Morris Ostrofsky
Linn Benton
April 19, 2017

Bait Box: Which one?

Why bait boxes?

- Easy way to lure your bees back home especially if you will be gone when swarms may issue
- Practical way to increase your numbers and genetic diversity
- Opportunity to catch feral swarms

We'll cover

- Swarm indicators, time frames and locations Bait box styles and configuration
- Preparation (any time)
- Caught a swarm, now what: timing, moving, transfer to permanent box
- Varroa management
- Feral swarms and hygienic behavior

2 Weeks prior to swarm: Drone production

Drone and worker brood

White Wax on Top of the Frames

Scouts looking for a new home.. Instead of a house – how about a bait box

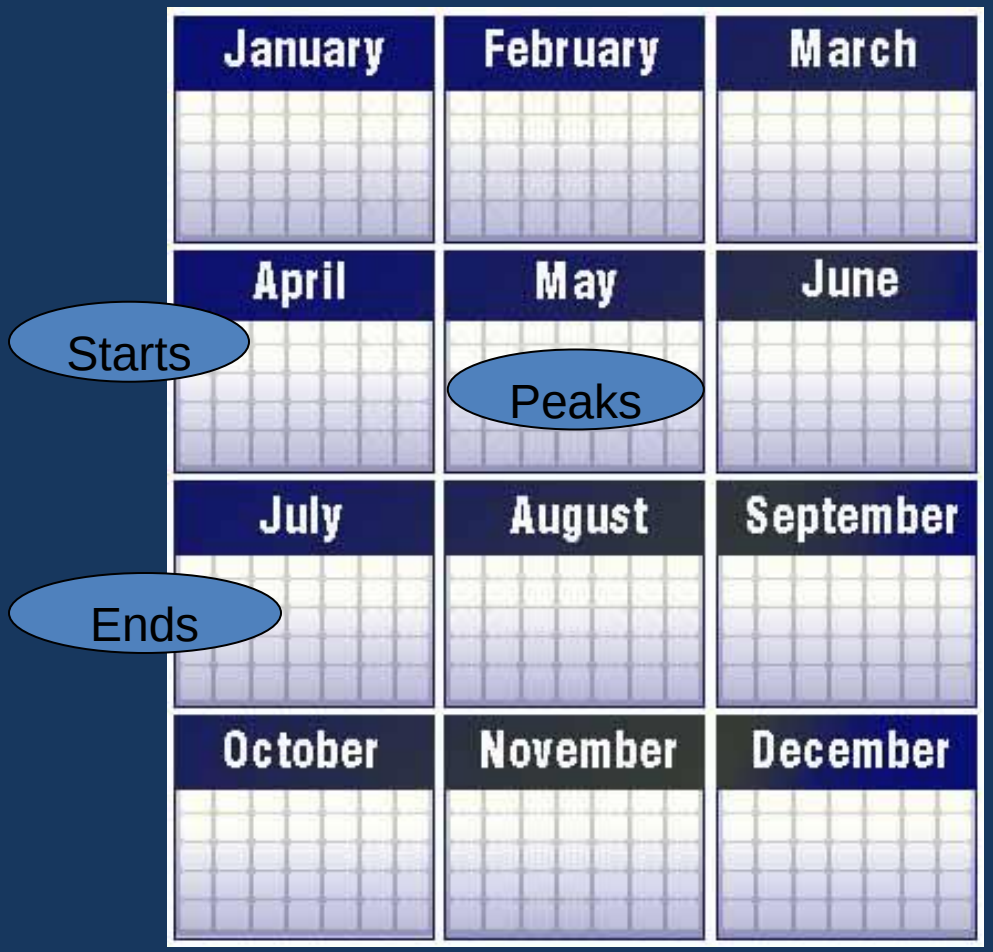
Backfilling

What is this?

Beard or tongue of bees in front of the hive

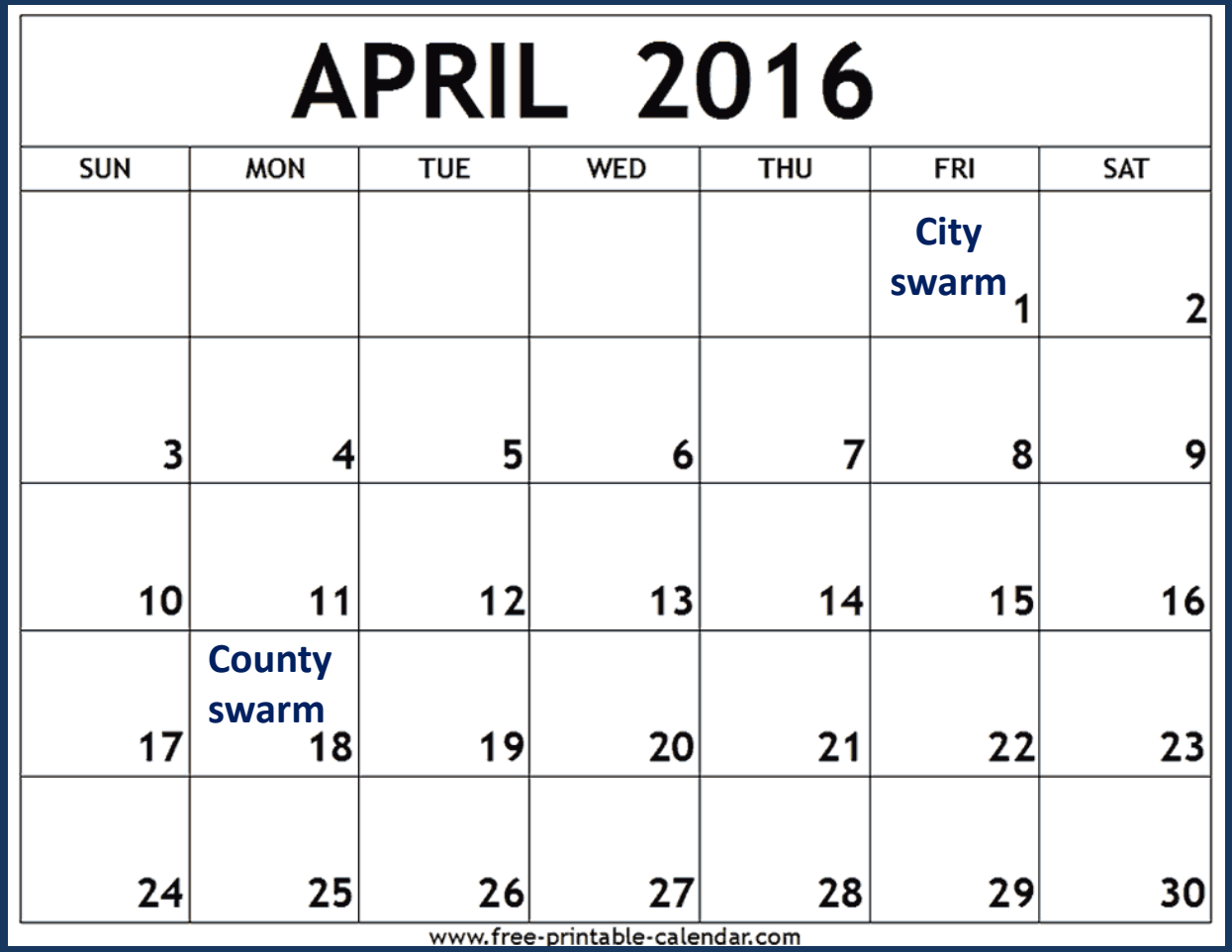
First sunny day after a few days of rainy weather often when swarms occur

Swarm season starts around 1st of April, peaks late April/early May and ends early July



- A swarm of bees in May is worth a bail of hay.
- A swarm of bees in June is worth a silver spoon.
- A swarm of bees in July is not worth a fly.

Swarm statistics for 2016



APRIL 2016

SUN	MON	TUE	WED	THU	FRI	SAT
					City swarm 1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	County swarm 18	19	20	21	22	23
24	25	26	27	28	29	30

www.free-printable-calendar.com

Set up bait boxes about 3 weeks before swarms start in your area

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
March 2017						
			1	2	3	4
5	6	7	8	9	10	11 **City bait box**
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28 **County bait box**	29	30	31	Notes:

March 2017 Calendar Template available from www.quickcalendartemplate.com

Caveat to calendar

- All bee keeping is local
- Plant phenology drives the cycle
- Pollen and nectar availability
- Temperature and weather

Roger, now they've swarmed. Didn't I tell you to set up the bait box 3 weeks ago!

Close to Home

Bait box locations

- Your own property or a neighbor’s
- Away from managed colonies

Recommendations for a Bait Hive Design adapted from an article by Dr. Tom Seeley	
1.	Height: About 15 feet above the ground
2.	Shade and visibility: Well shaded, but highly visible. Bees avoid or abandon bait hives in direct sun.
3.	Distance from parent nest: 300 yards to 1 mile
4.	Total entrance area: About 2 square inches. A circular opening should be 1.25 inches
5.	Entrance shape: Not important
6.	Entrance position: Near the floor of the hive
7.	Entrance directions: Facing south preferred but other directions are acceptable `
8.	Cavity volume: About 1.4 cubic feet or 40 liters. This is about the volume of 1 standard 10 frame Langstroth hive body.
9.	Cavity shape: not important
10.	Dryness and air tightness: Dry and snug, especially at the top.
11.	Type of wood: Various types acceptable; many types of trees have been occupied. Bees may avoid new lumber.
12.	Odor: Drawn combs from a healthy hive can lure scouts. Commercially available chemical lures that smell like lemon grass and apparently mimic the scouts' communication scents apparently work well.

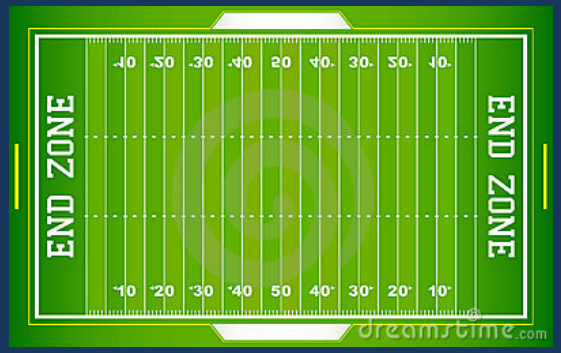
"Bait Hives for Honey Bees" by Dr. Thomas D. Seeley Information Bulletin #187
Cornell Cooperative Extension publication

