by bees as “varnish” – block out drafts in the hive and fill unwanted space
- Has anti-bacterial/fungal/virus properties



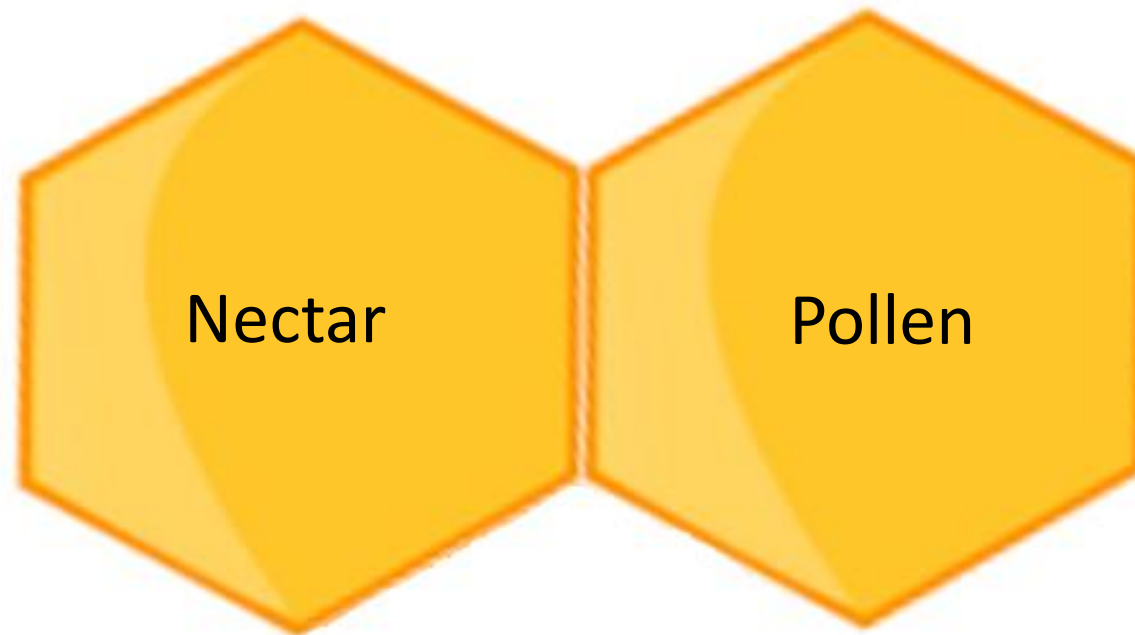
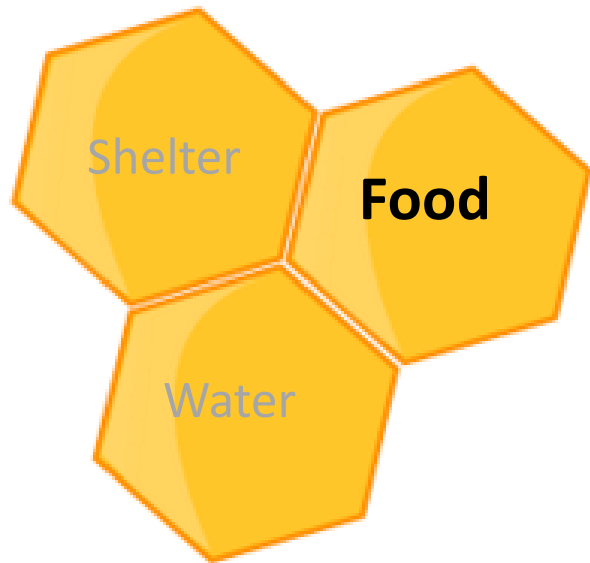
Water



- Pie pan filled with water and gravel
- Birdfeeder with rocks for landing
- Chicken watering device
- Bucket with Styrofoam, wood chips sticks, or anything that will float
- Keep the water filled



Food



Forage Plants

February	Crocus, Snowdrops, Hellebore (Christmas Rose), Winter Aconite
March	Dandelion, Heather, Cyclamen, Lungwort, Maple Tree
April	Lilac, Bleeding Heart, Jacob's Ladder, Leopard's Bane
May	Foxglove, Catmint, Allium (chives), White Clover, Raspberry, Blueberry
June	Lamb's Ear, Honeysuckle, Lavender, Purple Loostrike, Sumac, Pumpkin, Squash
July	Butterfly Bush, Coneflower, Bee Balm; Borage, Joe-Pye Weed, Buckwheat
August	Hollyhock, Hyssop, Cosmos, Sunflower
September	Goldenrod, Aster, Clematis, Sedum
October	Penstemon, Black-eyed Susan, Bluebeard

Spring & Early Summer



Leopard's Bane



Allium



Crocus



Lungwort



Snow Drops



Heather



Dandelion



Hellebore



Winter Aconite



Catmint



Bleeding Heart



Cyclamen

Summer



Purple Loosestrife



Sumac



Blueberry



Butterfly Bush



Clover



Borage



Joe Pye Weed



Coneflower



Squash



Bee Balm



Lilac



Lamb's Ear

Late Summer & Fall



Clematis



Sunflower



Cosmos



Black Eye Susan



Hollyhock



Sedum



Goldenrod



Aster



Penstemon

Winter into Spring

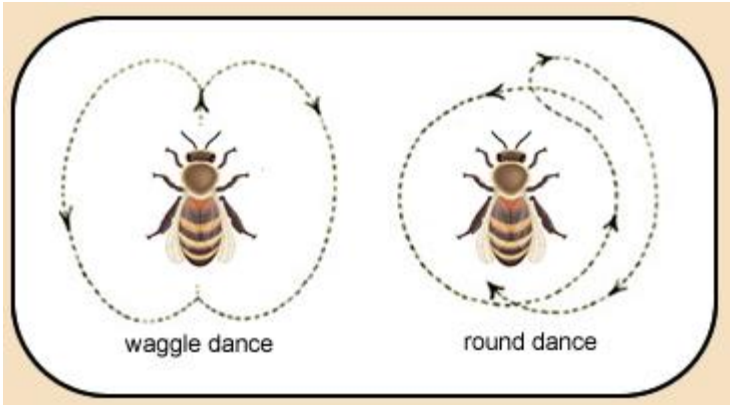
- Fondant
- Pollen Patty (initiates brood development)



