

Beekeeping Basics



By

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Why Keep Bees?

- Honey – Another product to market
- Pollination
 - Value to US Agriculture - \$40 billion/yr
 - Worth 50-60 times the value of honey & wax




Loss of Honey Bees as Pollinators

- More than 50% of managed colonies have been lost in 50 years; 25% in just five years
- Populations of native pollinators also in steep decline – 70-90% of wild bees lost in many states
- More than 90% of flowering plants depend on pollinators to produce seed



Dependence of Selected Crops on Honey Bee Pollination

Crop	Crop Loss Without Honey Bee Pollination
Apples	80%
Cherries	60%
Pears	50%
Strawberries	30%
Asparagus	90%
Cabbage	90%
Carrots	60%
Sunflowers	80%
Watermelons	40%



**You don't have to produce
honey to reap huge benefits
from keeping bees!**



Basic Equipment: Mesh helmet; folding veil; smoker with fuel and lighter; electric uncapping knife; hive tool; bee brush; sting-resistant gloves.



What's It Going to Cost?

Mesh helmet	\$13
Veil	\$14
Smoker	\$34
Gloves	\$7
Hive tool	\$5
Bee brush	\$3
Electric knife	<u>(not necessary to start)</u>
TOTAL	\$76



A typical brood set-up: Bottom board, two deep supers, 20 frames, an inner cover (not visible in this photo), and a telescoping outer cover.



Open hive showing inner cover.



What's It Going to Cost?

Bottom board	\$9
2 Deep supers	\$20
20 Deep frames & foundation	\$30
Inner cover	\$7
Nails, paint	\$3
Outer cover	<u>\$14</u>
TOTAL	\$83
Plus basic equipment	<u>\$76</u>
	\$159