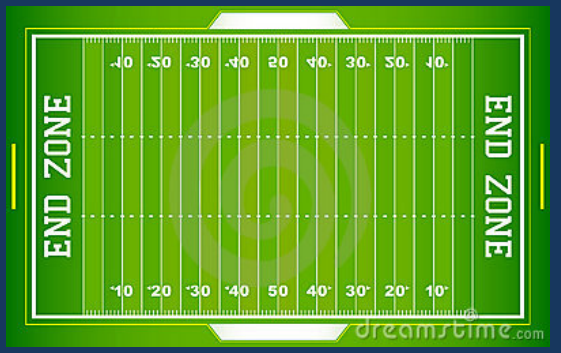
Ideal: 15 feet off ground

Height has to consider SAFETY and convenience

Distance Goal Ideal

300 yards to a mile from other hives

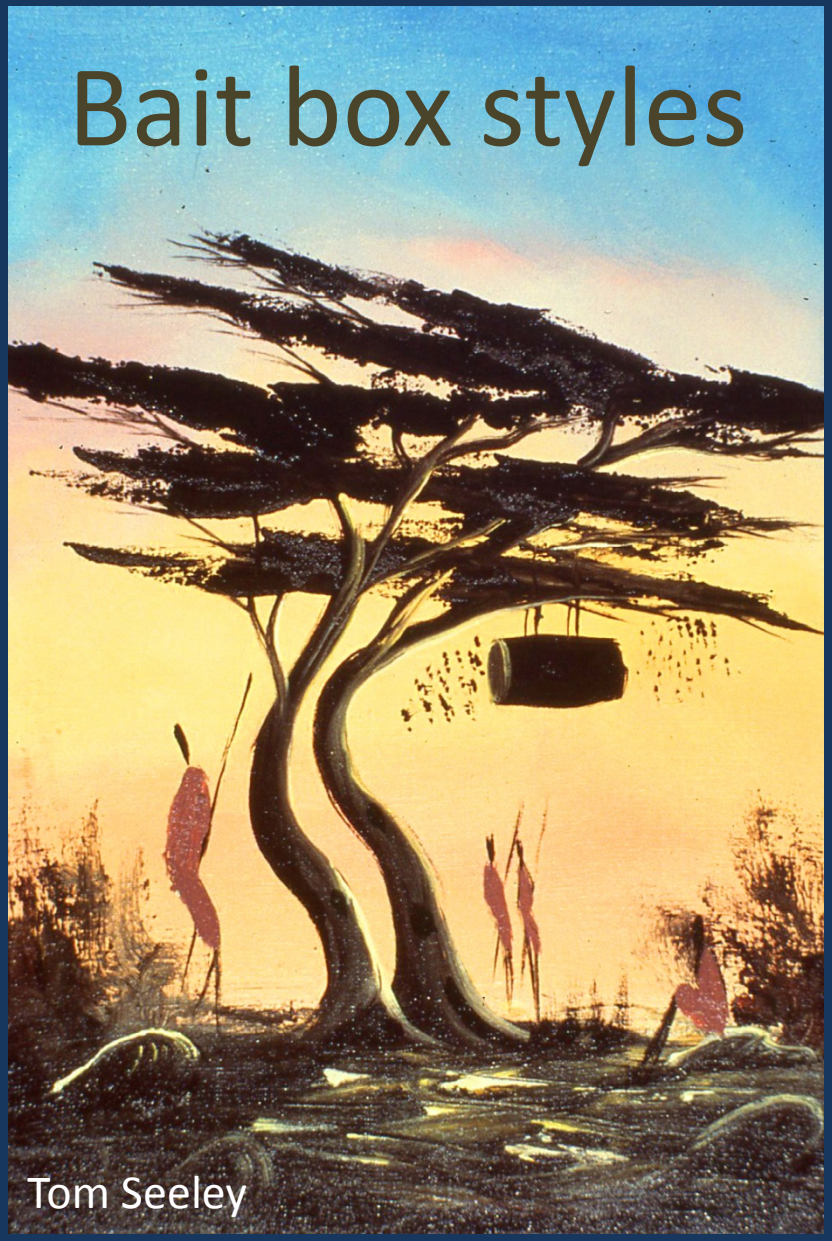




Distance: away from managed hives

Bait box styles

Bait box styles



Tom Seeley

Paper mache flower pots

Langstroth deep bait box

Why a Langstroth deep?

- Solid bottom board allows for a limited size entrance and limits light
- Used in an area I consider to be secure
- In locations there is little or no chance of vandalism
- The volume is consistent with Dr. Tom Seeley's recommendation of 40 liters (1.4 cubic feet) = 10 frame deep
- The deep frames can be moved into and out of box making it easy to transfer them into a permanent hive later.

Cardboard bait box

Rain cover

Camouflage

Why a cardboard bait box?

- Light weight
- Almost free: home improvement stores
- Use boxes approximately 20 X 16 X 10 inches. These dimensions are close enough to those of a Langstroth deep; 40 liters (1.4 cubic feet)
- Minimal loss if vandalized (before swarm)

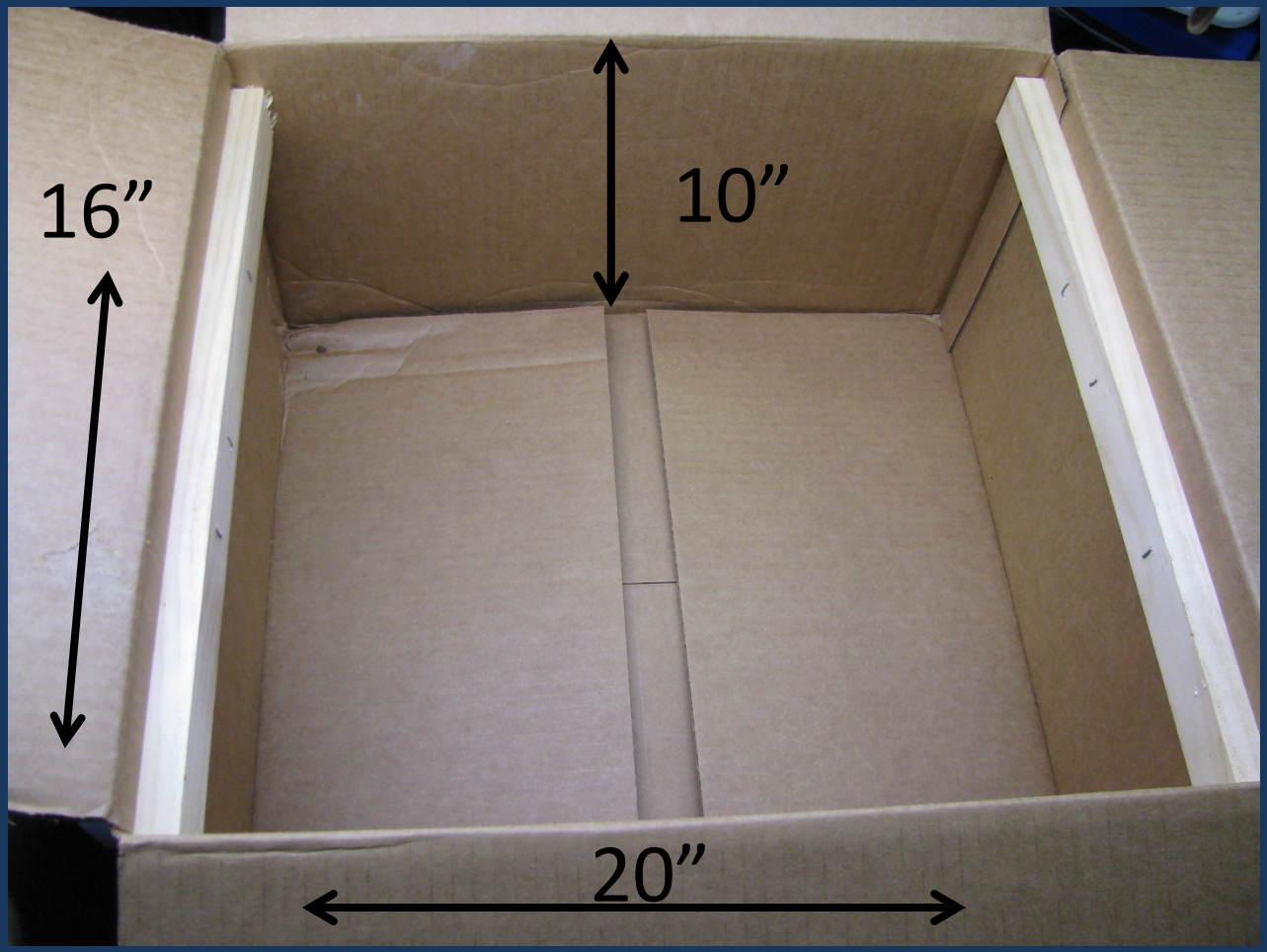
Sources of Cardboard boxes

- Local home improvement store (Jerrys?)
- U-Haul
- Postal Stop (or other shipping stores)

Ideal cardboard box dimensions you need to look for

20 X 16 X 10

Home Improvement source



Purchase exact size: 20 X 16 X 10

My Account | Contact Us | Sign In | Cart $0.00

ULINE 1-800-295-5510

Search GO

Products | Uline Products | Quick Order | Catalog Request | Special Offers | About Us | Careers

Home > All Products > Boxes, Corrugated > Corrugated Boxes (200# Test) > Misc Box Sizes

20 x 16 x 10" Corrugated Boxes

Enlarge

200 LB. TEST

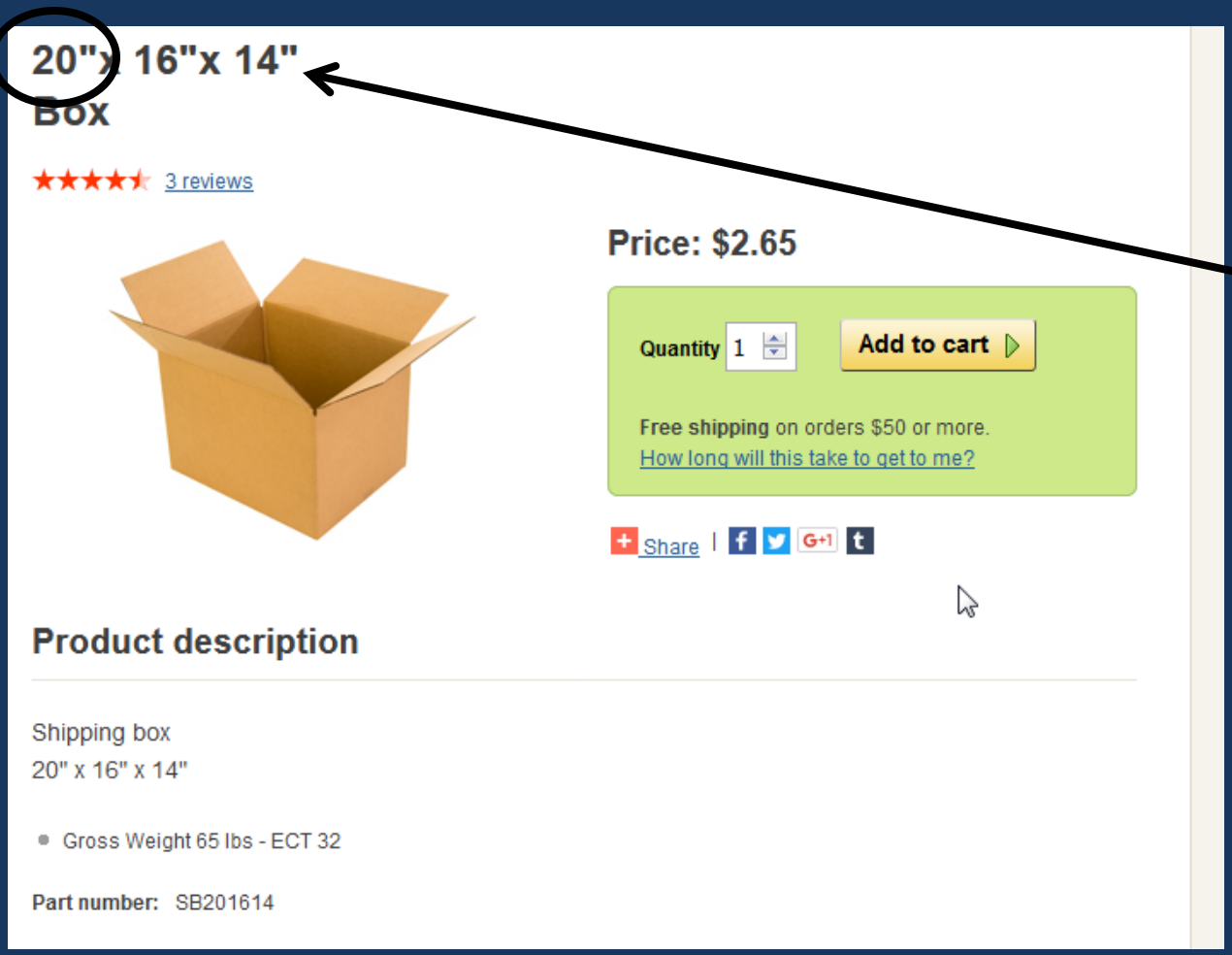
High quality corrugated boxes in a large selection of sizes.

