
Four Simple Steps
to Healthier Bees
By Michael Bush Copyright 2008
Common Sense
Choices

Presentations online

- Before you take copious notes, all these presentations are online here:

http://www.bushfarms.com/beespresentations.htm

Four Simple Steps

- No Treatments

Ecology of the Hive

- Over 170 kinds of mites
  - http://www.landesmuseum.at/biophp/arti_det.php?litnr=10335&artinr=13954
- Over 30 kinds of insects
- Over 8,000 kinds of microorganisms
  - http://www.ars.usda.gov/is/ar/archive/aug98/bees0898.htm?pf=1

8,000 microorganisms

- http://www.ars.usda.gov/is/ar/archive/aug98/bees0898.htm?pf=1
- Martha Gilliam's research: http://www.beeuntoothers.com/index.php/beekeeping/gilliam-archives

Effects of treatment on hive ecology

- Fumidil kills some microorganisms
- Terramycin kills many microorganisms (Oxytetracycline)
- Essential oils kill many microorganisms
- Organic acids kill many microorganisms besides other mites and some insects
- Acaracides kill all mites and most insects

Beneficial Organisms

- We know chalkbrood spores prevent EFB
- We know there are bacteria that crowd out EFB and AFB
- We know that stonebrood toxins kill Nosema
- We know that natural flora of the gut creates a film that protects it from pathogens including Nosema
- We know that yeasts and bacteria are necessary for the formation of bee bread which is necessary for the digestion of pollen

Beneficial Organisms

In the study “Symbionts as Major Modulators of Insect Health: Lactic Acid Bacteria and Honeybees” it was shown that the bees have a biofilm made up of beneficial bacteria that protects their gut and makes up part of their immune system. The study showed that it defends against AFB, EFB and Nosema; and that antibiotics kill off and disrupt this biofilm..

Benign Organisms

- Many “benign” organisms crowd out pathogens
- Many “benign” and even pathogenic organisms are in critical balance that can cause problems if this relationship collapses

No Treatments

- Maintain the rich ecosystem of the hive
- Put selective pressure where it belongs

Treating breeds weak bees

- As long as we treat we don't allow any selective pressure for the challenges that the bees face
- If we don't treat we breed resistance to:
  - AFB
  - EFB
  - Varroa Mites
  - Tracheal Mites
  - Nosema

Treating breeds super parasites and pathogens and weak bees

- As long as *do* we treat for anything we put selective pressure on the parasite or pathogen. Only the strongest most virulent and most prolific survive.
- As long as we *don't* treat we put selective pressure on the parasite to be in balance with it's host. In other words to not kill the host.
- As long as we create an artificial system propped up and shaped by outside forces a balance cannot be established.

No Treatments

- Maintain the rich ecosystem of the hive
- Put selective pressure where it belongs
- Keep the combs clean of chemicals

Wax is a sponge for many chemicals

- Many of the acaracides we use are lipophilic (love oil) and they absorb into the wax.
- Many of them are already contaminating the foundation we use and concentrations only go up when we add more.

No Treatments

- Maintain the rich ecosystem of the hive
- Put selective pressure where it belongs
- Keep the combs clean of chemicals
- Chemicals interfere with the natural communication of the hive, which is by smell

In the Dark of the Hive

- Honey bees have 165 odorant-receptor genes. 2 x fruit flies and mosquitoes.
- Communication in the hive is by vibration and by smell
- Most chemicals and especially essential oils greatly interfere with smell
- Smell is how the bees know there is a queen
- Smell is how the bees know when brood needs to be fed
- Smell is part of how bees communicate the location of nectar sources

Downsides of Not Treating

- Some hives will die off
  - Aren't they dying already?
  - If they die, good riddance to bad genes
  - If they survive, welcome good genes
  - You can make up late splits and overwinter them to cover losses

Advantages to No Treatments

- You don't have to purchase treatments
- You don't have to drive to the yards and put them in
- You don't have to drive to the yards and pull them out
- You don't contaminate your wax
- You don't upset the ecosystem of the hive
- You can breed for bees that can survive
- You can breed for mites that can live in balance

Four Simple Steps

- No Treatments
- Breeding Local Survivors

Local Survivors Are:

- Locally adapted to your climate.
- Are bred from survivors that can handle the challenges of your area.
- You can raise your queens at optimum times for nutrition and drones.
- Are probably never caged which allows better ovariole development, better pheromones
  - Better pheromones makes less swarming and better acceptance
  - Better ovariole development means more prolific queens

