

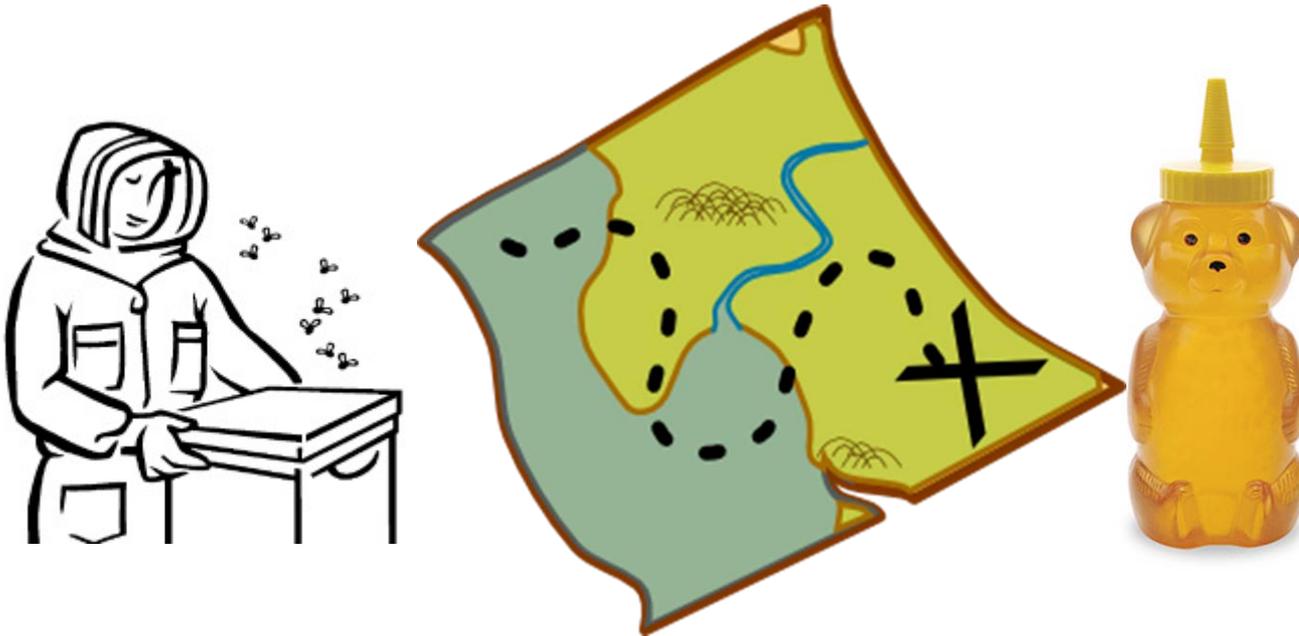
Managing Bees for Honey Production

Great Plains Growers Conference 2015

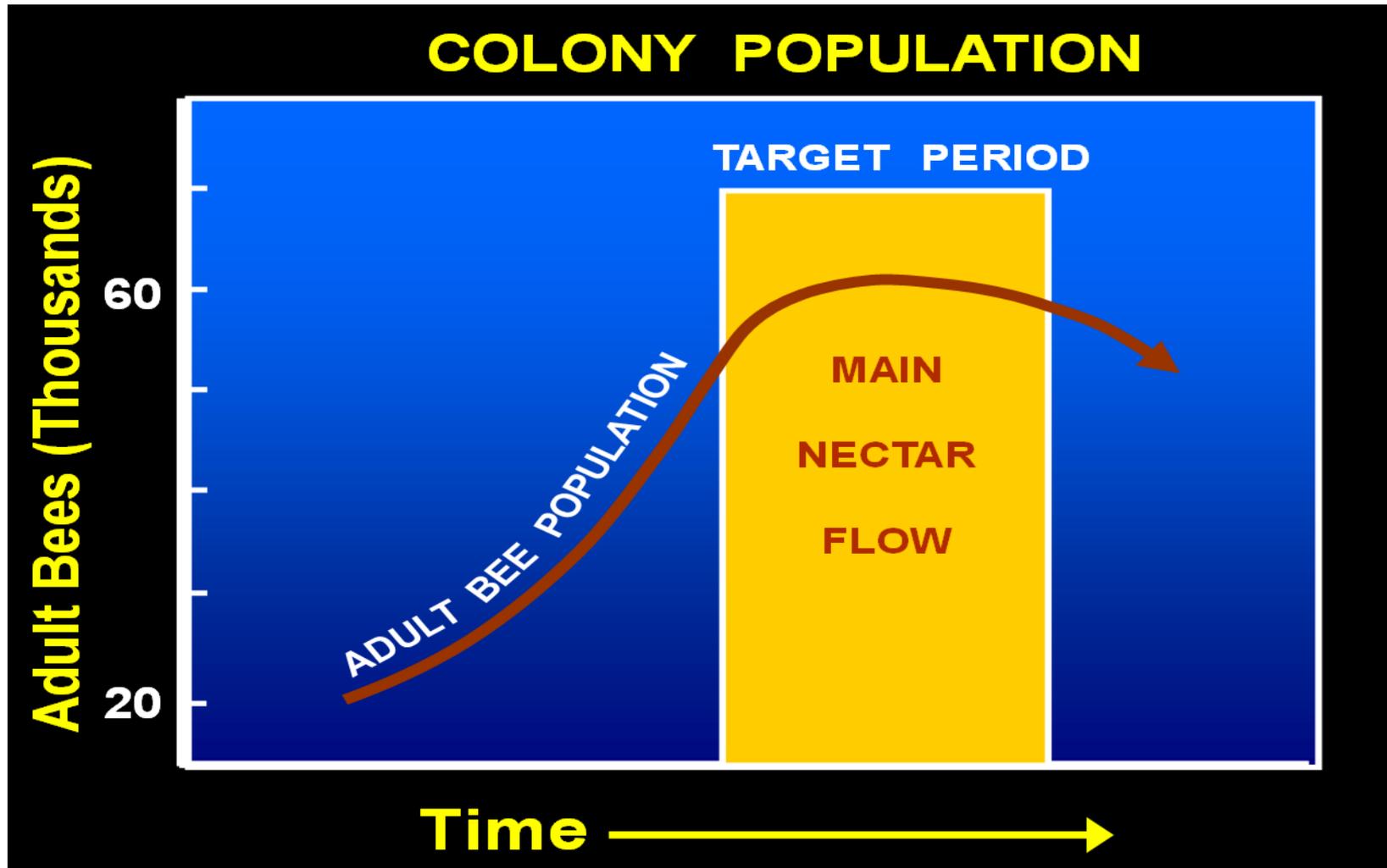


Road Map

1. Guide on how to build your colony up to maximize honey production