- Use to pack, ship and store products.
- Easy to set up, load and close.
- Shipped flat for freight savings.

SOLD IN BUNDLE QUANTITIES

MODEL NO.	INSIDE DIMENSIONS L x W x H	PRICE PER BOX					BUNDLE/ BALE QTY.	LBS./ BNDL.	ADD TO CART
		20	100	240	500	1,000+			
S-4644	20 x 16 x 10"	$1.92	$1.81	$1.69	$1.65	$1.58	20 / 240	34	20 ADD

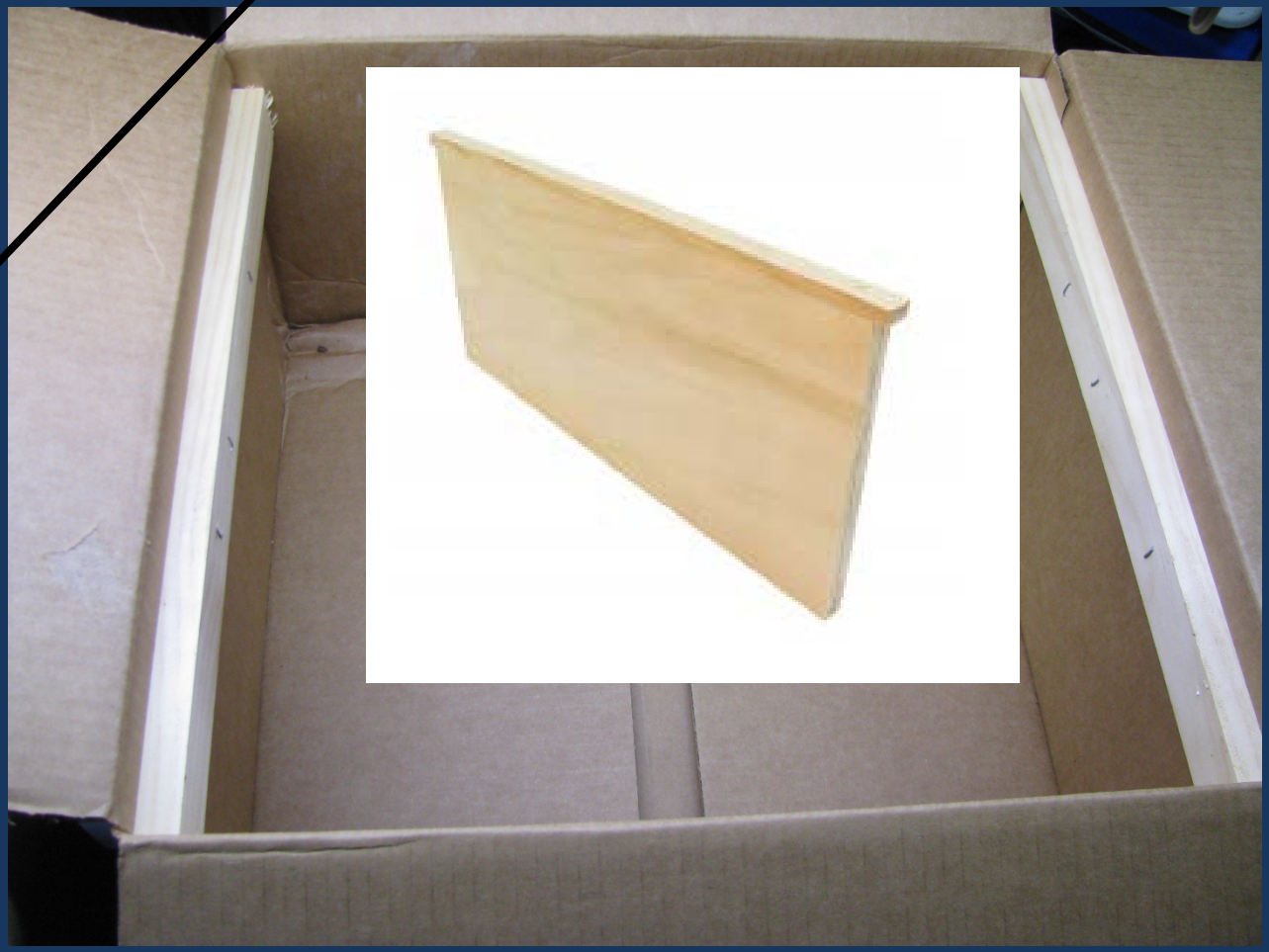
U Haul Box
20 inches is not flexible



How can you adjust the 14” depth to 10”?

20 X 20 X 10 shipping box

How can you adjust the 20” width?



Bait box configuration

Bait box configuration

- Two frame rests
- Handles
- Old drawn frame
- Frames with foundation strips
- Rain cover
- Entrance reducer
- Lure

Recommendations for a Bait Hive Design adapted from an article by Dr. Tom Seeley
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3. Distance from parent nest: 300 yards to 1 mile
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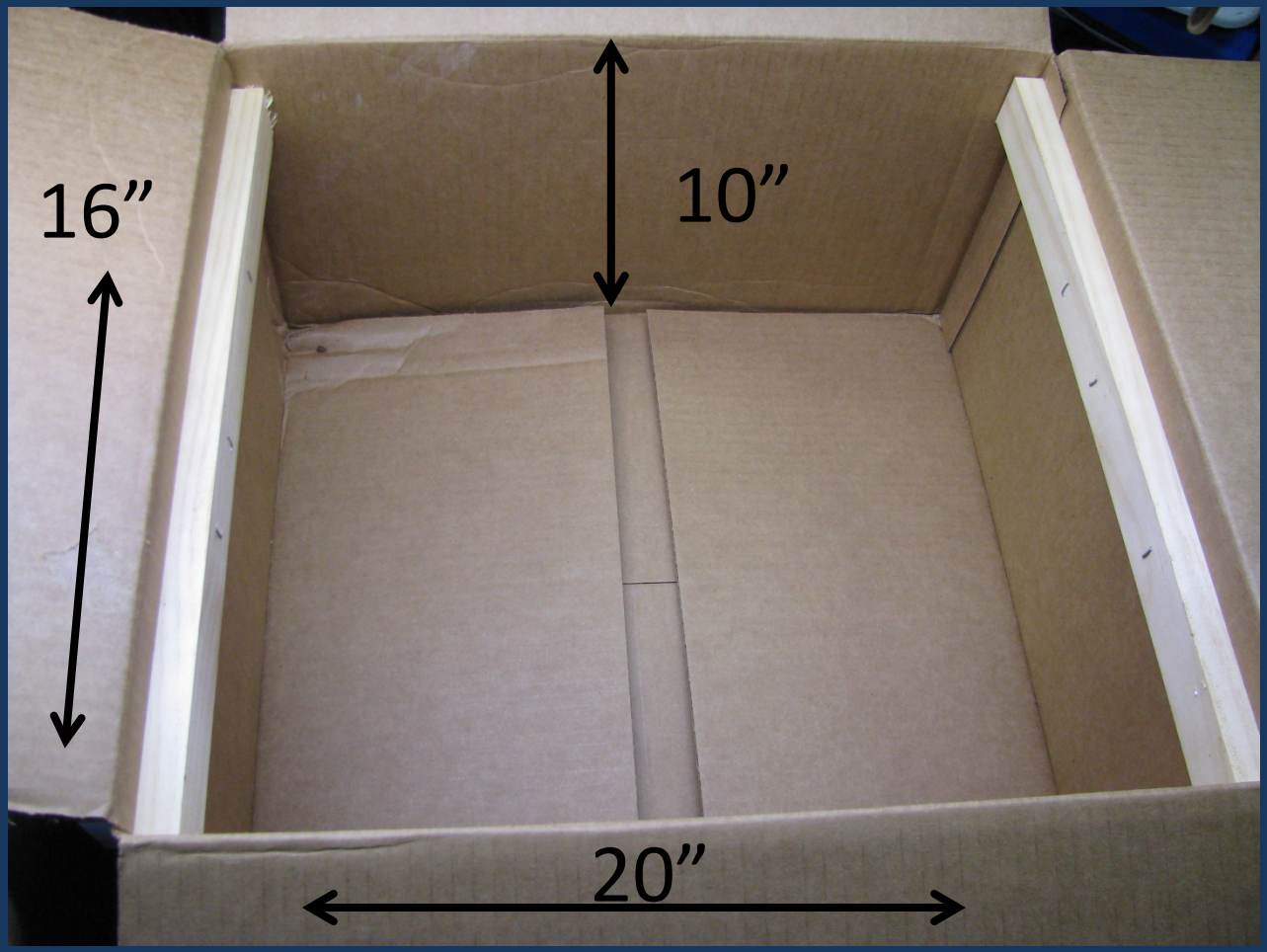
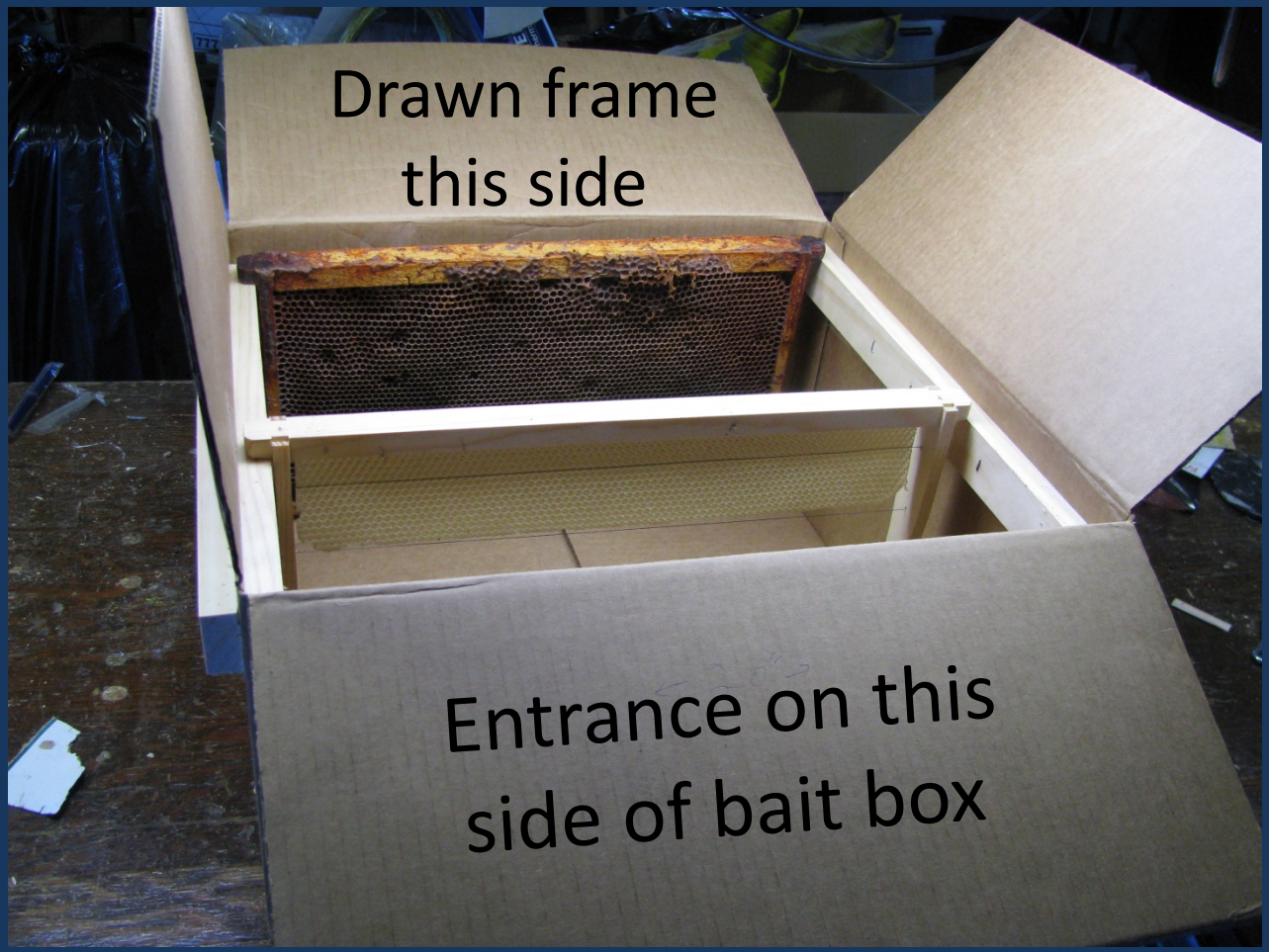
Cavity volume 1.4 cubic feet or a standard 10 frame Langstroth deep box