Longer lived queens and queens good at successful supersedure

- If we breed from queens that have shown longevity and good supersedure skills:
  - Less work as no need to requeen
  - Even if you do requeen you can do so with cells which saves finding the old queen

Other advantages

- Save money by not buying queens
- Keep spare nucs with queens so you have them whenever you need them
- Contributes to the overall genetic diversity of the honey bees in North America

Be Part of the Solution

"If you're not part of the genetic solution of breeding mite-tolerant bees, then you're ***part of the problem***"– Randy Oliver

Africanized Honey Bee Areas

- Do you care about their ancestry or their Temperament?
- Breed for gentleness
- Breed for survivability
- Breed for productivity
- Cull for aggressiveness

Four Simple Steps

- No Treatments
- Breeding Local Survivors
- Natural Food

Pollen is better than substitute

- Studies show bees raised on pollen substitute are short lived

pH of Honey and pH of Sugar Syrup

- Sugar syrup has a much higher pH (6.0) than Honey (3.2 to 4.5) (Sugar is more alkali)
- Conversely, honey has a much lower pH than sugar syrup (Honey is more acidic)
- This affects the reproductive capability of virtually every brood disease in bees plus Nosema. They all reproduce better at pH 6.0 than at 4.5.

Historic Observation

"It is well known that improper diet makes one susceptible to disease. Now is it not reasonable to believe that extensive feeding of sugar to bees makes them more susceptible to American Foul Brood and other bee disease? It is known that American Foul Brood is more prevalent in the north than in the south. Why? Is it not because more sugar is fed to bees in the north while here in the south the bees can gather nectar most of the year which makes feeding sugar syrup unnecessary?"--Better Queens, Jay Smith

Chalkbrood as example

- "Lower pH values (equivalent to those found in honey, pollen, and brood food) drastically reduced enlargement and germ-tube production. Ascosphaera apis appears to be a pathogen highly specialized for life in honeybee larvae."--Author. Dept. Biological Sci., Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA, Devon, UK. Library code: Bb. Language: En. Apicultural Abstracts from IBRA: 4101024

Similar information is available concerning other bee diseases

- Try a search for pH and AFB or EFB or Nosema and you'll find similar results on their reproductive capability related to the pH or honey and sugar syrup

Differences in pH affect other beneficial and benign organisms in the hive

- The other 8,000 microorganisms in the are also affect by changes in pH
- Using sugar syrup disrupts the ecological balance of they hive by disrupting the pH of the food in the hive and the food in the bees' gut

Downside of leaving honey for feed

- Honey is worth more than sugar syrup
  - By the time you take into account the value of your time to harvest the extra honey and then buy the sugar, make syrup and haul the syrup to the outyards and feed the syrup, how much extra money have you made?
  - By the time you've set off robbing and gotten the weaker hives killed feeding how much extra money have you made?
  - If your bees are less healthy and you lose more colonies, how much extra money have you made?

Upsides of leaving honey

- Less robbing
- Less drowning
- Less work (less to harvest, no syrup to make and feed)
- Less trips to the beeyard
- Less brood diseases
- Healthier more balanced ecosystem in the hive

Four Simple Steps

- No Treatments
- Breeding Local Survivors
- Natural Food
- Natural Comb

Using Natural Cell Size Against Varroa?

Either cell size helps with Varroa or it does not

- If it does, you have helped the Varroa problem
- If it does not, you have not hurt the Varroa problem

Cell Size and Bee Size

- Standard foundation has been upsized
- That upsizing has caused a bee that is 150% of it's natural size
- The fact that upsizing foundation makes a bigger bee and that we now have upsized is well documented by Baudoux, Pinchot, Gontarski, McMullan and Brown.

A couple of References

- Recent: The influence of small-cell brood combs on the morphometry of honeybees (Apis mellifera)--John B. McMullan and Mark J.F. Brown
- Historic references are listed here: see www.bushfarms.com/beesnaturalcell.htm near the bottom of the page (including a link to the above paper)

What is natural cell size?

Reasonable Assumptions

- Can we assume that the bees know the answer to this question?
- Can we assume if we let them they will answer the question?
- Can we assume that doing what is natural for them is the most likely correct size for cells?