2. Harvesting your liquid gold

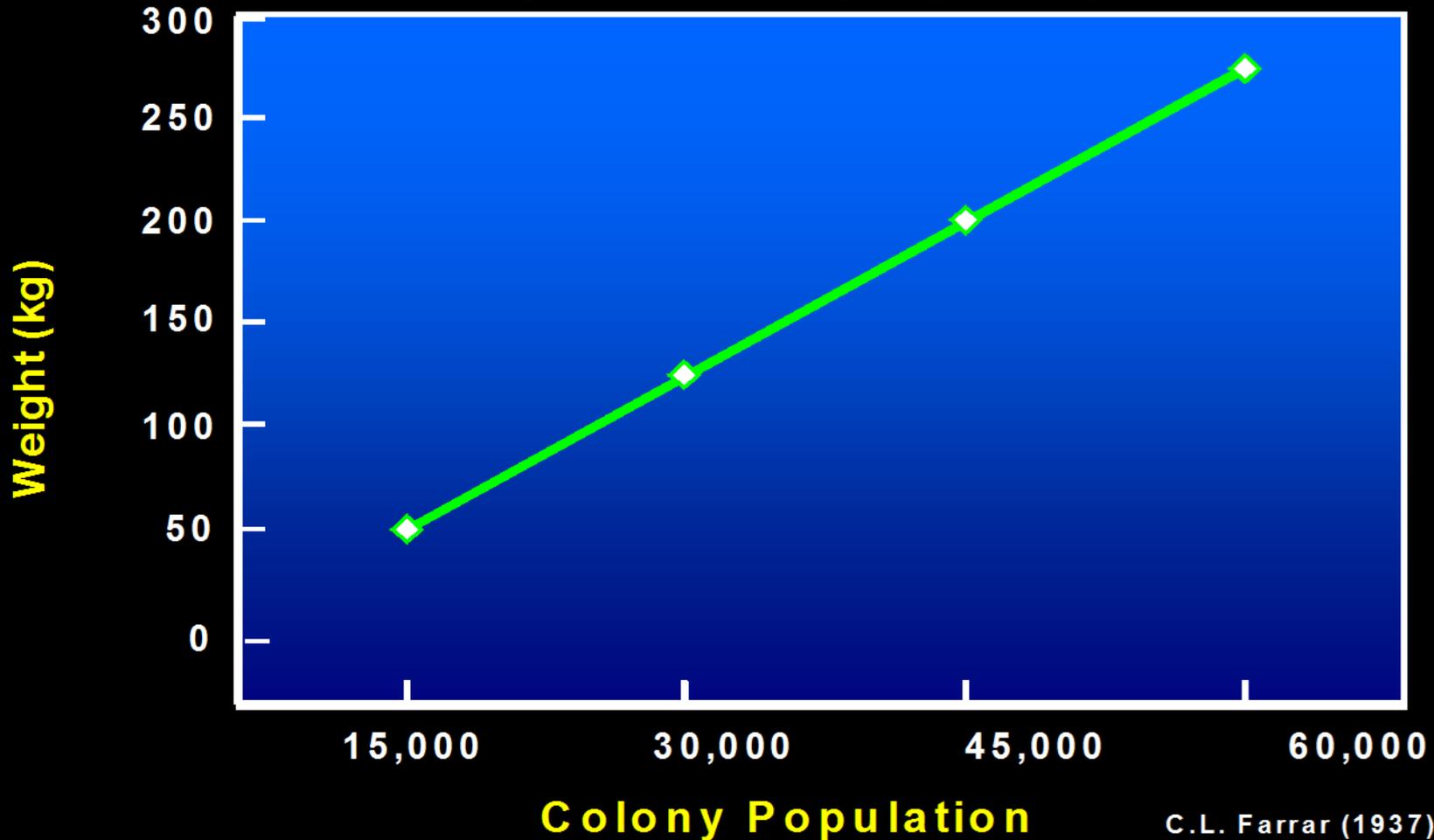


The hive population should be peaking when the nectar flow is peaking

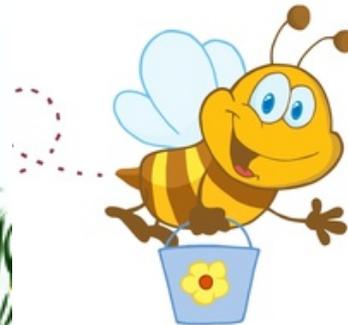
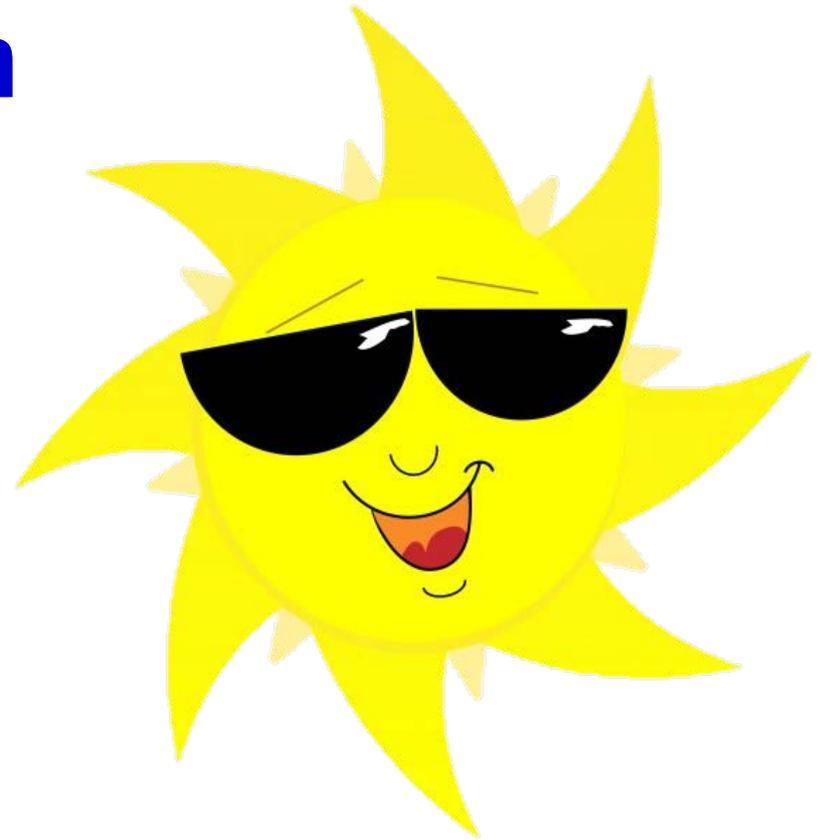
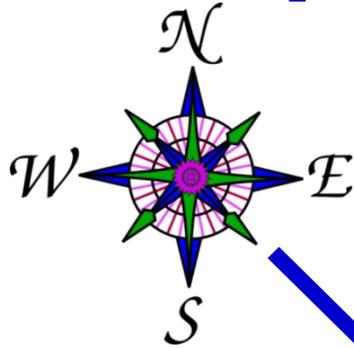