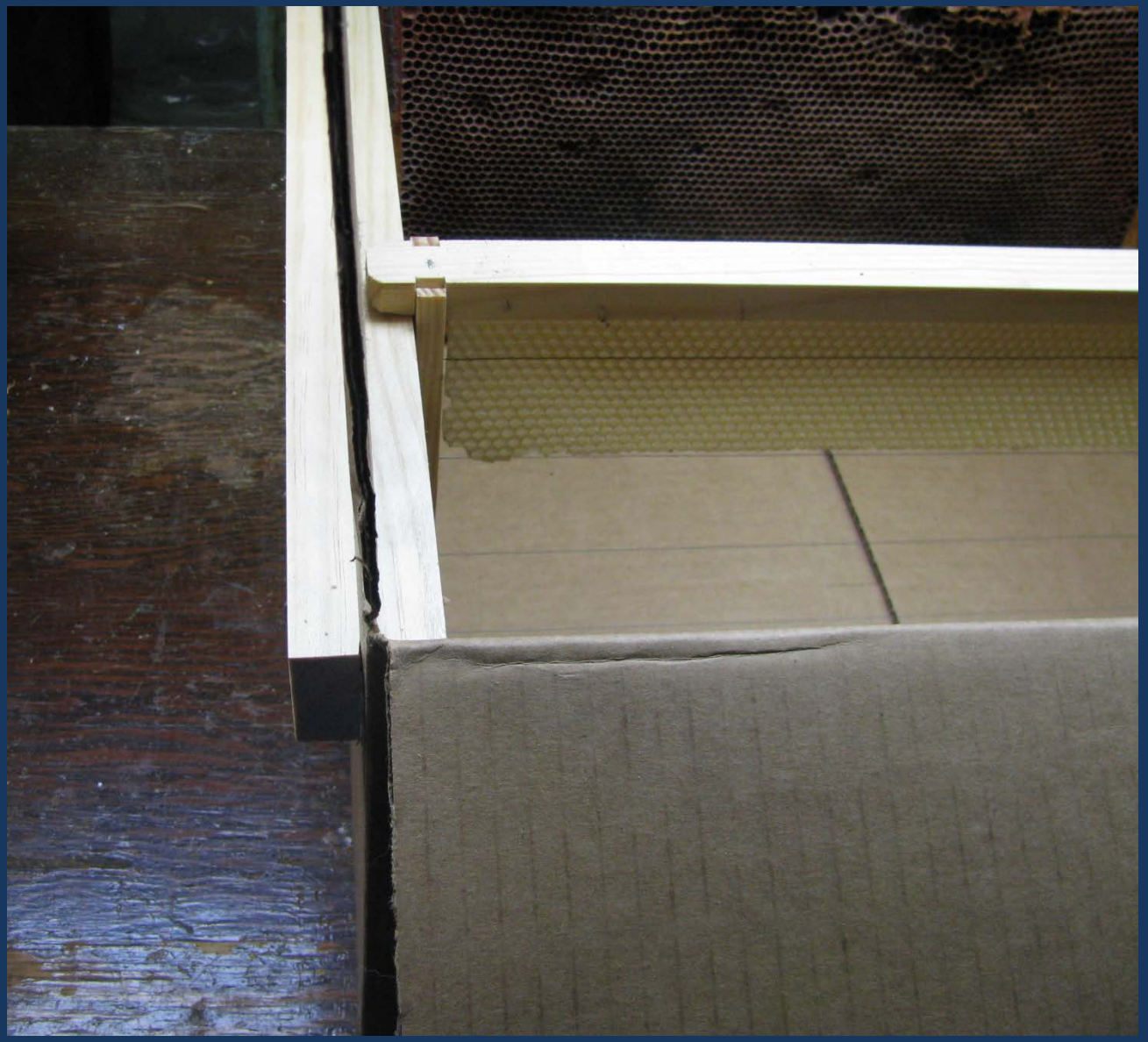
Entrance: 1.4” X 1.4” = 2 sq. inches or a circular opening of 1.25 inches