Disadvantages to natural comb

- Change is difficult
- More fragile at first
- Must level the hives

Advantages to natural comb

- Less work for the beekeeper
- Clean wax
- Healthier bees

Clean Wax

- Natural comb is really the *only* way to get clean wax in your hives
- The beeswax supply is contaminated and foundation, right out of the box, is contaminated with fluvalinate, coumaphos, amitraz and other lipophilic pesticides
- Only if you already have clean wax and a press could you make your own clean foundation

Contaminated Wax

- Causes infertile queens
- Causes infertile drones
- Causes frequent supersedures
- Causes weakened bees

Five different ways to get natural comb

- With standard wedge frame, just break out the wedge and nail it sideways. You were going to break it out and nail it anyway right?
- With grooved top bars, put popsicle sticks in the groove or a half of a paint stick or a piece of a one by ripped
- With drawn wax, just cut the center of the comb out leaving a row of cells around the edges
- With an old frame with no comb, just put it between two drawn brood combs
- With a plastic foundation/frame, just cut the center of the foundation out leaving a row of cells around the edge

Foundationless Frame

Foundationless Frame

FAQs

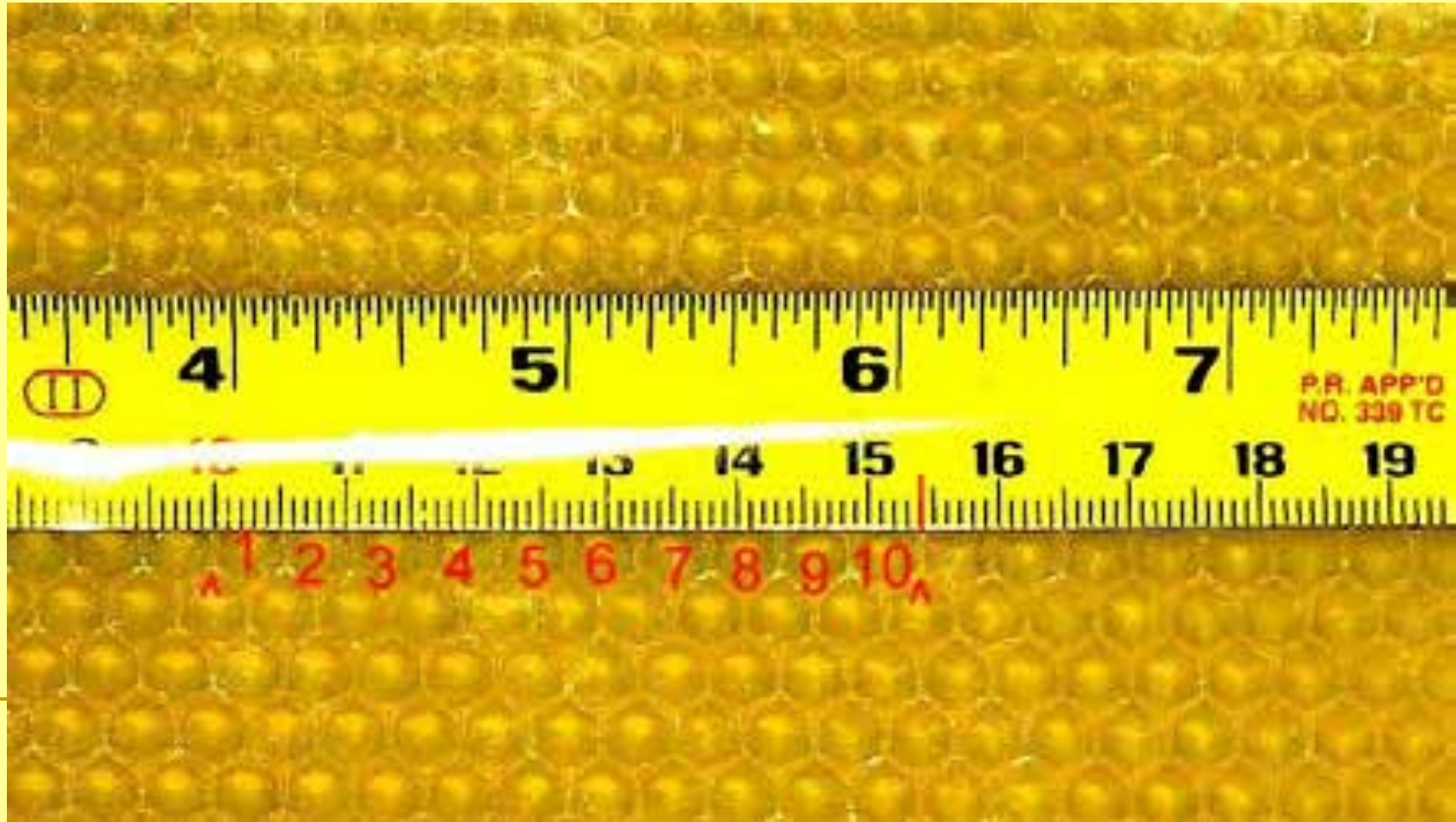
- Can I wire them?
  - If you like. I don't.
- Can I extract them?
  - I do all the time.
- Won't they just build drones?
  - Only the first frame or two.
- Will they mess them up?
  - No more often than they do with foundation.
- Don't they have to have foundation to draw comb?
  - They have been drawing comb for millions of years without foundation.