More bees = More honey

HONEY PRODUCTION



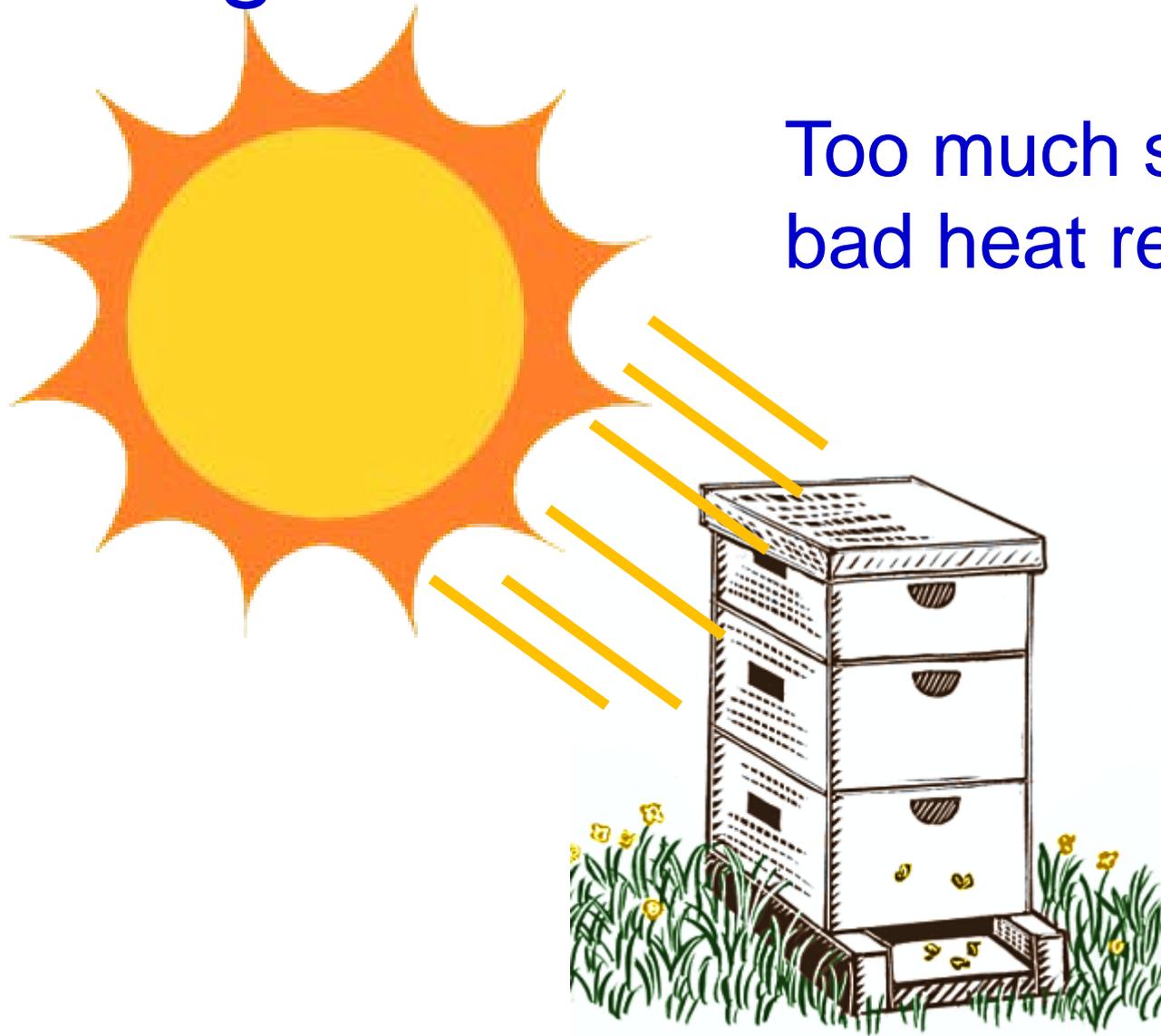
1. Site selection essential to maximize production



Face hives to the southeast

Try to find somewhere with dappling sunlight

Too much sun leads to bad heat regulation



Too shaded and you will have damp, listless bees in your hive



Try to provide protection from the winter wind with windbreaks



Al Yooper

Use natural surroundings or plant some

Try to provide protection from the winter wind with windbreaks



Foulkeway Fotos

Construct something of your own

Bees need plenty of water. Be sure to offer your apiary a source of liquid refreshment