Entrance near the floor of the box opposite the drawn frame

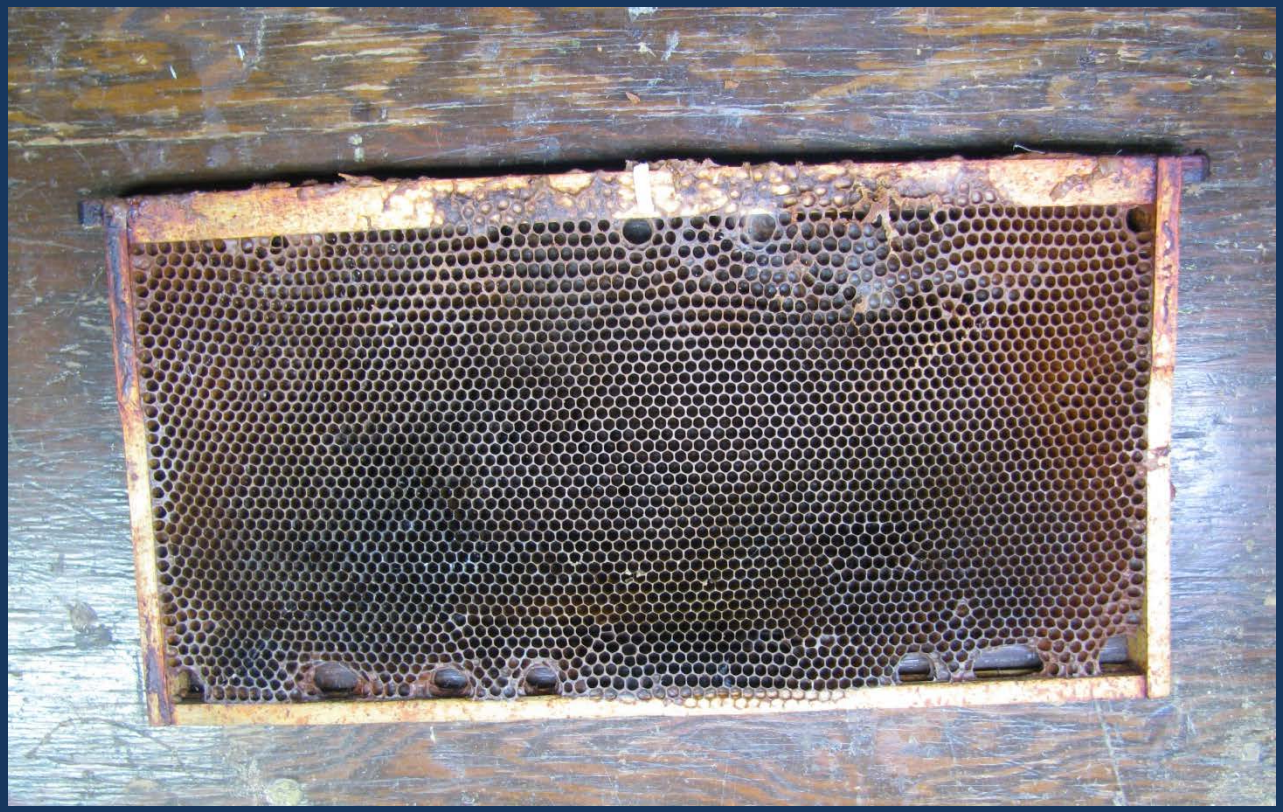
Frame positions in bait box



Handles opposite frame rests



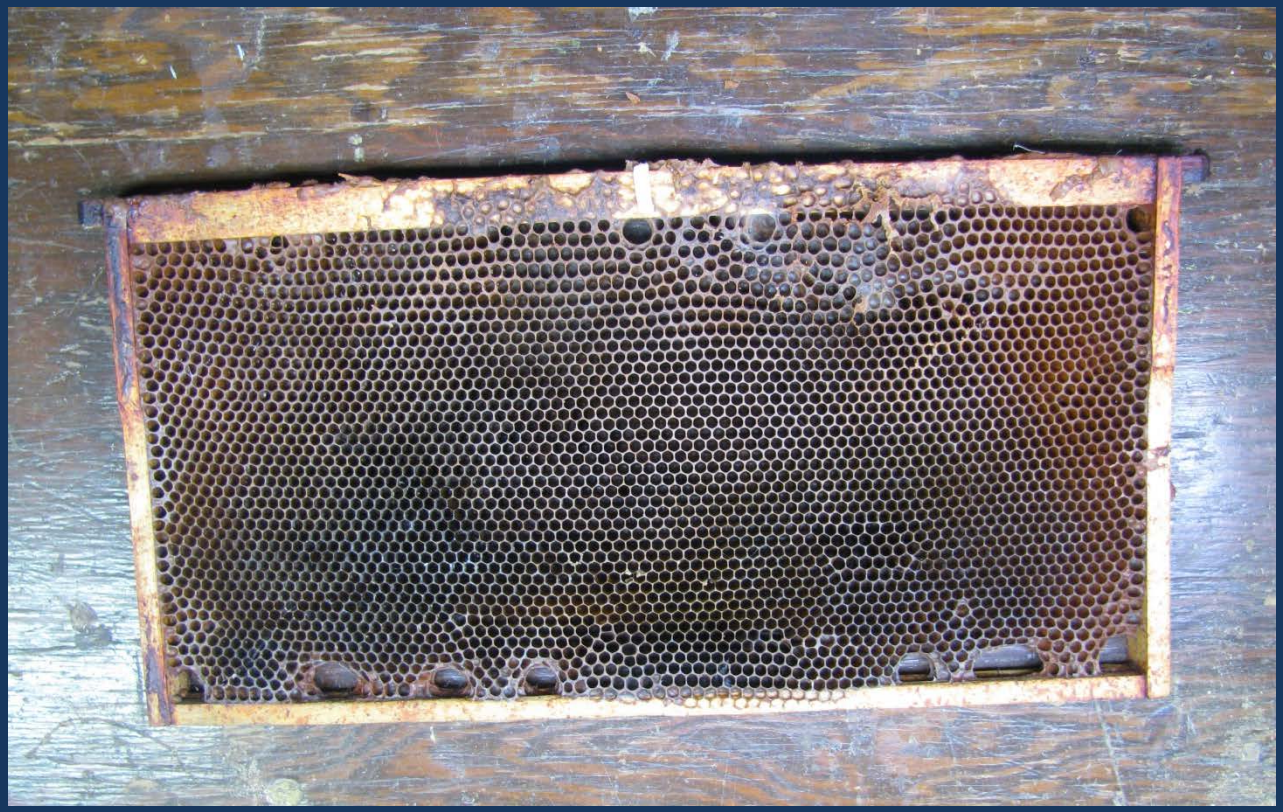
Drawn frame



Dry, powder biological control specific to wax worms
Available on Amazon

Application = 1 tsp. per quart

Spray both sides and let dry before use



Frame with starter strip

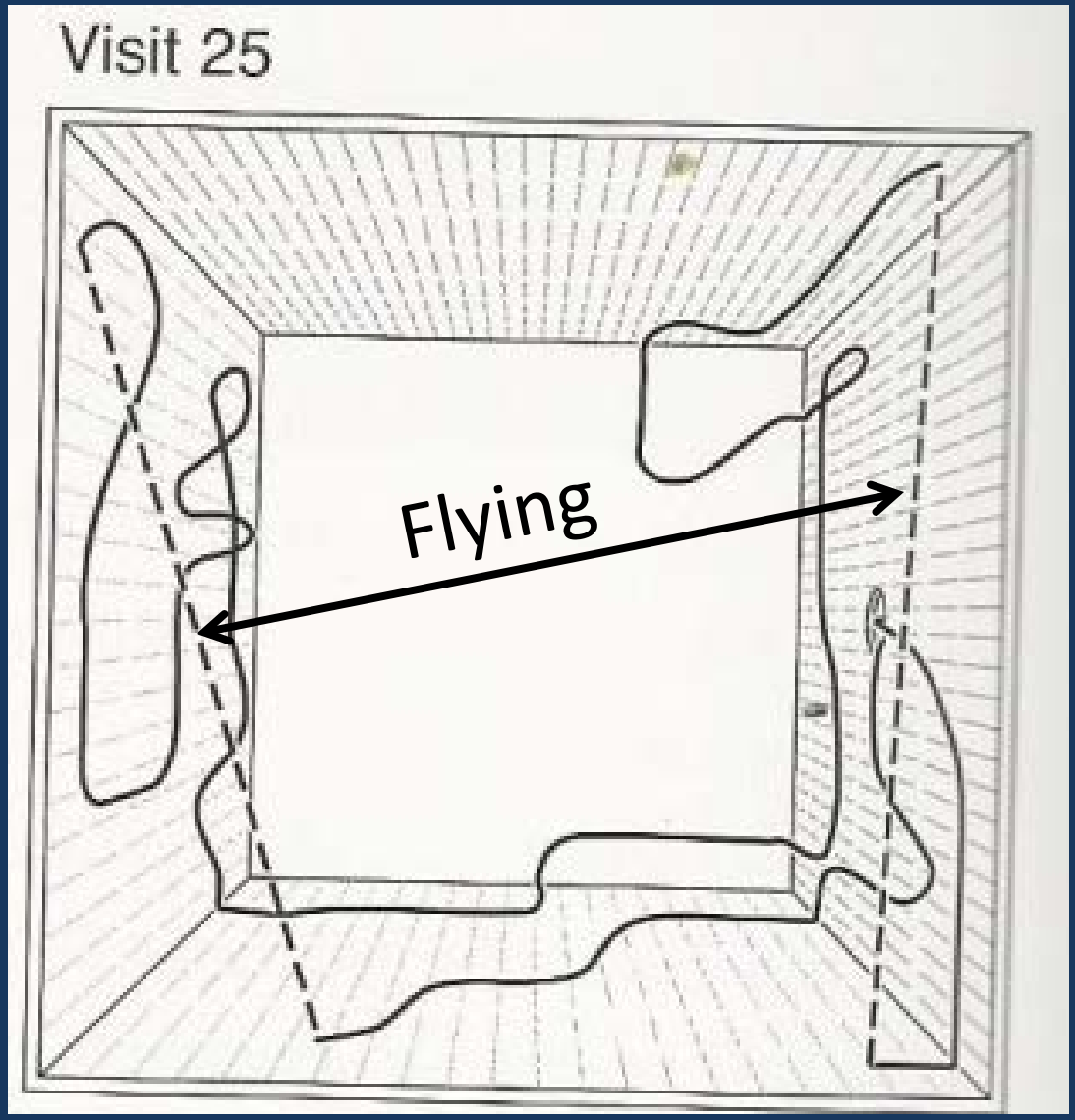
Starter strip gives bees a guide where to start building

Bait box with starter strip frames must be level

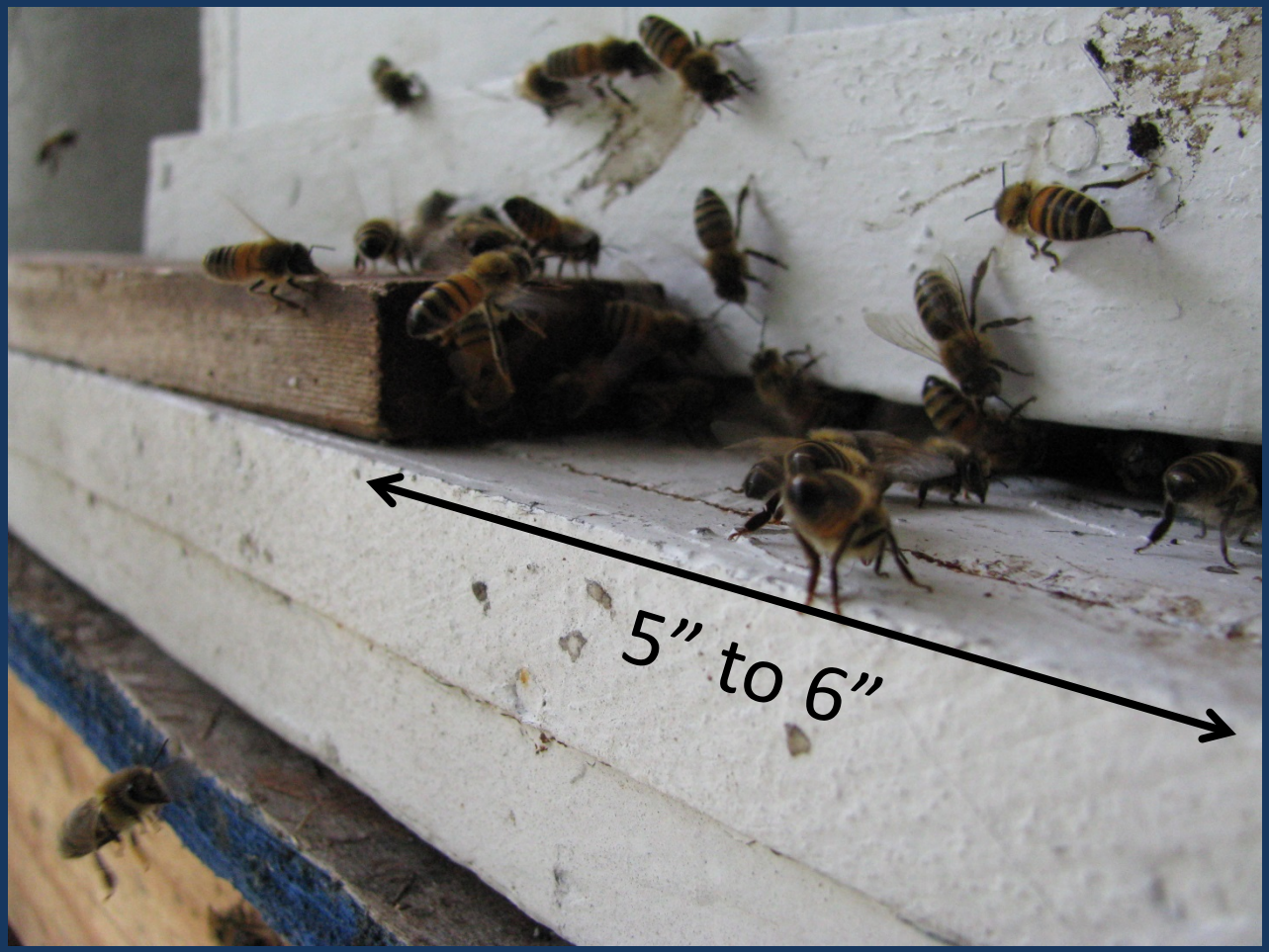
When bait box is not level

Side view of finished bait box

Why you need open space in bait boxes



Entrance Reducer



Lure: Lemon Grass Essential Oil

- Total of 2-3 sprays initially
  - 1 spray on drawn frame
  - 1-2 sprays on the inside the box near the entrance

Refresh every 2 weeks by spraying a ball of cotton with a couple sprays and push it into the entrance

Lure: Swarm Commander

- Total of 2-3 sprays initially
  - 1 spray on drawn frame
  - 1-2 sprays on the <u>inside</u> the box near the entrance

<u>Refresh every 2 weeks</u> by spraying a ball of cotton with a couple sprays and push it into the entrance

Nasanov glands in action

You got a swarm! Now what?

- When to move them
- How to move them

Move early morning

Moving your bait box

On your property

- move bees to where you want them.
  Note: field bees from bait box will drift to other hives
- Move bait box 3 feet a day until reach final site

Moving your bait box

< 3 miles from your apiary

- Can move to your apiary if done same day captured

Moving your bait box
> 3 miles from your apiary

- Wait 2 weeks, then bring them home

Why two weeks?

Virgin Queen

5 days for exoskeleton to harden

+

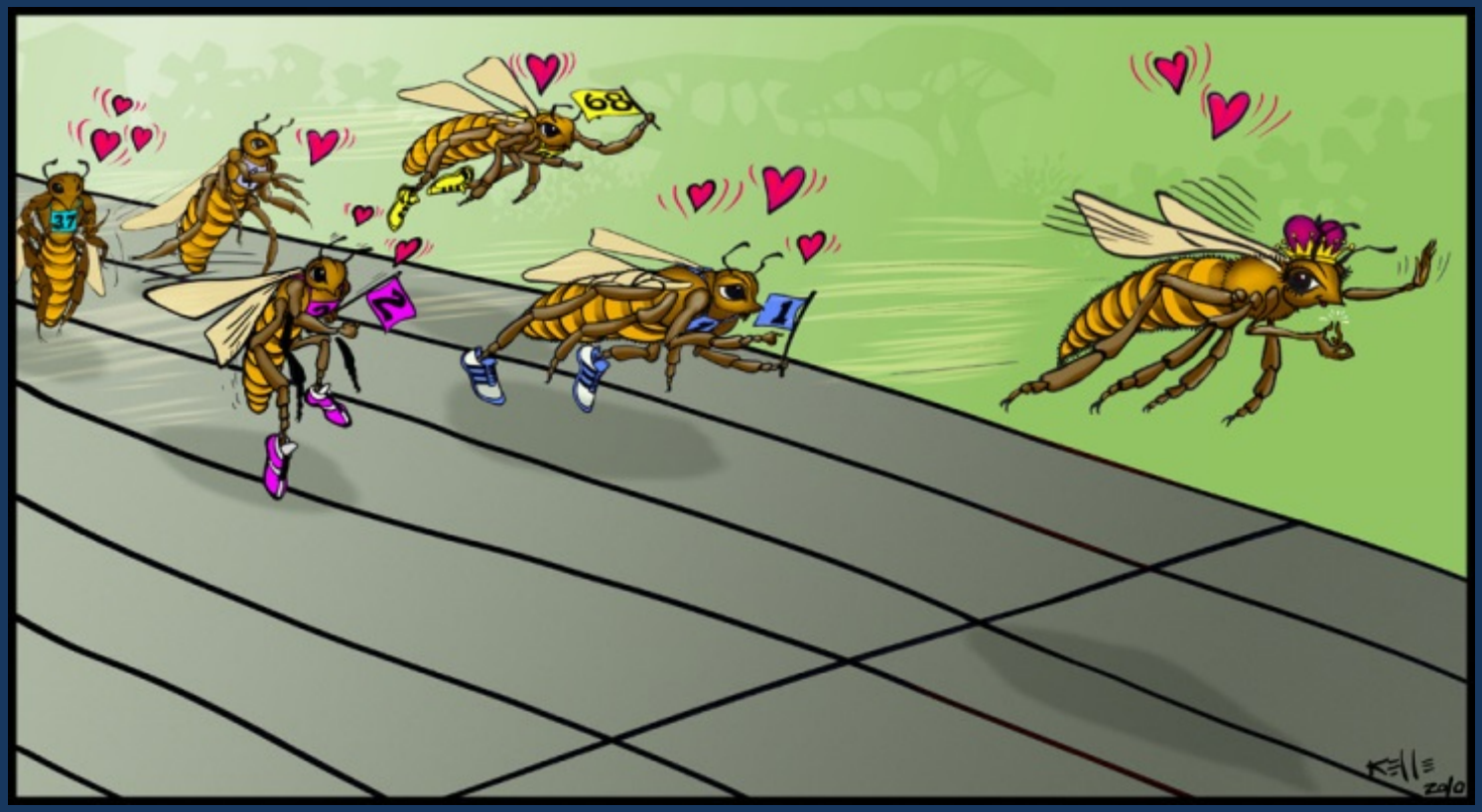
5 days for egg laying to start

+

4 days for first larvae

14 days = 2 weeks

Local drones



Opportunity to remove phoretic mites

Goal: Treat before brood is capped

Result: New colony starts off mite free

Treat by 3rd day after swarm captured

Why can you use any of these treatments now?