Two “packages” of bees

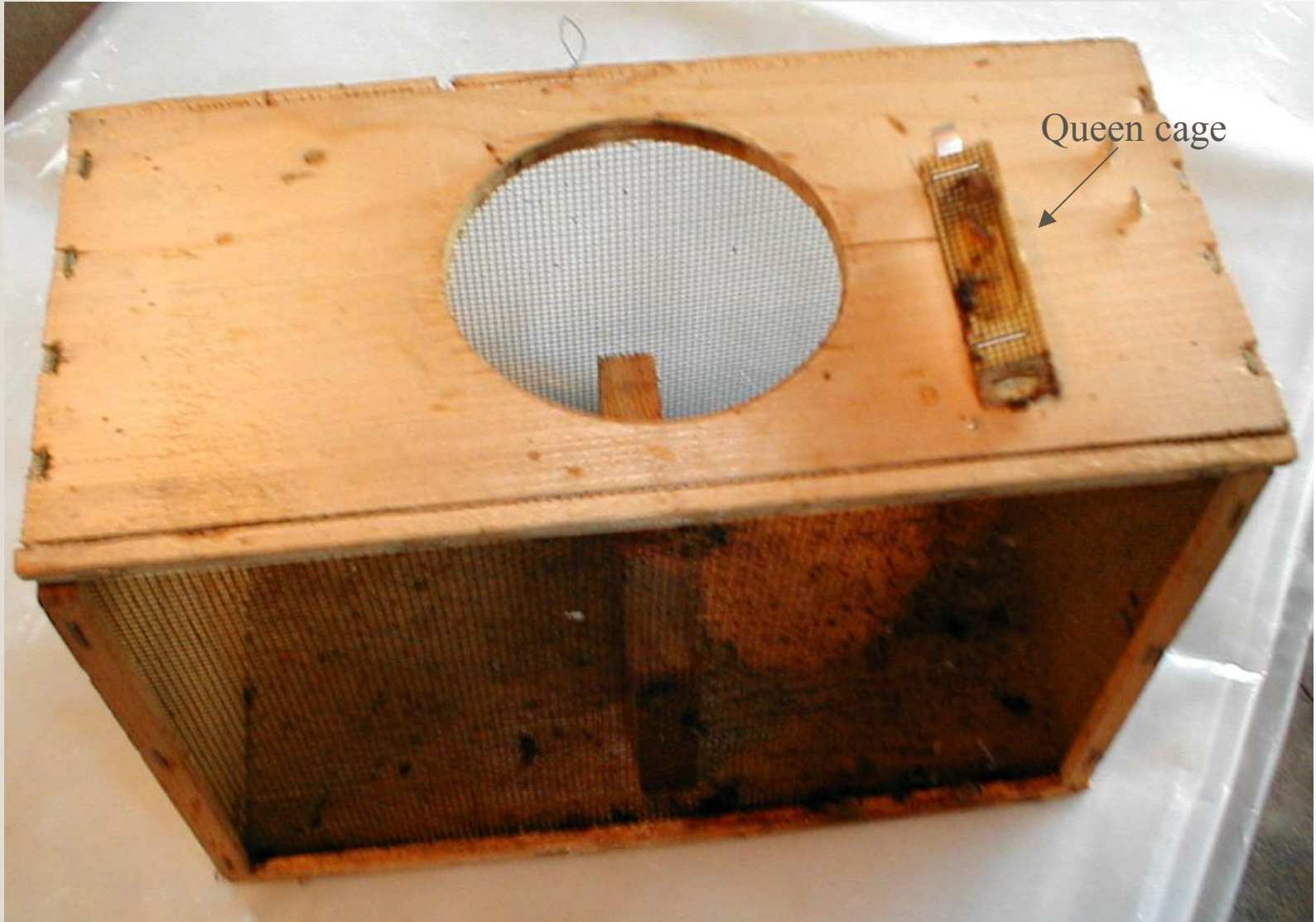


A two-pound package of bees with syrup can.



What's It Going to Cost?

Two-pound pkg. of bees	\$38
Plus equipment	<u>\$159</u>
TOTAL	\$197



Queen cage





The presenter's beeyard. Hives face southeast with a windbreak to the north.



Installation of a package of bees.



Feeding bees after installation.



Feeding Bees

- Feed from installation to dandelion bloom
- Feed a 1:1 or 2:1 (sugar:water) syrup
- Pail feeders work well
- Pollen substitute??



What's It Going to Cost?

Pail feeder	\$4
Sugar	\$2
Plus previous amount	<u>\$197</u>
TOTAL	\$203



Brood nest with
eggs visible in
cells.



Capped larval cells.



Worker bee covered with pollen and carrying full pollen sacks.



Honey Flow Management

- Add honey super as frames in brood nest fill
- When 5-6 frames of honey are capped, add another
- Use medium-depth (6-5/8") supers
- Queen excluder??



Burr comb filled with honey covering the top of a shallow super. Indicates that the bees need another honey super.



What's It Going to Cost?

3 Medium-depth supers	\$21
30 frames & foundation	\$42
Queen excluder	<u>\$8</u>
TOTAL	\$71
Plus previous amount	<u>\$203</u>
	\$274



Typical colony with two deep supers, queen excluder, and shallow honey supers above the excluder.



Gregg Coenen's beeyard near Prairie du Sac, WI



Honey Harvest

- Mid to late August in Wisconsin
- Getting bees out of the supers
 - Brush
 - Bee escape
 - Fume board
- Take only capped honey
- Protect it from robbers



What's It Going to Cost?

Bee brush	0
Bee escape	\$2
Fume board & "Bee Go"	<u>\$15</u>
TOTAL	\$17
Plus previous amount	<u>\$274</u>
	\$291



Extracting Honey

- Keep supers warm and dry
- Borrow an extractor
- Get free 5-gallon buckets from bakeries or delis
- Borrow an electric knife or use a warm filet knife for “uncapping”
- Extracting is messy...do it in the garage