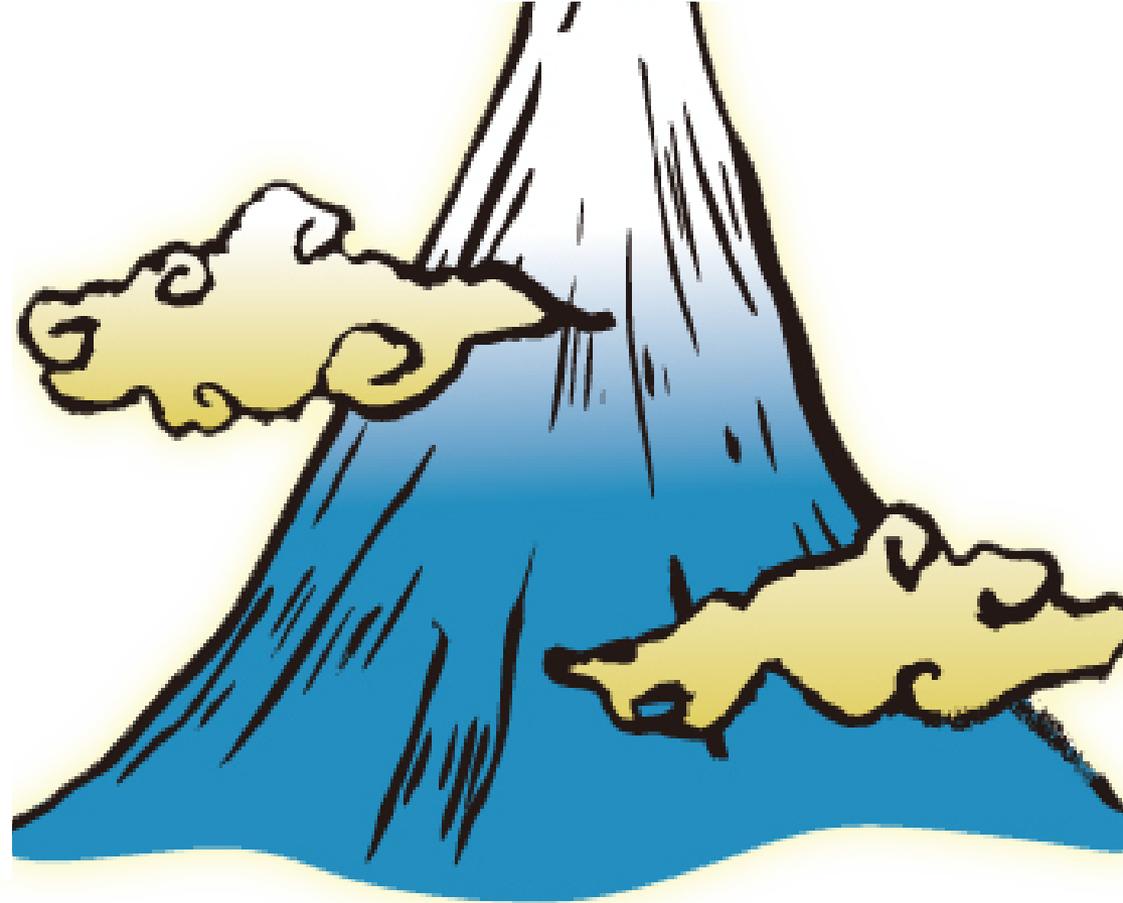


Naturally occurring water is easiest



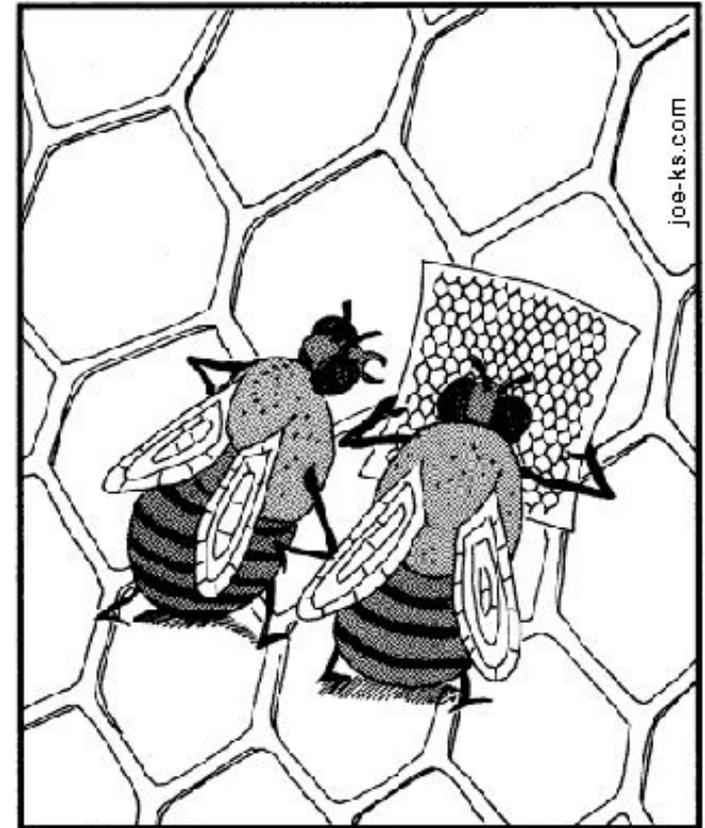
Use chicken feeder or other man-made construct

Plan ahead for when it comes time to remove your honey

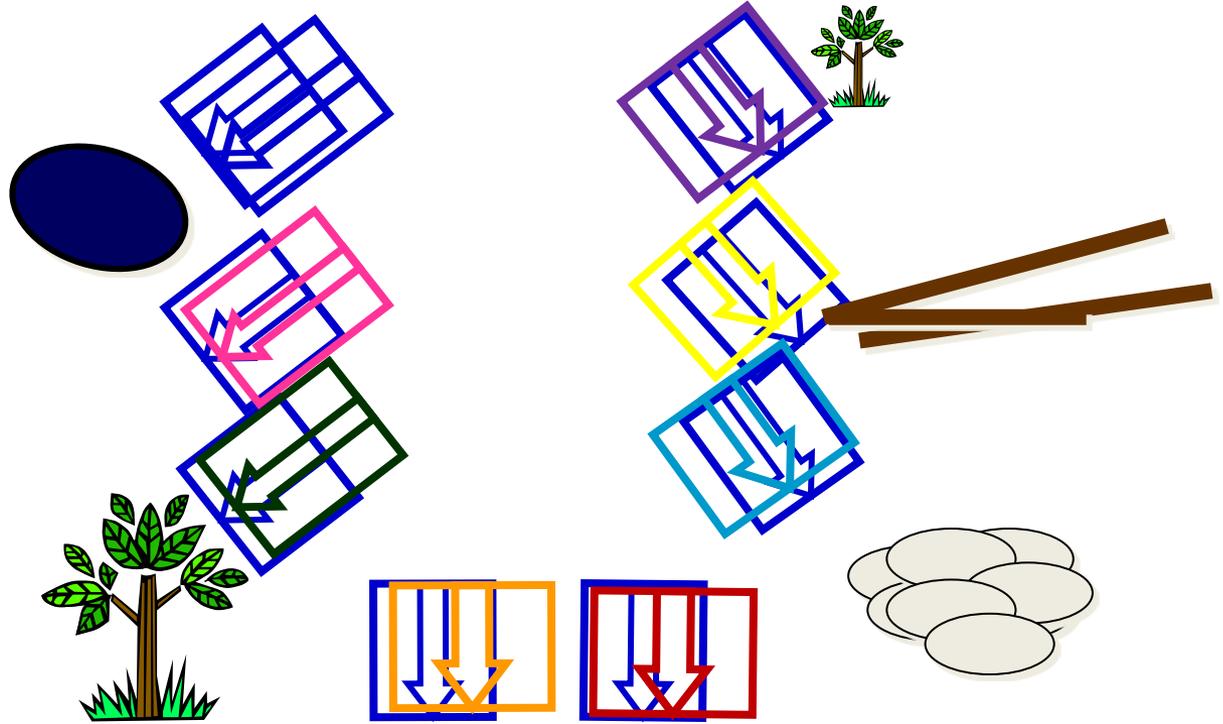
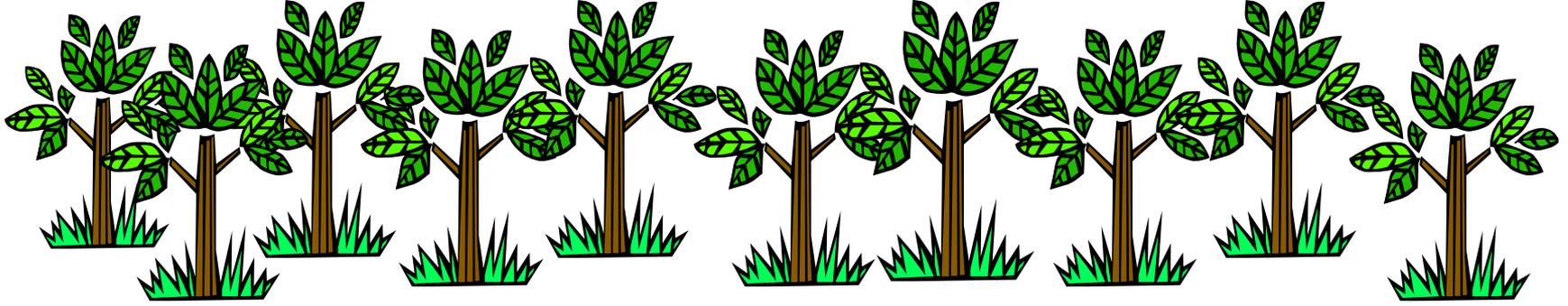


2. Minimize worker drifting between hives

Leads to loss of workers and disease/mite transmission



"Face it, Jack - you're lost..."



Use color, orientation, distance between hives, and landmarks to help your workers find their way home

3. Feeding bees sugar

Why feed bees?

- Add food reserves
- Stimulate queen to lay
- Stimulate nest cleaning
- Draw foundation
- Get bees to feed grafted queen larvae
- Medicate



What types of sugar should you use?

Honey!



Only feed honey from your own disease free hives

What types of sugar should you use?



Sucrose: 1:1 to stimulate / 2:1 to add weight

What types of sugar should you use?