Oxalic Acid

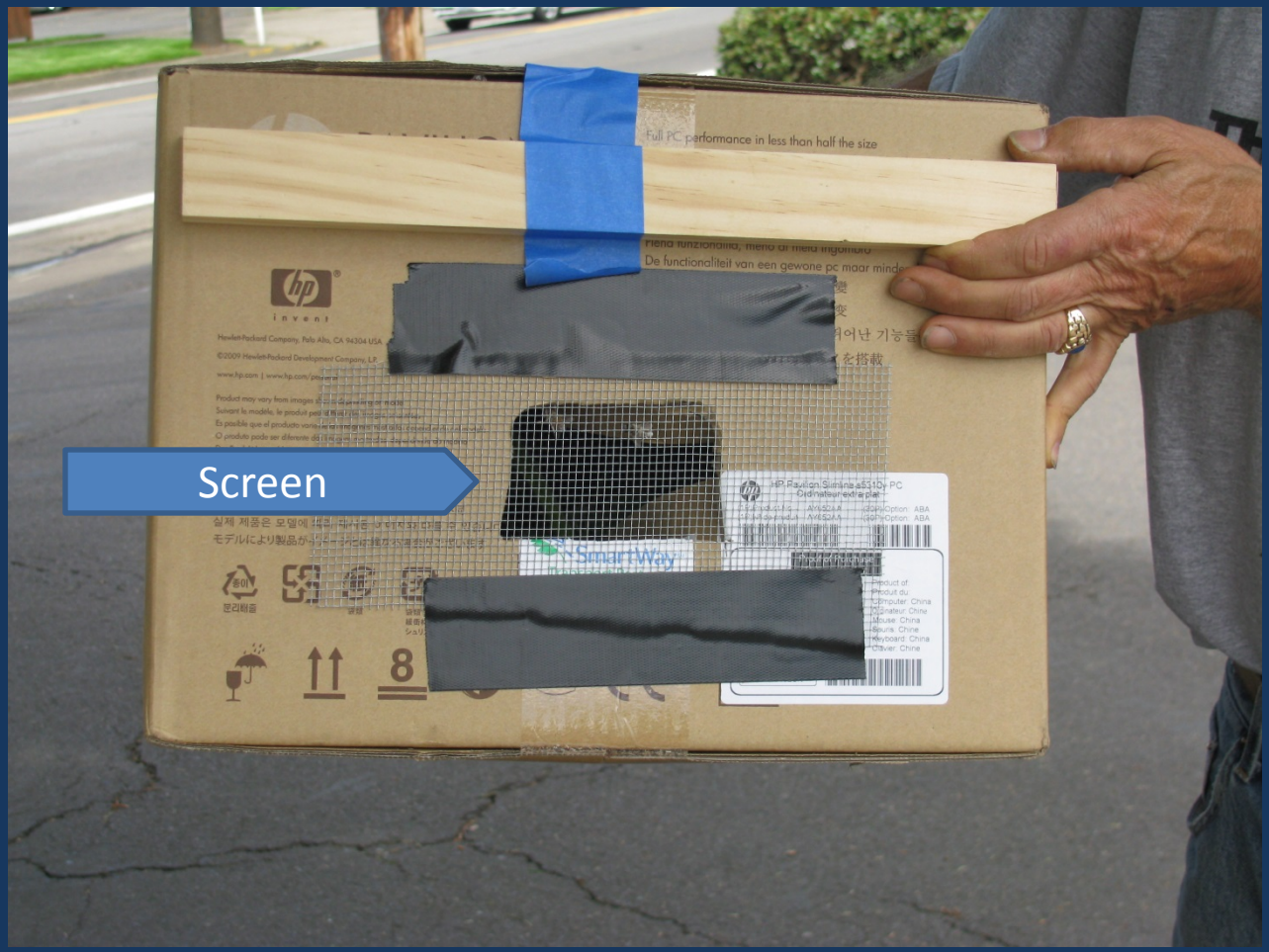
Apivar
(synthetic miticide)

MAQS formic acid

Hopguard

Apiguard - thymol

Take them home



All ready to transfer

Transfer to standard box

Transfer to standard box: same order as bait box

What if you have to transfer natural comb?

Attaching natural comb

Feral bees and bait boxes

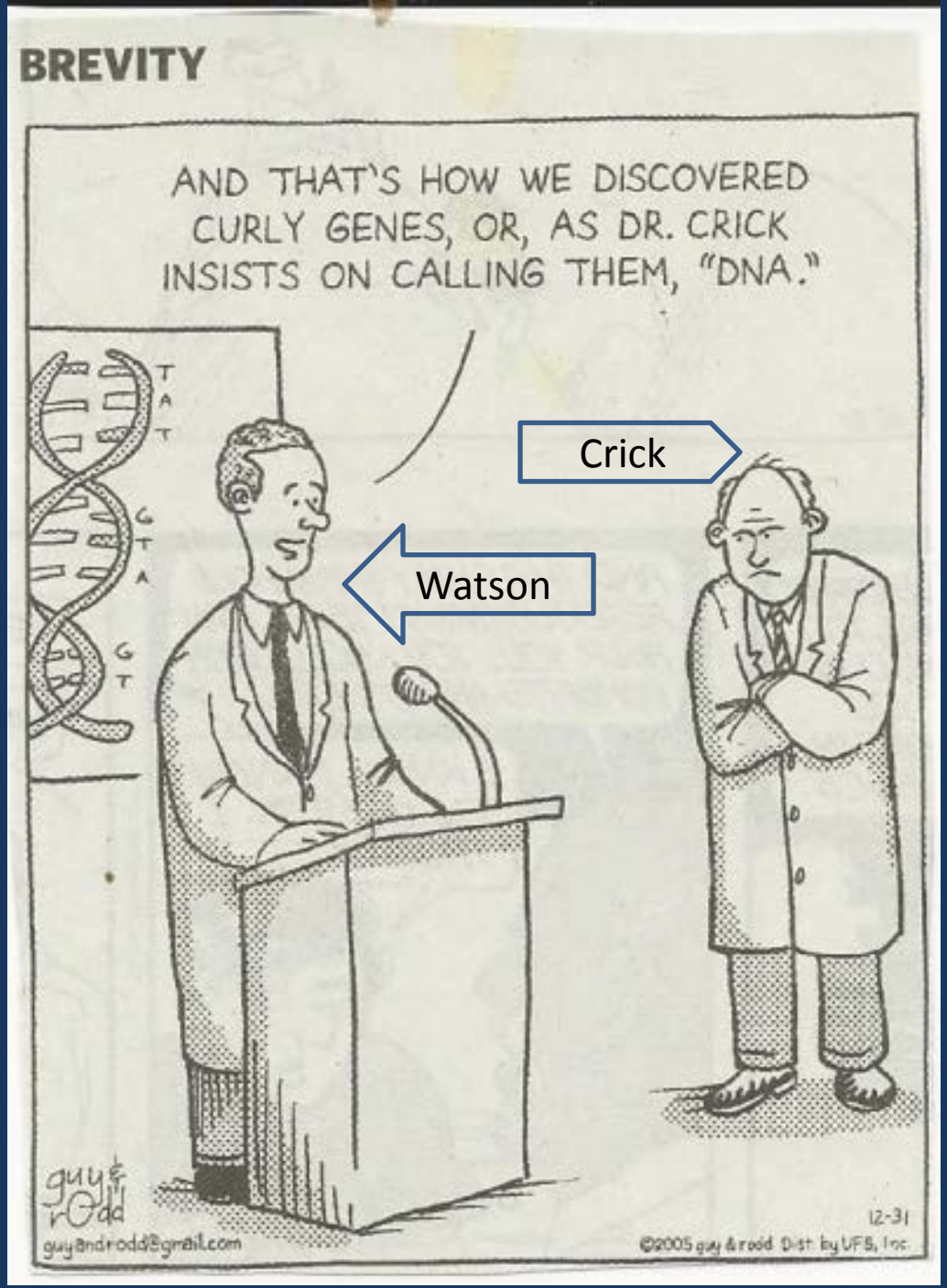
Testing for mite resistance

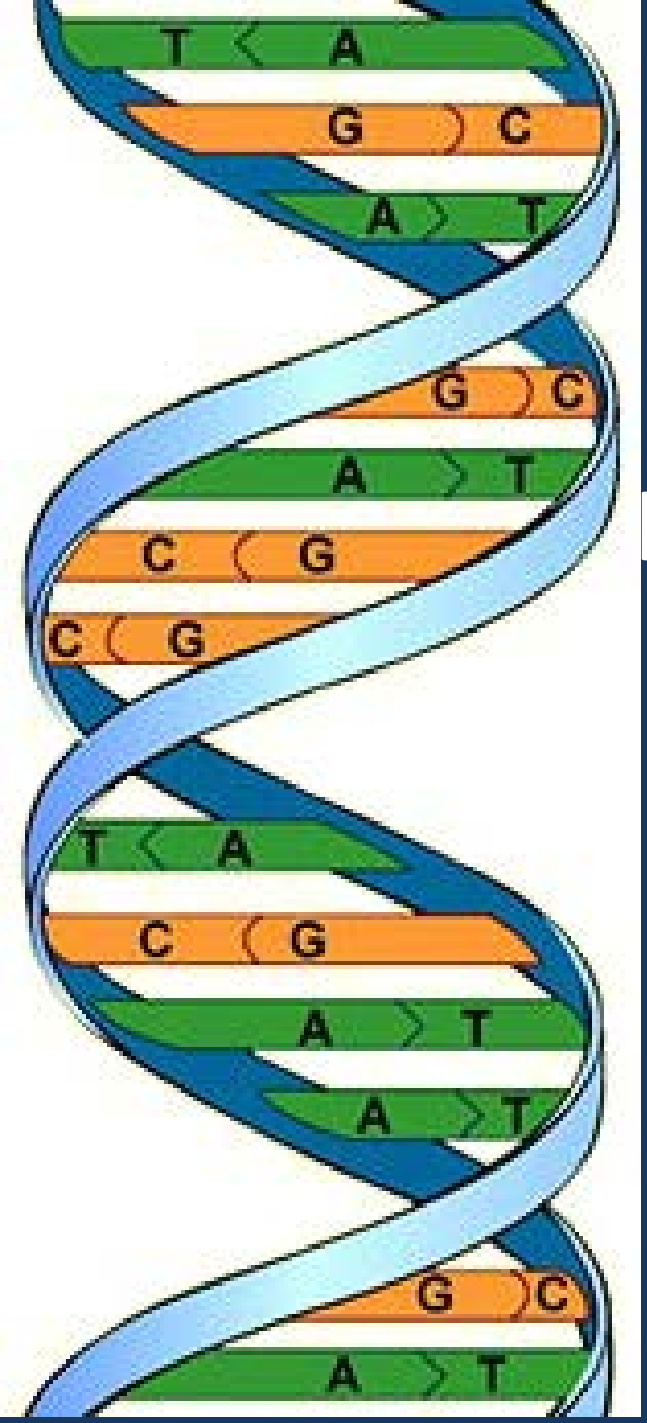
- The greater the distance from managed hives the greater the likelihood that the captured swarm came from a feral colony.