How fast?

- Any of these conversions (no treatments, raising local stock, natural comb) can be done gradually. For natural comb, you can do a frame or two a year for each hive until you've changed over. You can stop treating a hive or two until you've stopped treating them all. You don't have to do anything overnight.

What to do with all this foundation?

- Someone probably wants it. Sell it locally at your cost and save them the shipping



Worst Case Scenario

- Assuming cell size doesn't matter
  - It won't hurt to have natural sized cells
  - You should rotate combs out anyway
  - It's less work than foundation
  - It's not contaminated like foundation
  - It will get the contaminated combs out of your hives
  - We know that contamination causes short-lived infertile queens and drones

Best Case Scenario

- Assuming cell size *does* matter
  - Clean wax
  - No Varroa problems
  - Healthier bees
  - Less work

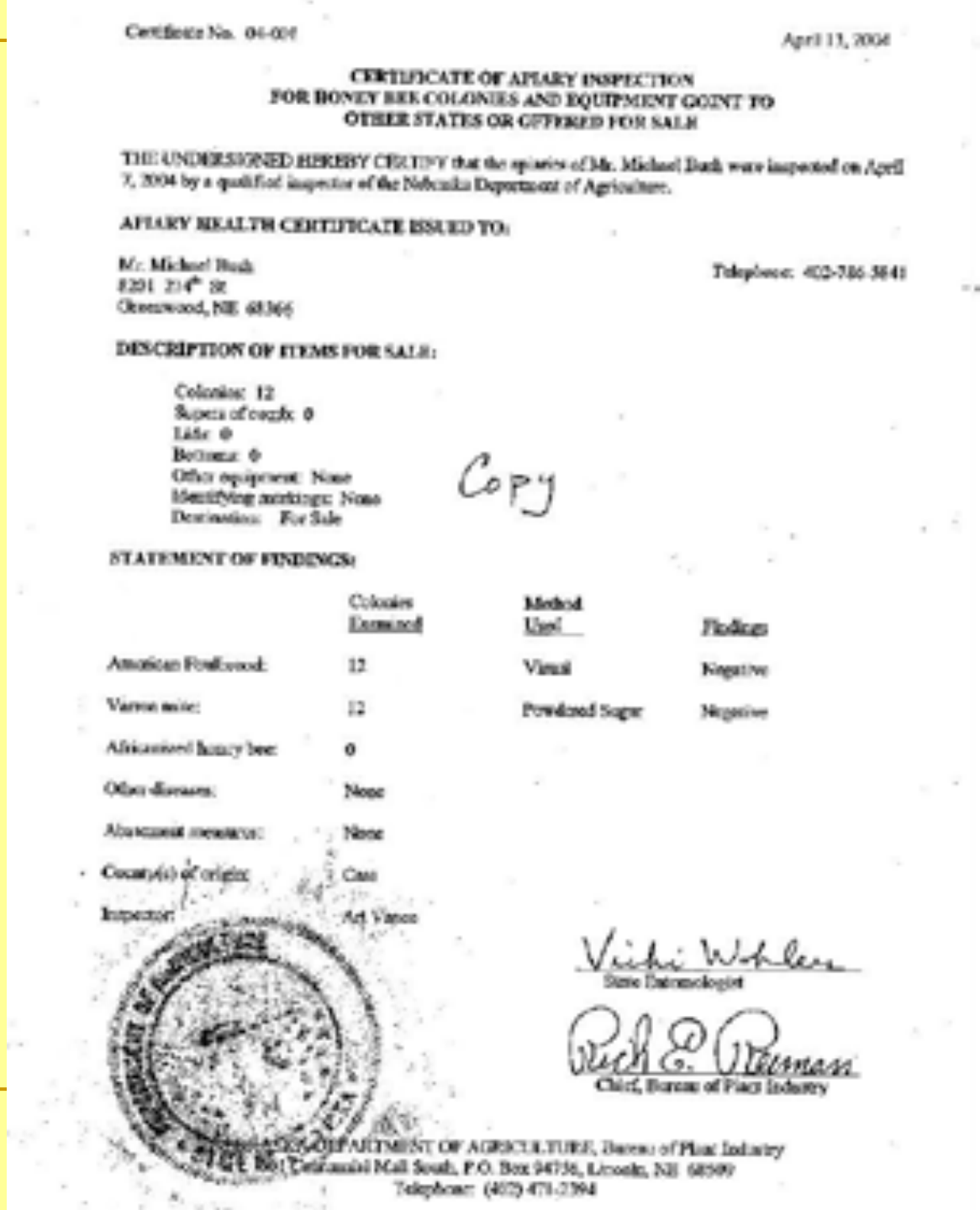
Four Simple Steps