High fructose corn syrup: 42 and 55

Sugar to avoid feeding to your bees



Karo corn syrup

Sugar to avoid feeding to your bees

Honey from store



Sugar to avoid feeding to your bees

Brown sugar



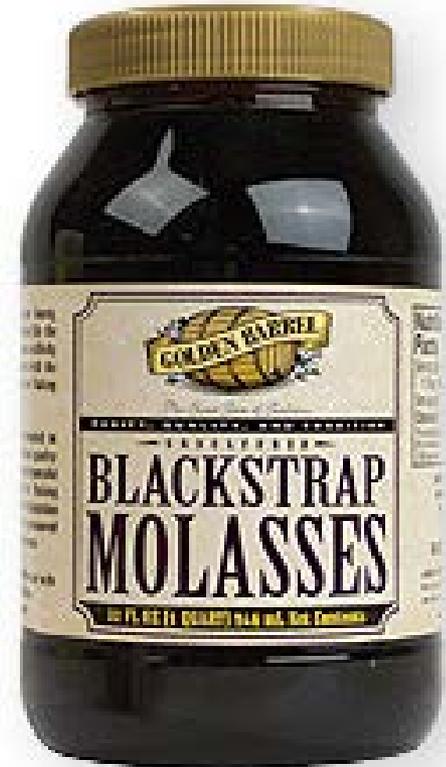
Sugar to avoid feeding to your bees

Powdered sugar



Sugar to avoid feeding to your bees

Molasses



Sugar to avoid feeding to your bees

Miscellaneous other sweeteners



Types of feeders

- Boardman or entrance
- Division board
- Hive top feeder
- Inverted pails or cans
- Nipple jars
- Spray syrup into combs

Do not open feed the bees



Bordman or entrance feeder



Division board feeder

Hive top feeder



Inverted pail feeder





Nipple jar feeder

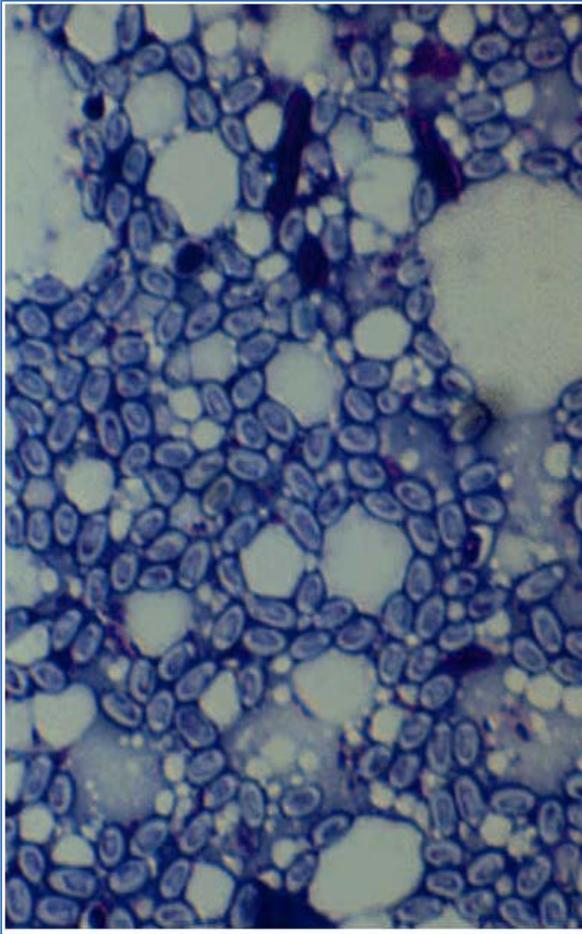
Spring feeding to stimulate nest expansion



Fall feeding to add weight



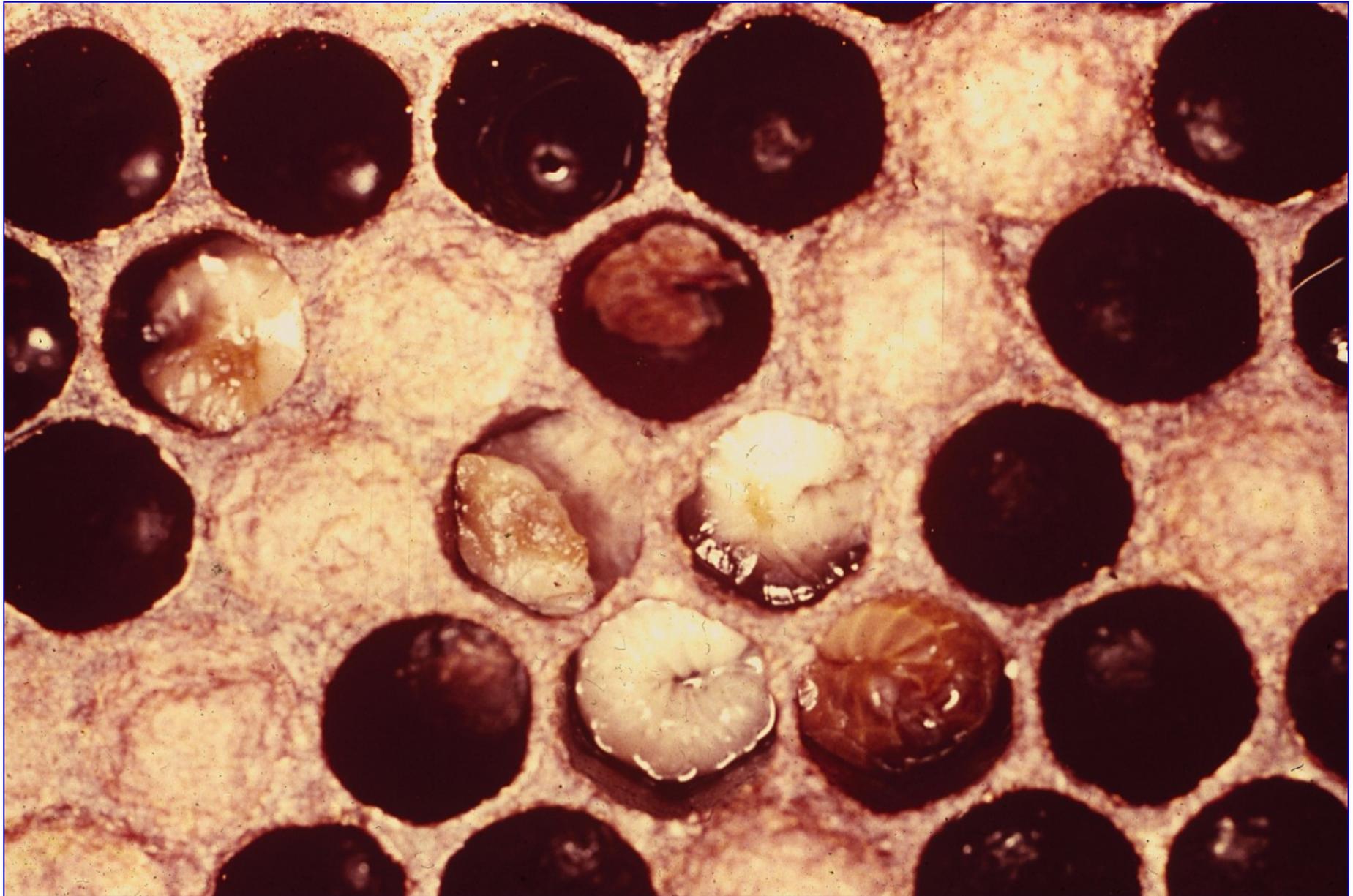
4. Manage diseases, pests, and parasites



An ounce of prevention is worth a pound of cure



Check inside the hive for symptoms of larval diseases



Things to observe

- Color
- Position
- Age
- Odor
- Texture
- Location abnormal brood



Check outside the hive for other symptoms



Visual inspections for Varroa mites



Also consider using Varroa detection methods like the sugar roll



Think ahead of vertebrate pests



Board accentuated with nails
to ward off skunks



An electric fence to prevent
bears from destroying your
hives

Think ahead of vertebrate pests



As part of your winter preparation you should install a mouse guard

5. Maintain young productive queens in all colonies



Why should you re-queen your colony?