- If these bees are doing that well, even without being treated, these are the swarms you want. Ideally these colonies may have developed a tolerance or resistance to Varroa mites.

Treatment Free is the Gold Standard

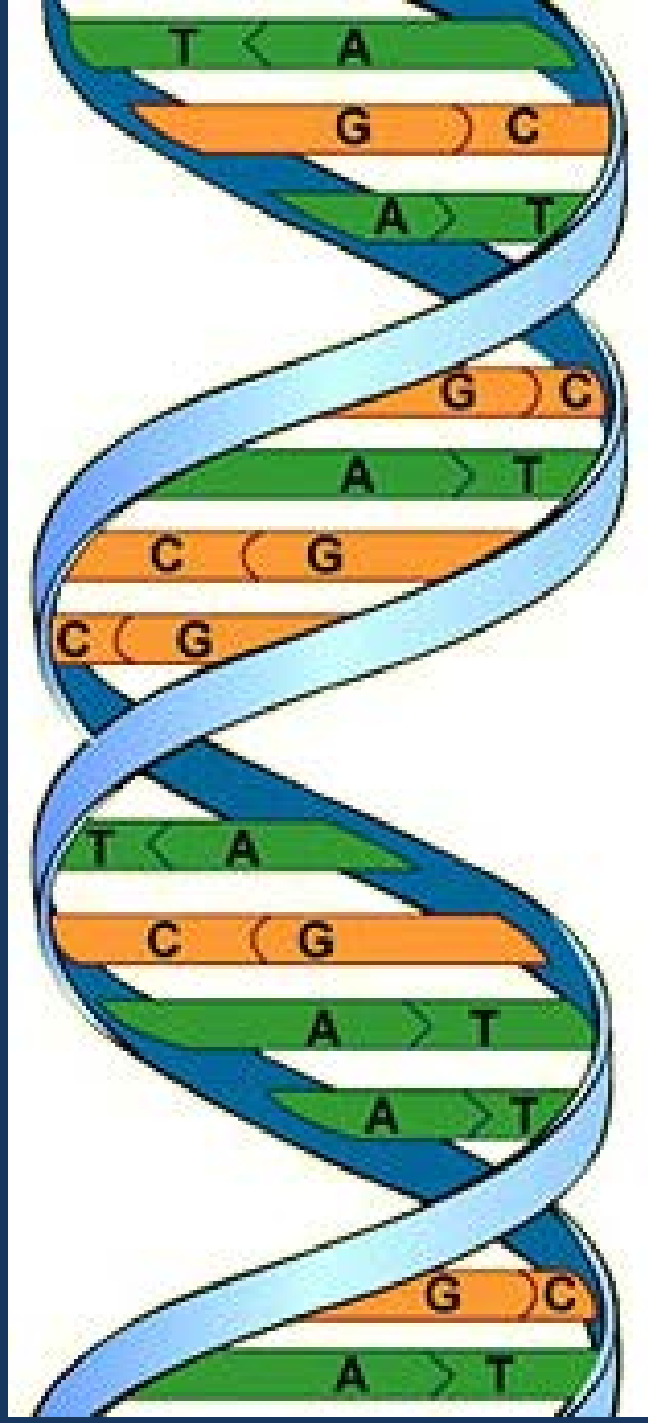
Genetics is the vehicle that gets you there..


BREVITY
AND THAT'S HOW WE DISCOVERED CURLY GENES, OR, AS DR. CRICK INSISTS ON CALLING THEM, "DNA."
T A T
G T A
G T
Crick
Watson
guy & rOdd
guyandrodd@gmail.com
12-31
©2005 guy & rodd Dist by UFS, Inc.



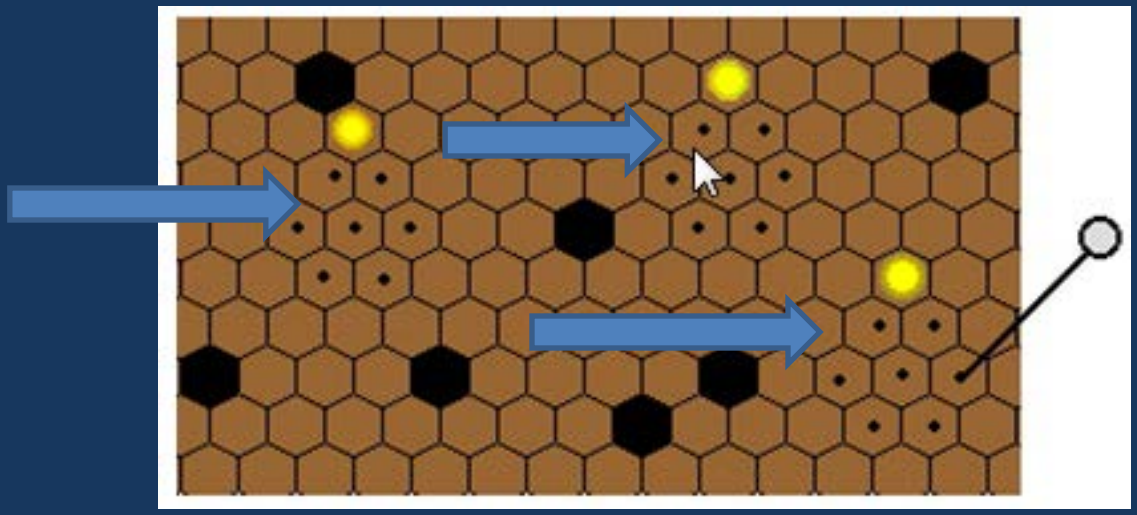
Changing the genetics of a population is a slow process

Important to start now



Pin Prick Test for Hygienic behavior

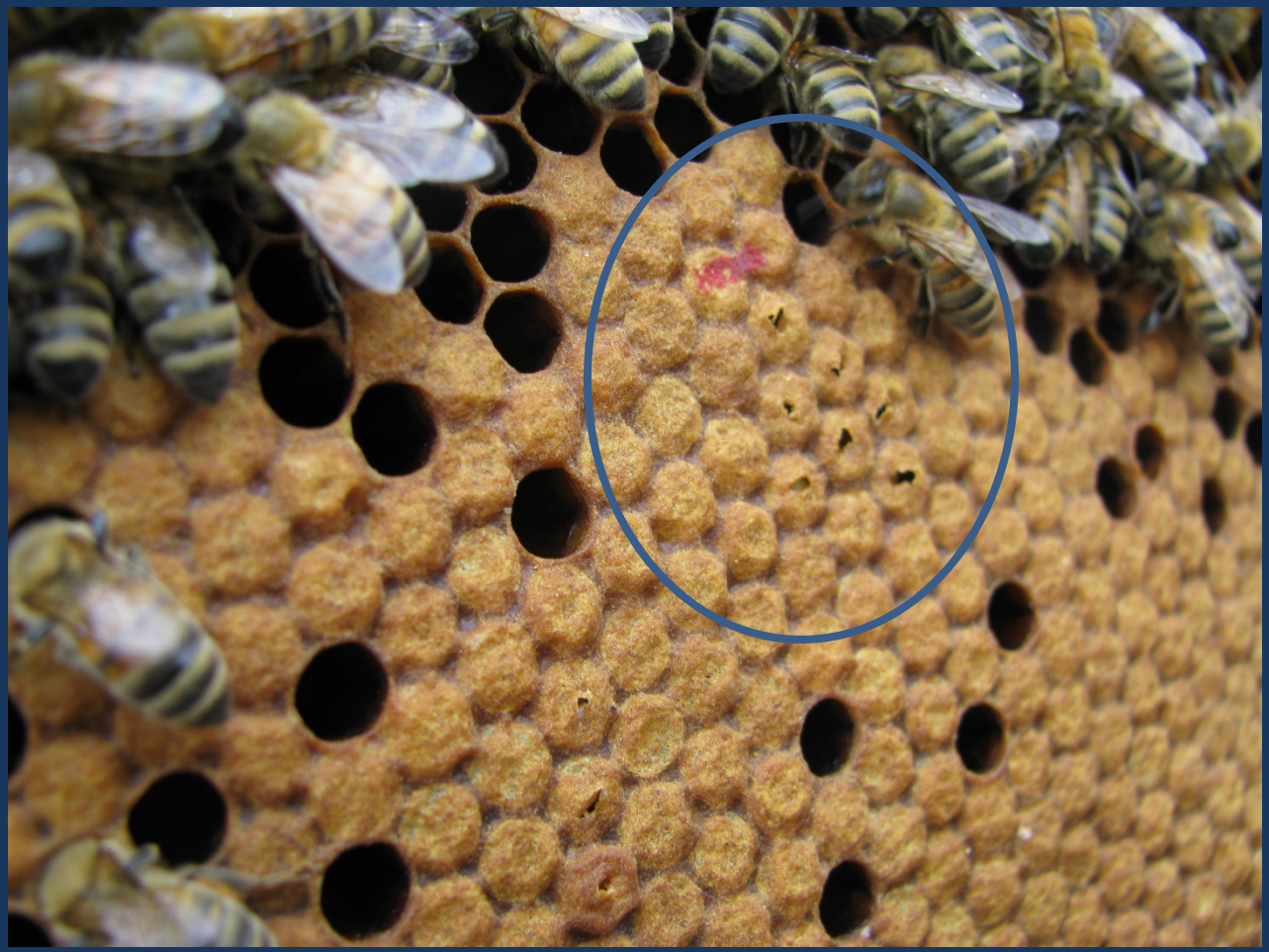
Use queen marking pen above cells have been pricked



21 cells pricked: 3 groups of 7 cells each

Note: not the most accurate test but it is the easiest and cheapest

Pin Prick



Here is what should happen after the pin prick

Warning!
Math problem ahead

% of hygienic behavior =

$$\frac{\text{Total \# pricked cells opened in 24 hours}}{\text{Total number of pricked cells}} \text{ X's 100 = hygienic \%}$$