- No Treatments
- Breeding Local Survivors
- Natural Food
- Natural Comb

More Info on Natural Cell

- www.bushfarms.com/beesnaturalcell.htm
- www.bushfarms.com/NaturalCellSize.ppt
- www.bushfarms.com/beesfoundationless.htm

2004 Health Certificate



Certificate No. 04-001

April 13, 2004

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Michael Bush were inspected on April 7, 2004 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Michael Bush
8201 214th St
Greenwood, NE 68366

Telephone: 402-786-3841

DESCRIPTION OF ITEMS FOR SALE:

Colonies: 12
Supers of comb: 0
Lids: 0
Bottoms: 0
Other equipment: None
Identifying markings: None
Destination: For Sale

COPY

STATEMENT OF FINDINGS:

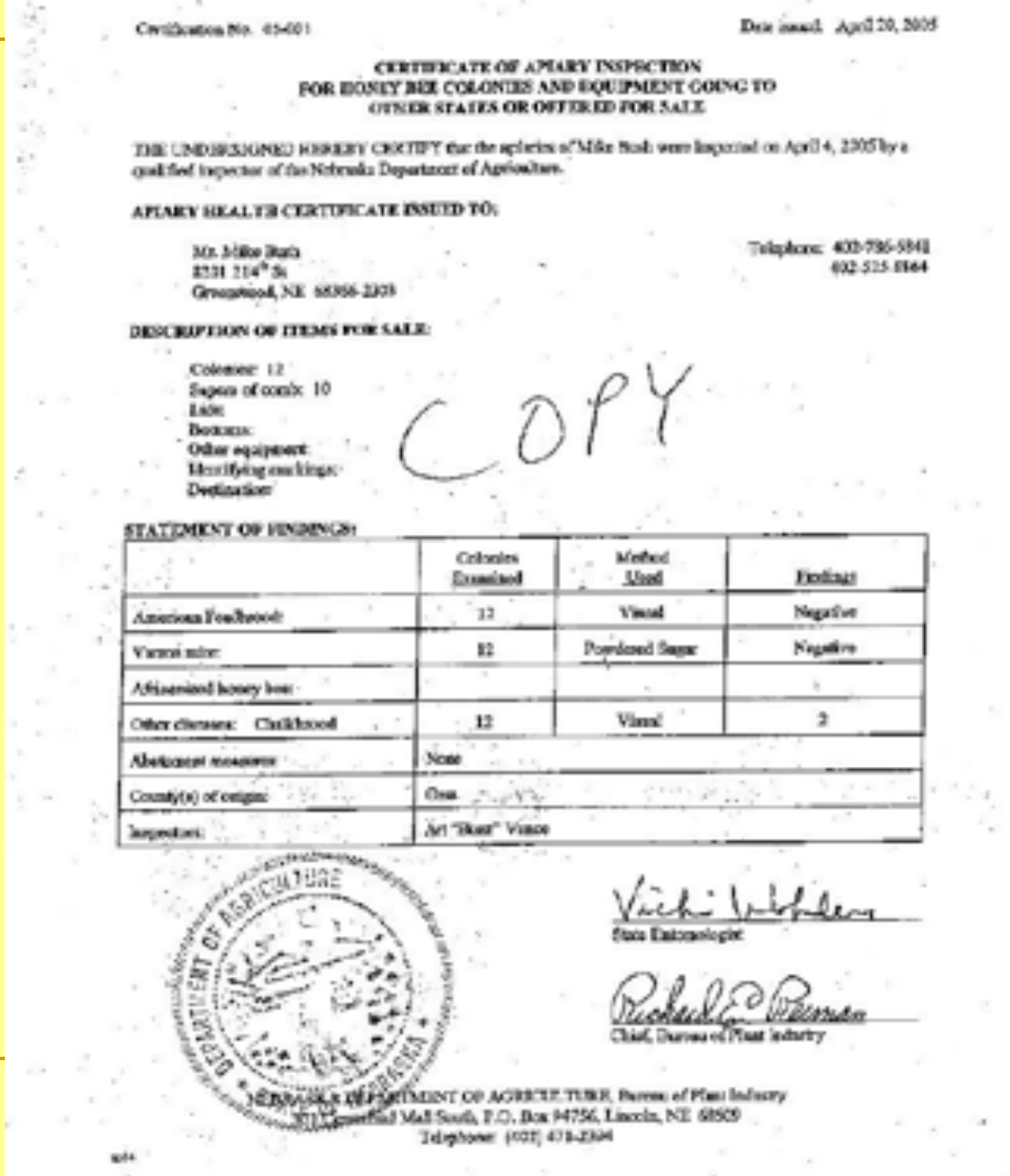
	Colonies Examined	Method Used	Findings
American Foulbrood:	12	Visual	Negative
Varroa mite:	12	Powdered Sugar	Negative
Africanized honey bee:	0		
Other diseases:	None		
Abnormal measures:	None		
County(s) of origin:	Cass		
Inspector:	Art Vance		