Maximize brood production with younger, fresher queens



Suppress the possibility of a swarm



Signs of a failing queen – drone layer



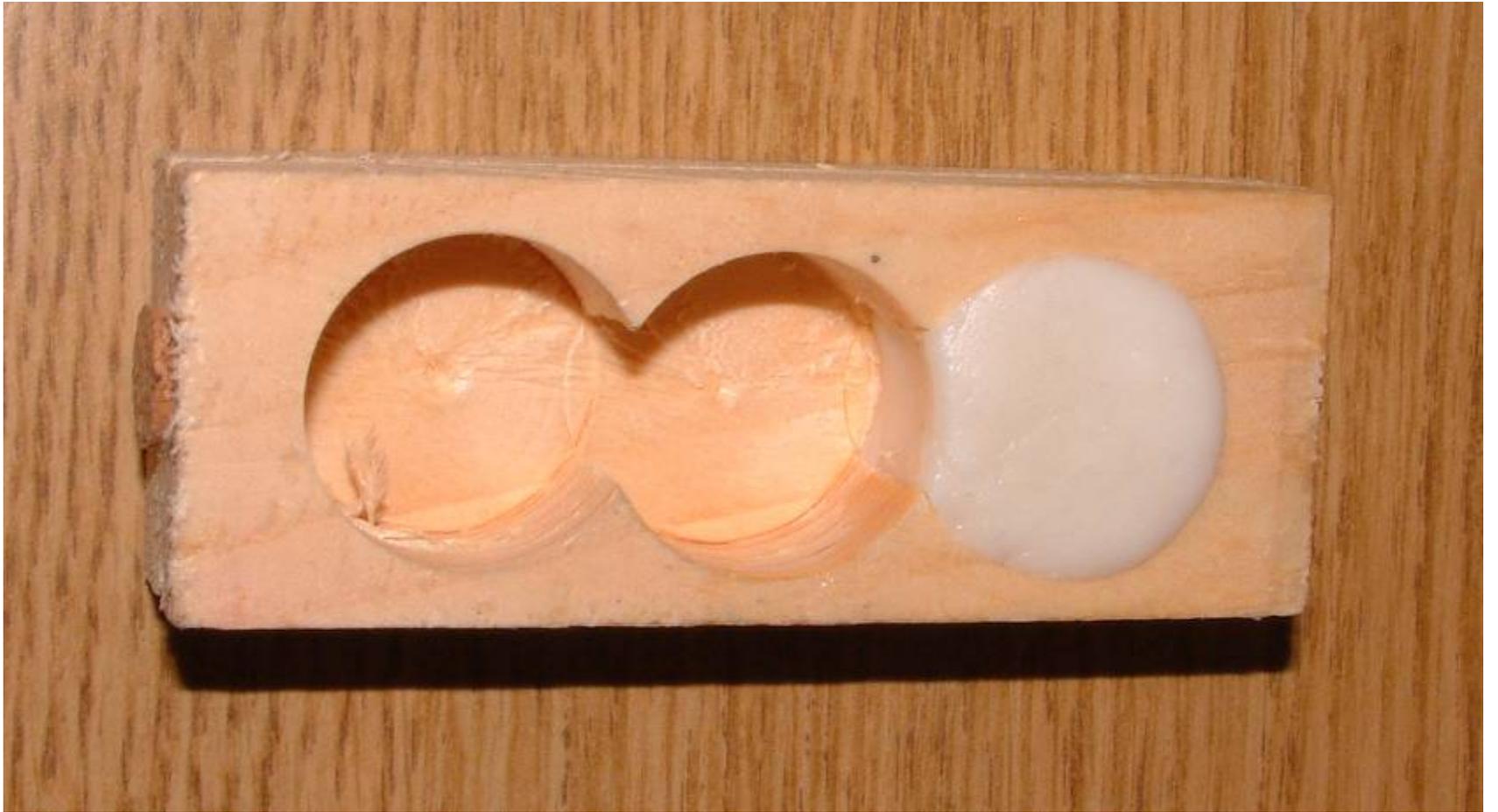
Hopelessly queen-less colony with laying workers

Factors that affect queen acceptance

- Colony strength
- Age of bees
- Status of flow
- Disturbances
- Colony odor
- Amount of queen pheromone







Techniques for re-queening colonies

Fair - Remove old queen, place new caged queen in hive, let bees eat through candy to release her



Place new queen in hive
and let workers release her

Techniques for re-queening colonies

Good - Remove old queen, place new caged queen in hive, release in 4 days or when bees are no longer aggressive to her



Techniques for re-queening colonies

Best - Make a nuc above a double screen with 3-4 frames of brood and bees, introduce queen to nuc, after a month find and kill old queen, then remove double screen





Use push in cage for high-value queens

Consider marking your queen bee



Marked queens are easier to locate

Years ending in 1 or 6 **WHITE**
Years ending in 2 or 7 **YELLOW**
Years ending in 3 or 8 **RED**
Years ending in 4 or 9 **GREEN**
Years ending in 5 or 0 **BLUE**

You can color code them by year

How to handle and mark queens

<http://youtu.be/DEDyNe6FHeM>



The image shows a screenshot of a YouTube video player. The video title is "How To Mark A Queen Bee" by Jason Chrisman. The video thumbnail features the text "Beekeeping" at the top, "JC's BEES" in the center over a close-up of a queen bee, and "TIPS, TRICKS & HOW TO'S" at the bottom. The video player interface includes a search bar at the top, a play button, a progress bar showing 0:02 / 2:16, and a subscribe button for Jason Chrisman with 3,595 subscribers. The video has 5,109 views and 1 like.