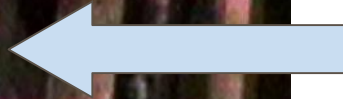
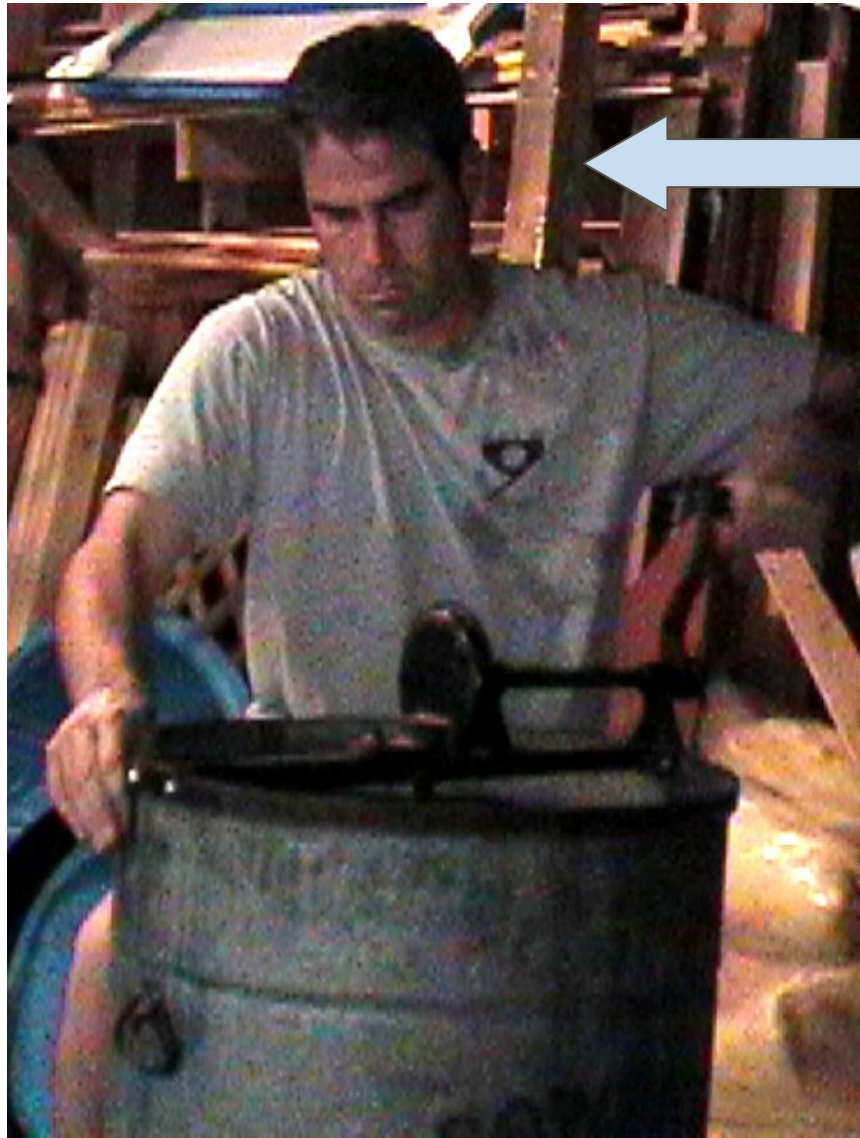
Automatic uncapper at Dan Licht's (Honey Boy Honey Co.)



Manual uncapper at Paul Dietmann's.



Electric extractor with cappings tank to the left.



Cranky extractor

**Hand-crank
Extractor**



Double sieve below the honey gate catches wax and other impurities before honey is stored. Honey is run through cheese cloth as it is being bottled



What's It Going to Cost?

Borrowed extractor	\$0
Borrowed electric knife	\$0
Free 5-gallon buckets	\$0
Cheese cloth	\$5
Plus previous amount	<u>\$291</u>
	\$296



Bottling and Selling

- Wide variety of bottles available. I use canning jars and squeeze bears
- Honey is exempt from food processing regs
- Current (2004) retail prices:
 - Pints - \$5.50
 - Quarts - \$9.00
 - Ross Rounds - \$5.33

Source: Bee Culture magazine, p. 11, Feb. 2004



Bottling bucket with honey gate. Food-grade buckets are available from bakeries. Note hose clamps joined together around rim of bucket to secure cheese cloth.



What's It Going to Cost?

Bucket	\$0
Honey gate	\$10
Hose clamps	\$3
40 pint jars, lids, labels	\$27
Plus previous amount	<u>\$296</u>
	\$323



What could you make?

40 pints (60 lb. Crop) @\$5.50	\$220
--cost of eqpt., bees, supplies	<u>\$323</u>
First year net income (loss)	(\$103)
Second Year	
Income - 40 pints	\$220
Expenses – bees, jars, etc.	<u>\$72</u>
Net income (loss)	\$148



Labor requirements?

- Spring – High. Installation, feeding, manipulation to avoid swarming.
- Summer – Low. Check occasionally, add supers as needed.
- Late Summer – High. Remove honey and extract.
- Fall – Medium. Bottling, labeling, marketing. Feeding and wrapping hives for winter.



A hive ready for a Wisconsin winter. Wrapped with 15# felt tar paper, entrance reducer installed, top hole cut out to allow for ventilation.

Entrance reducer



Same hive on
February 6, 2004.
Melted snow
around lower
entrance indicates
that colony is still
alive.



Other things you need to know

- Disease and mite control
- Winter preparation
- Swarm control
- Swarm capture
- Everything else!



What about Organic Honey??

- US Organic Honey Standards not yet in place
- No pesticides with 2 miles of hive
- Everything natural or organic, including bees, foundation, paint, etc.
- No repellents or other synthetic chemicals
- No heating of honey



Where to get more info

- Other local beekeepers
- Magazines, particularly Bee Culture and American Bee Journal
- State and Local beekeeping organizations
- Beekeeping workshops, particularly University of Minnesota Beekeeping Short Course



Questions?

Thank you!

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