Bee Speak – The Waggle Dance and Round Dance

<https://www.youtube.com/watch?v=-7ijl-g4jHg>

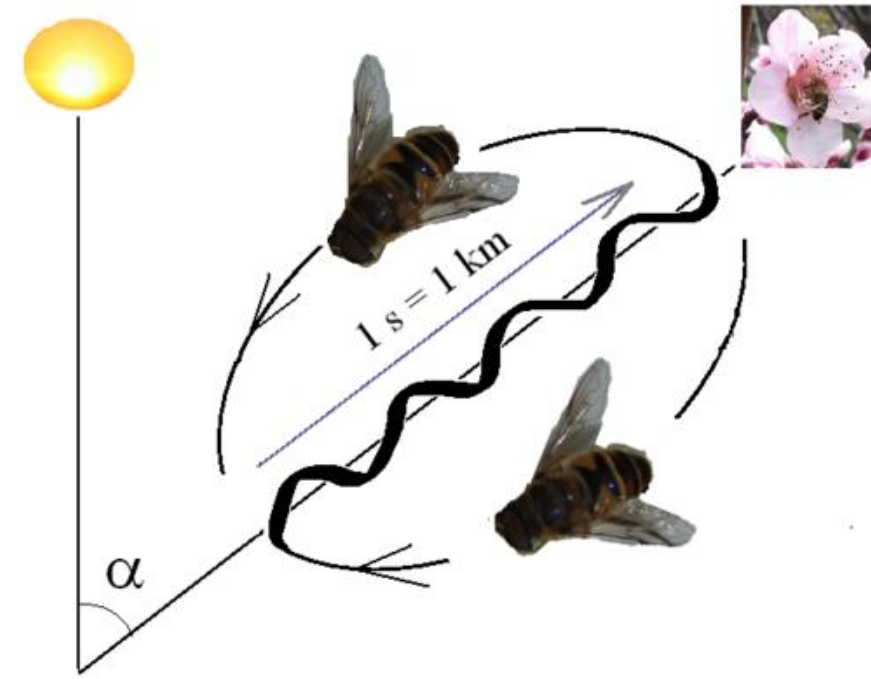
https://www.youtube.com/watch?v=D_e9RIJLzxc



The faster the waggle the richer the food source. The rate of looping and duration of buzzing indicate the distance to the food supply.

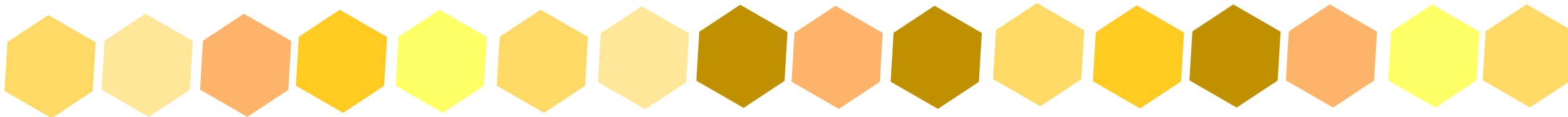
The **waggle dance** is used to communicate the location of food sources more than 35 yards away. The dance consists of two loops with a straight run in the middle. The direction of the straight run determines the direction of the food source.

The **round dance** is used when the food source is less than 35 yards away. The forager bee turns in circles alternately to the left and to the right. The richer the food source, the longer and more vigorous the dance. The round dance does not communicate any specific direction.



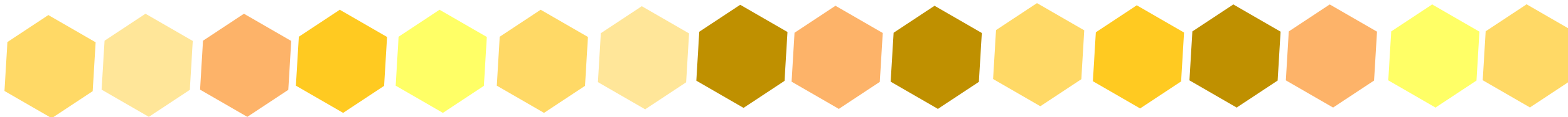
Evaluating you Apiary

- A mix of plants, flowering at different times
- Knowledge of what honeybees need
 - Honeybees have different likes/dislikes than bumble bees, mason bees, wasps
- Food sources near the hive
 - Google Maps – Draw circles with a radius of 2 miles, 3 miles, 4 miles
 - Determine where there are food sources available
- Water sources should be within $\frac{1}{2}$ mile of the hive, or you should provide a source – be aware of droughts.



Tips for Beekeepers

- Grow more nectar and pollen-rich flowers, shrubs and trees
- Leave patches of land to grow wild
 - Appreciate the beauty and value of weeds and wildflowers
- Cut grass less often
- Avoid disturbing or destroying nesting or hibernating insects
- Don't use pesticides – can't stress this enough



Questions?