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0:02 / 2:16

How To Mark A Queen Bee

Jason Chrisman

Subscribe 3,595

5,109

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8 1

Wing clipping was formerly used to mark queens as well



Helped when paint chipped off and also reduced swarming impulse



But, can reduce queen health causing bees to start over

6. Control the swarming impulse





The best swarm control measures are preemptive action rather than reaction



Factors that contribute to the swarming impulse

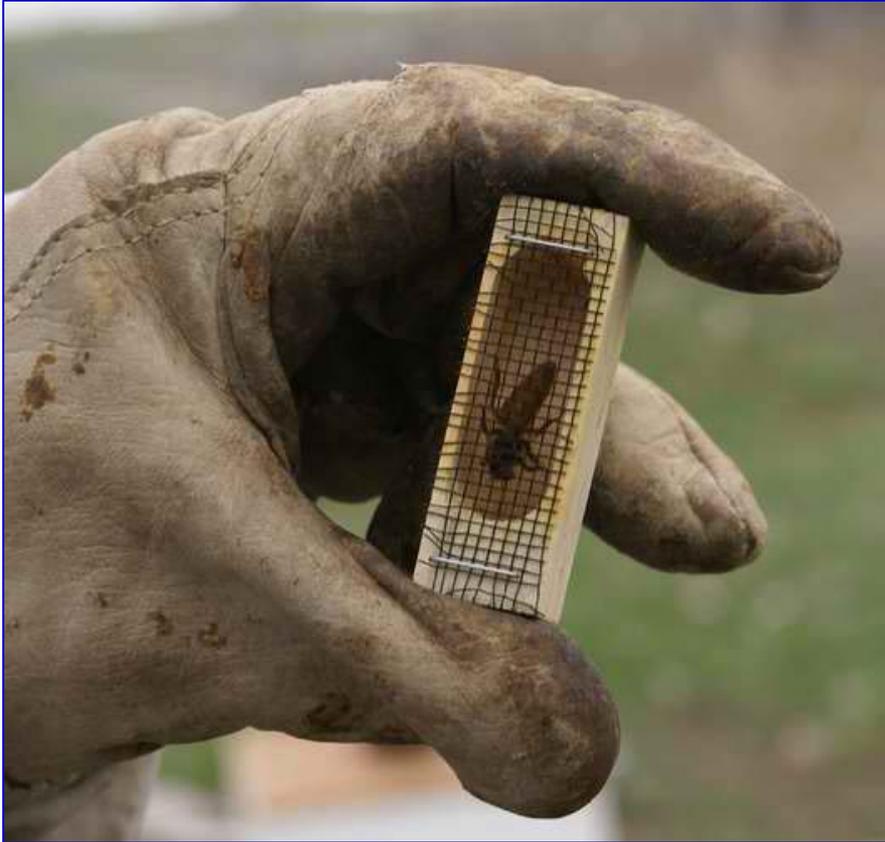
- Colony size
- Forage abundance
- Brood nest congestion
- Worker age distribution
- Reduced transmission of queen substance
- Age of queen



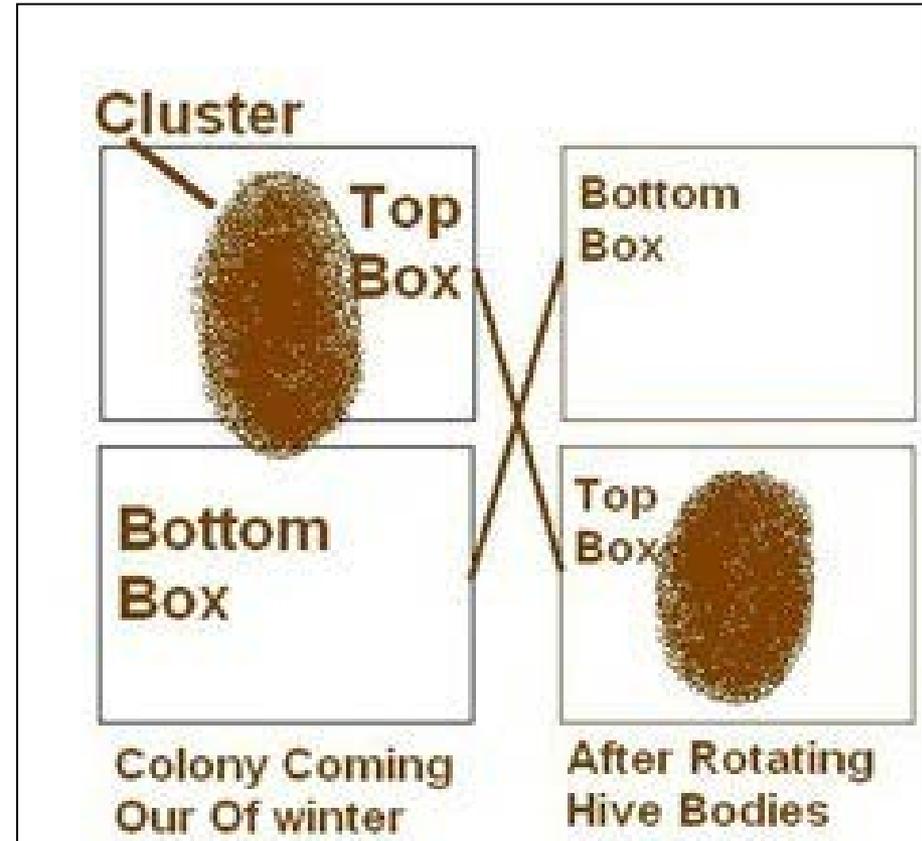
During inspection look for swarm cells

- Large and look like peanuts
- Located on lower portion of frames
- Remove using your hive tool

Swarm control measures



Re-queen the colony on an annual or biannual basis



Avoid congestion; One idea is to reverse hive bodies in the spring

Demaree method: prevents swarming by separating the queen from her brood



Brood box with young brood

Super

Queen excluder

Brood box w/ queen, 2
frames sealed brood and
empty combs

-Queen will have plenty of space to lay eggs and expand brood nest

-Nurse bees will be upstairs away from the brood nest which relieves congestion.

7. Dividing and equalizing colonies



Create new hives on the cheap or strengthen lagging ones



Another swarm prevention method

Moving brood and bees among colonies in an apiary

- Any colony will accept brood from any other colonies
- You can exchange positions of strong and weak colonies at mid-day during a honey flow to trade field forces
- You can exchange the position of a nuc and a hive preparing to swarm

- **Strive to have 10-14 frames of brood in the hives at the start of the main flow**
- **In southeast Nebraska, the main flow typically begins around June 10**
- **Frames of brood and bees needed to achieve maximum populations for the main flow**

April 153

April 224

May 15

May 106

Techniques for dividing colonies

- Find queen, divide brood and bees equally, move hive without queen to a new apiary, introduce queen to new hive
- Shake bees from 3-4 frames of brood, place in hive body and position above queen excluder on parent colony, set on new bottom early next day, move to new apiary, introduce new queen
- Make up nuc above double screen, introduce queen, just before honey flow move nuc to location of strong colony and reposition the colony in the apiary

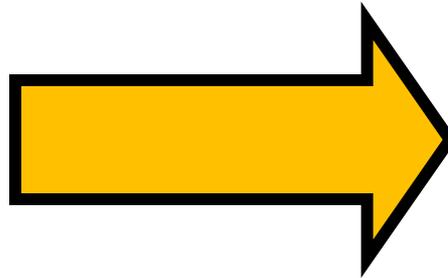
Forgo the natural route, purchase
and insert a new queen



**“Poorly reared queen of productive
stock will be inferior to well-reared
queens from less productive
stock.”**

C.L. Farrar

Supering bees



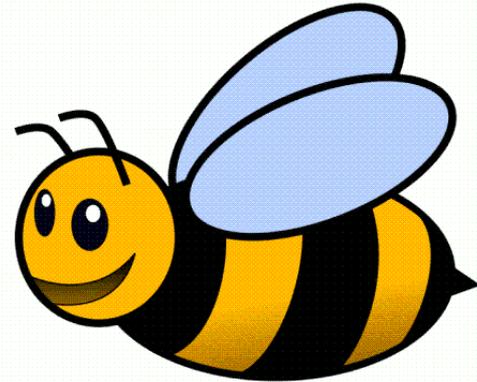
When adding a honey super be sure to stop feeding the bees



You'll need to know when the main nectar flow starts in your area



You should also check your second hive body. If the bees are in 7-8 frames of it you should add your super



Try to stay ahead of them but don't put it on too early or they will go up rather than fill in 2nd hive body

Manipulate your frames to encourage foundation drawing



Once 7-8 frames have drawn foundation, add super



Harvest your supers after the last large nectar flow in your area (~mid-September usually)



You want most frames filled or at least 80% filled and capped

Don't wait too long: bees will reclaim honey or you'll be left with granulated blocks