90% = hygienic behavior

Should be repeated for accuracy

Example % of hygienic behavior

Total # pricked cells opened in 24 hours = 10

_____ X's 100 = hygienic %

Total number of pricked cells = 21

10/21 = .476

.476 X 100 = 47.6% conclusion: not hygienic

Repeat several times for accuracy

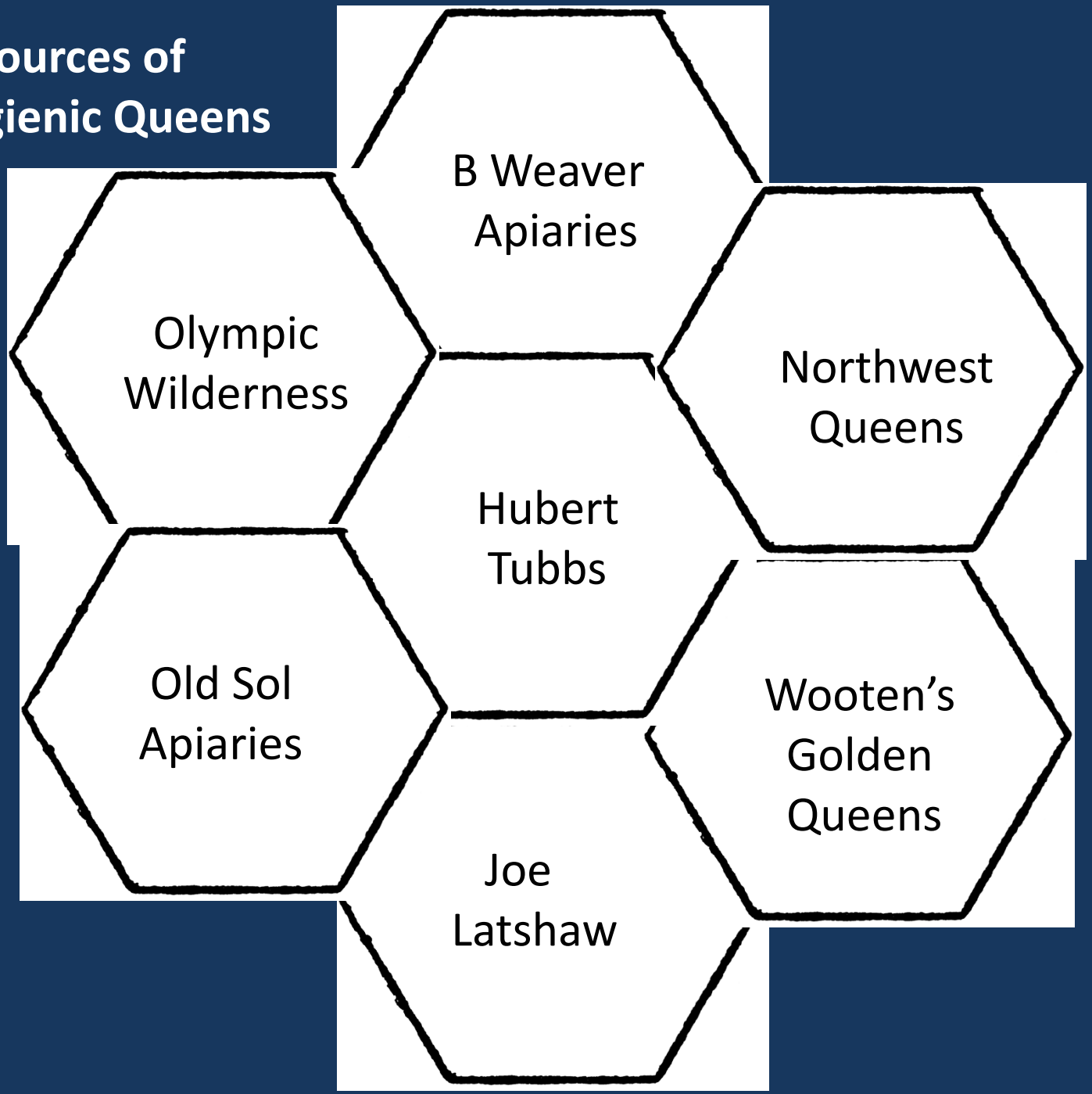
See the Glenn Apiaries website (www.glenn-apiaries.com) for specific directions.

< 90% = Non hygienic queen

Soft Bond Method:

- Do not treat
- Most colonies will get a high mite population
- Treat the colonies with the high mite counts
- Do not treat colonies that are not showing a high mite count or a slow mite build up

Sources of Hygienic Queens




Watson & Crick Fine
Genetic Chocolates
Variety Pack

The End

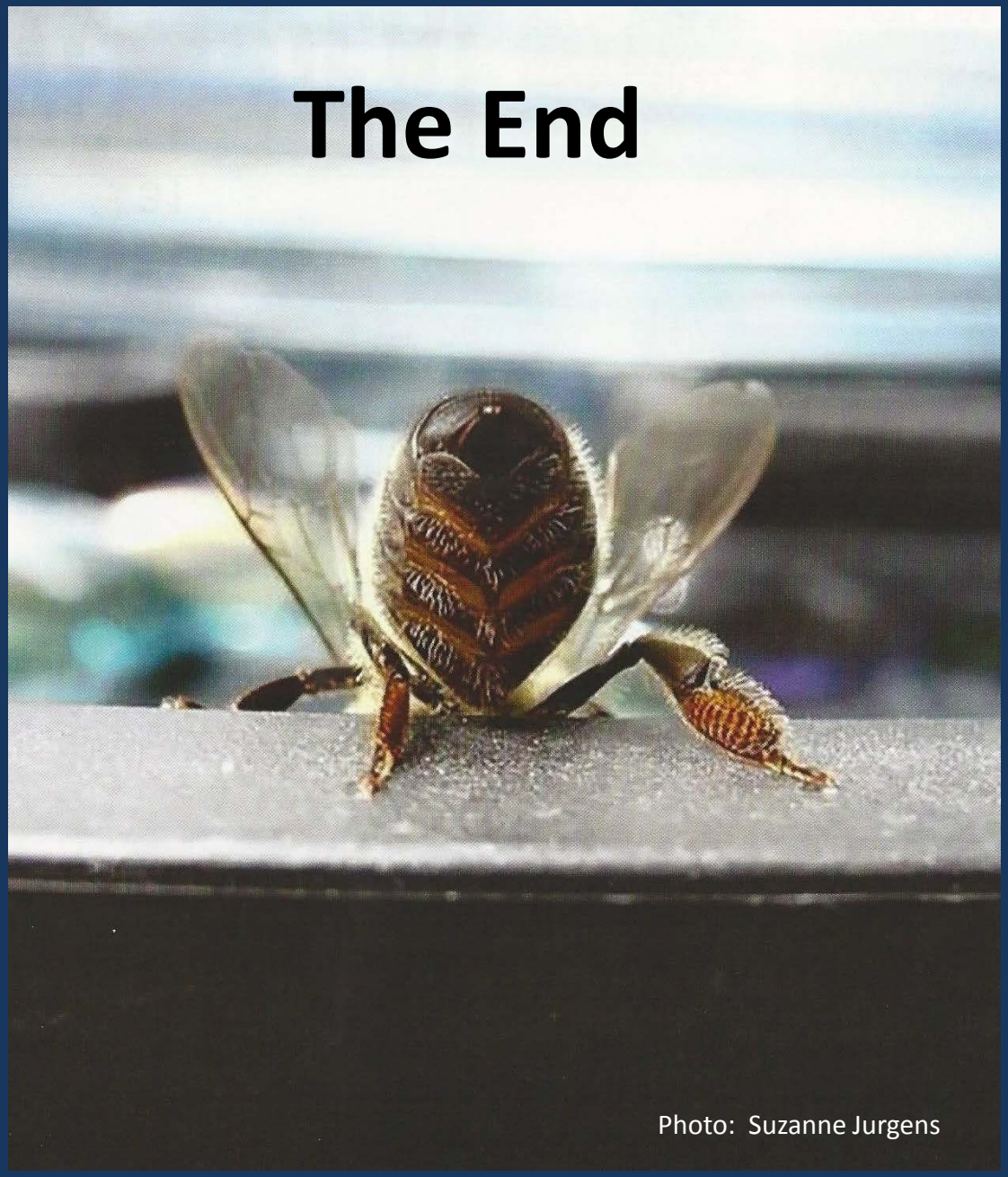


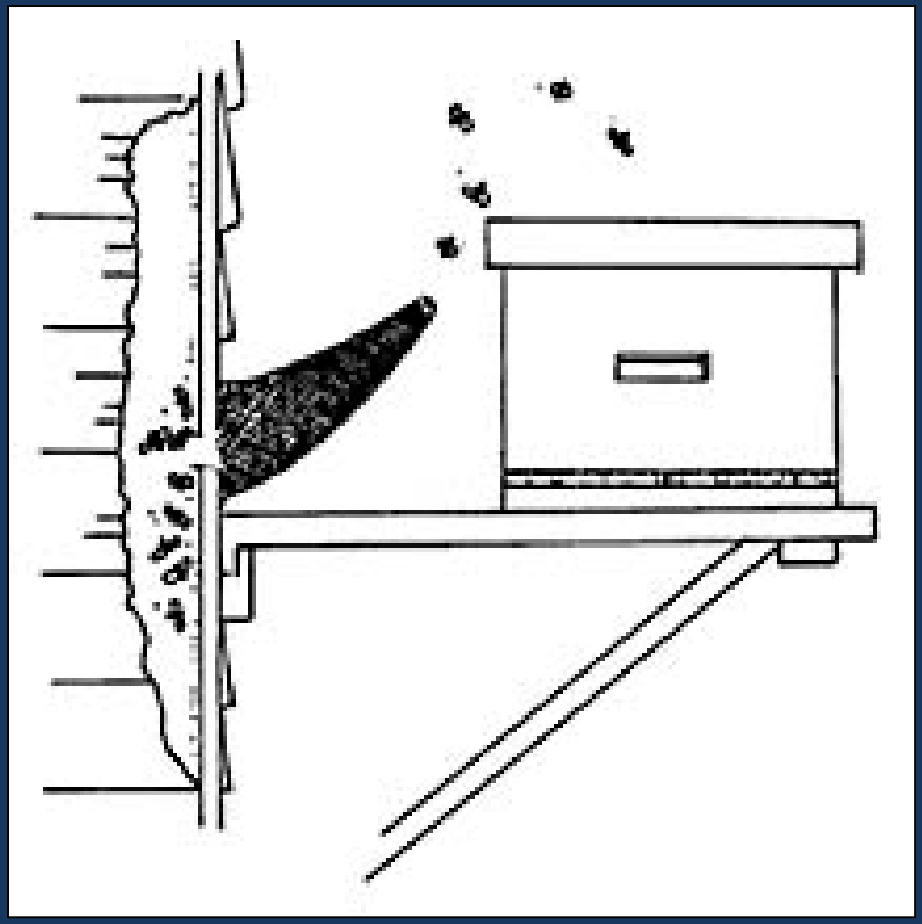
Photo: Suzanne Jurgens

In addition to getting bees with bait boxes there are two other methods

Cut out

Trap out

Concept with a trap out



FL0520610C
FL0520610C

- The home owner has the right to do work on their own home, any one else needs to be licensed if you are hired to do work for a homeowner.

LCBAOR.org

Hives In Buildings

Eugene-Springfield

Don Martin	541-510-9700	
Patrick Waters	541-517-3400	
Brent Hefley	541-515-0882 (text)	
Dale Beam	541-896-3857	
Jim Reed	541-988-4332	
Michael Kenworthy	541-895-3582 (text	541-461-4818 (text)
Francis Rothauge	541-520-8391	

Coastal Areas

Max Kuhn	541-999-0744
Larry Scoville	541-228-0973
Wesley Voth	541-268-1916

McKenzie River

Dana Burwell	541-896-3136
Dale Beam	541-896-3857

Cheshire South to Loraine

Don Martin	541-510-9700

Cottage Grove

Francis Rothauge	541-520-8391
Brent Hefley	541-515-0882 (text)
Jane Hopf	541-743-6993

Questions?

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SWARMING AND BAIT HIVES

ROOT PUBLICATIONS

Mar 2017

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Bee Culture

The Magazine Of American Beekeeping

www.BeeCulture.com

Flower Power

Killing *Varroa*

Beekeeping History

Pesticides In Colonies