- Bees need 50-60 lbs. of honey to overwinter
- Honey serves as food and as solar collector

Tools for removing surplus honey



Bee brush



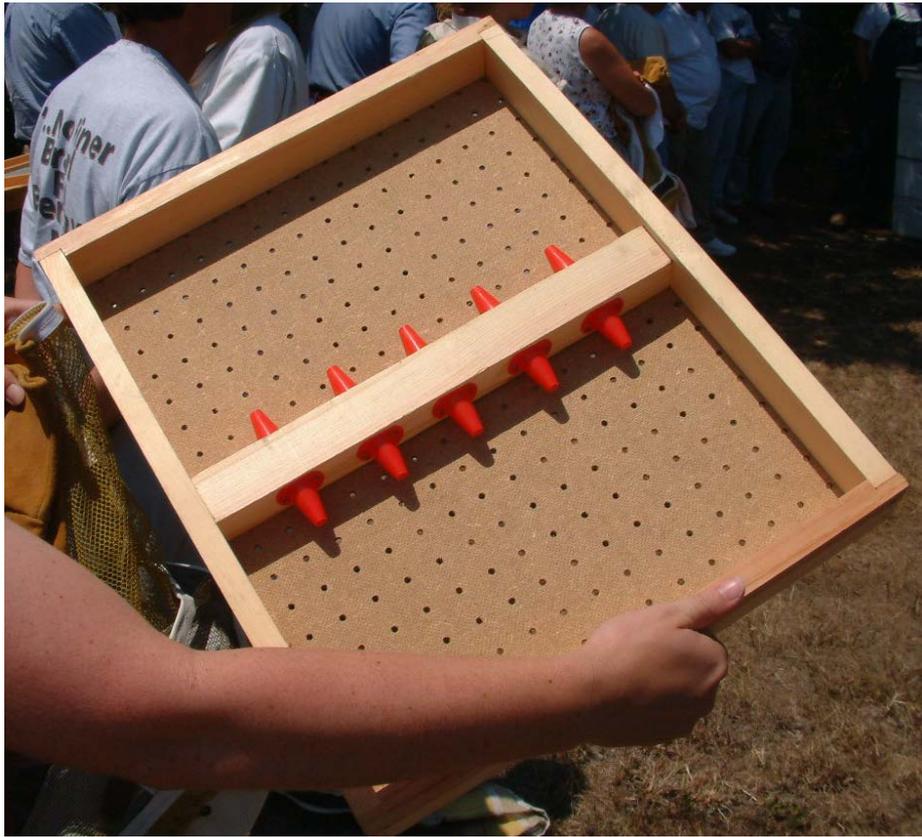
Bee escape

Bee repellent



Bee blower





Bee escape boards



Bee escape board



Bee blower

Bee repellents



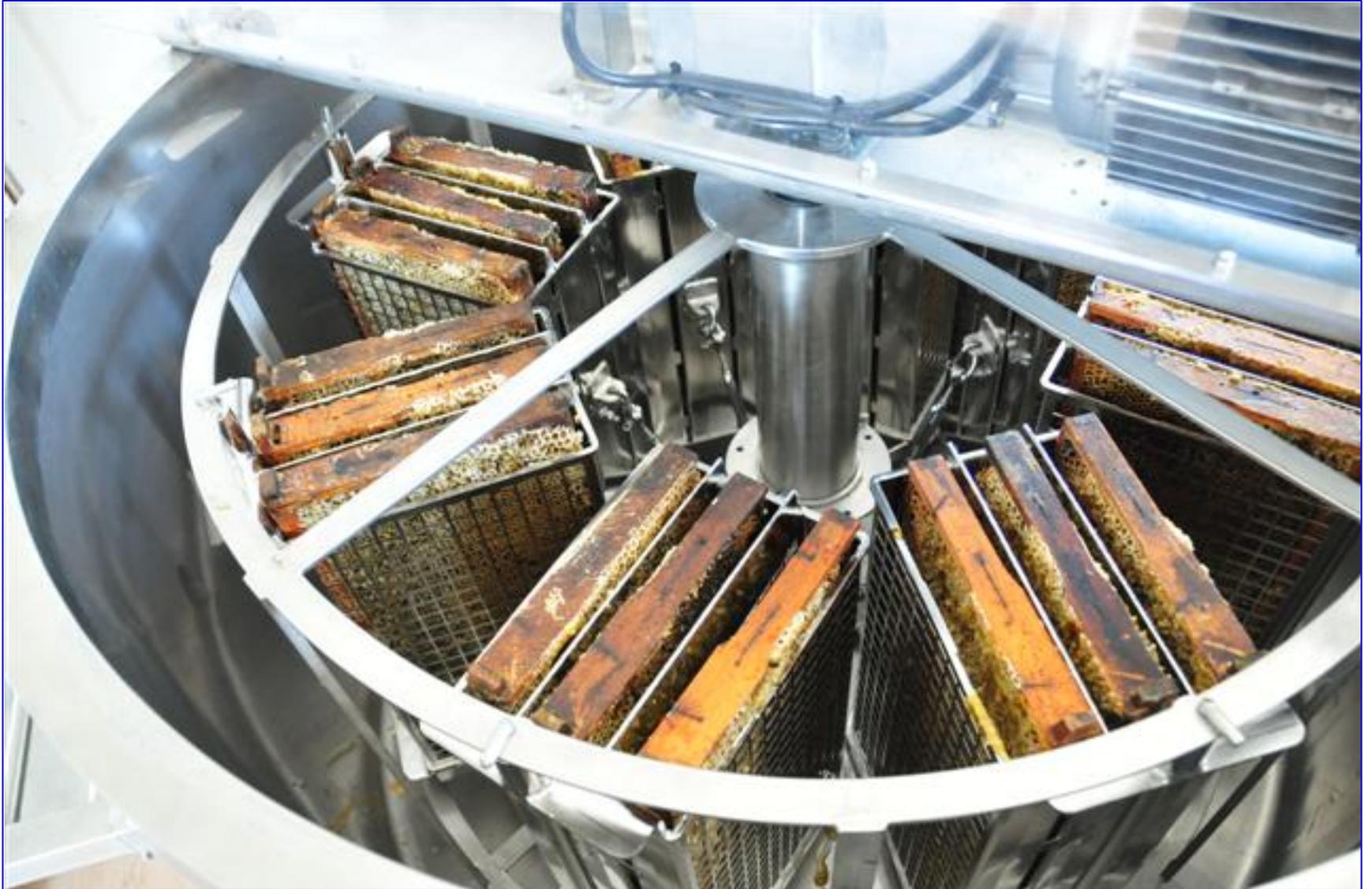
Moving Bees

- **Secure hives with staples or straps**
- **Use screen wire to close entrance**
- **Move at least 3 miles**
- **Move in early morning or when cool**

Take your supers to planned extraction point and start removing the caps from cells



Place your supers in your extractor and start cranking!



Wintering bees – beekeeper's year begins in the fall

- ☑ Adequate stores
- ☑ Mouse protection
- ☑ Disease free bees
- ☑ Top ventilation
- ☑ Upper entrance
- ☑ Windbreak
- ☑ Winter cartons

The basics of good management

- Standard equipment
- Good location
- Productive queens
- Disease free bees
- Adequate stores