Vicki Wheeler
State Entomologist

Rick E. Bergman
Chief, Bureau of Plant Industry

DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
301 Centennial Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

2005 Health Certificate



Certification No. 05-001 Date issued April 20, 2005

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO
OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mike Stolz were inspected on April 4, 2005 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Stolz
8231 214th St.
Greenwood, NE 68366-2303

Telephone: 402-786-5941
402-525-8864

DESCRIPTION OF ITEMS FOR SALE:

Colonies: 12
Supers of comb: 10
Hives:
Bottoms:
Other equipment:
Identifying markings:
Destination:

COPY

STATEMENT OF FINDINGS:

	Colonies Examined	Method Used	Findings
American Foulbrood:	12	Visual	Negative
Varroa mite:	12	Powdered Sugar	Negative
Africanized honey bee:			
Other diseases: Chalkbrood	12	Visual	2
Abdormal measures:	None		
County(s) of origin:	Otoe		
Inspectors:	Art "Bud" Vance		

State Entomologist

Chief, Bureau of Plant Industry

NEBRASKA DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
301 Centennial Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

2006 Health Certificate

Certification No. 06-001 Date issued May 31, 2006

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO OTHER STATES OR OFFERED FOR SALE

THIS UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Mike Rush were inspected on April 6, 2006 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Rush
8201 – 214 St
Commerce, NE 68368

Telephone: 402-416-5841

DESCRIPTION OF SHIPMENT/ITEMS FOR SALE:

COPY

Colonies: 35
Supers of comb:
Lids:
Bottoms:
Other equipment:
Identifying markings:
Destination:

STATEMENT OF FINDINGS:

	Colonies Examined	Method Used	Findings
American Foulbrood:	35	Visual	Negative
Varroa mite:	35	Visual	Negative
Africanized honey bee:			
Other diseases: Chalkbrood	15	Visual	1
Abatement measures:	None		
County(s) of origin:	Cass		
Inspector:	Art (Buzz) Vance		

Vickilee B. Wohlers
State Entomologist

Richard E. Ratzman
Chief, Bureau of Plant Industry

NEBRASKA DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
[illegible] Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

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2007 Health Certificate

Certificate No. [illegible] Date issued: May 29, 2007

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Mike Bush were inspected on May 10, 2007 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Bush
8201 – 214th St.
Gannawood, NE 68366

Telephone: 402-789-5841

DESCRIPTION OF QUEENS FOR SALE:

Colonies:
Supers of comb:
Lids:
Bottoms:
Other equipment:
Identifying markings:
Destination:

COPY

STATEMENT OF FINDINGS:

	Colonies Inspected	Method Used	Findings
American Foulbrood:	20	Visual	0
Varroa mite:	20	Visual	0
Africanized honey bee:			
Other diseases:	20	Visual	0
Abnormal constituents:			
County(s) of origin:	Otoe		
Inspected:	An (Buzz) Vasco		

DEPARTMENT OF AGRICULTURE
STATE OF NEBRASKA

[signature]
Chief, Bureau of Plant Industry

DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
301 Centennial Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

2008 Health Certificate

Certification No. 0018 Date issued: May 6, 2008

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO
OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Mike Bush were inspected on April 15, 2008 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Bush
8201 – 216th St
Gretnwood, NE 68366

Telephone: 402-786-5841

DESCRIPTION OF QUEENS FOR SALE:

Colonies:
Supers of comb:
Lids:
Bottoms:
Other equipment:
Identifying markings:
Destination:

COPY

STATEMENT OF FINDINGS:

	Colonies Examined	Method Used	Findings
American Foulbrood:	20	Visual	0
Varroa mite:	20	Visual	0
Africanized honey bee:			
Other diseases:	20	Visual	0
Abatement measures:			
County(s) of origin:	Cass		
Inspectors:	Art (Sam) Vance		

Jeff Lininger

Chief, Bureau of Plant Industry

NEBRASKA DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
301 Centennial Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

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2009 Health Certificate

Certification No. 6109 Date issued: May 28, 2009

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO
OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Mike Rush were inspected on May 88, 2009 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Rush
8200 – 214th St.
Greenwood, NE 68366

Telephone: 402-786-5841

DESCRIPTION OF QUEENS FOR SALE:

Colonies:
Supers of each:
Lids:
Bottoms:
Other equipment:
Identifying markings:
Destination: Queens for Sale

COPY

STATEMENT OF FINDINGS:

	Colonies Examined	Method Used	Findings
American Foulbrood:	33	Visual	0
Varroa mite:	33	Visual	0
Africanized honey bee:			
Other diseases: Chalkbrood	33	Visual	1
Abatement measures:	None		
County(s) of origin:	Cass		
Inspectors:	Art (Buzz) Vance		

State Entomologist

Chief, Bureau of Plant Industry

NEBRASKA DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
1301 Centennial Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

2010 Health Certificate

Certification No. 0110 Date Issued: June 15, 2010

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Mike Bush were inspected on June 4, 2010 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Bush
8201 – 214th St.
Greenwood, NE 68366

Telephone: 402-786-5841

DESCRIPTION OF QUEENS FOR SALE:

Colonies:
Supers of comb:
Lids:
Bottoms:
Other equipment:
Identifying markings:
Destination: Queens for Sale

STATEMENT OF FINDINGS:

	Colonies Examined	Method Used	Findings
American Foulbrood:	16	Visual	0
Varroa mite:	16	Open Drone Brood	10
Africanized honey bee:			
Other diseases: Chalkbrood	16	Visual	0
Abatement measures:	None		
County(s) of origin:	Cass		
Inspectors:	Art (Russ) Vance		

State Entomologist
Richard E. Palmer
Chief, Bureau of Plant Industry

NEBRASKA DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
301 Centennial Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

2011 Health Certificate

Certification No. 0111 Date Issued: August 18, 2011

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO
OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Mike Bush were inspected on May 31, 2011 by a qualified inspector of the Nebraska Department of Agriculture.

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Bush
8201 – 214th St.
Greenwood, NE 68366

Telephone: 402-788-3641

DESCRIPTION OF QUEENS FOR SALE:

COPY

Colonies:
Supers of comb:
Lids:
Bottoms:
Other equipment:
Identifying marking(s):
Destination: Queens for Sale

STATEMENT OF FINDINGS:

	Colonies Examined	Method Used	Findings
American Foulbrood	8	Visual	0
Varroa mite	8	Open Drone Brood	1
Africanized honey bee			
Other diseases: Chalkbrood	8	Visual	0
Adulterated containers	None		
County(s) of origin	Cass		
Inspectors	Art (Buzz) Vasco		

Richard L. Runner
Chief, Bureau of Plant Industry

NEBRASKA DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
301 Centennial Mall South, P.O. Box 94756, Lincoln, NE 68509
Telephone: (402) 471-2394

2012 Health Certificate

Certification No. 0212 Date issued: June 21, 2012

CERTIFICATE OF APIARY INSPECTION
FOR HONEY BEE COLONIES AND EQUIPMENT GOING TO
OTHER STATES OR OFFERED FOR SALE

THE UNDERSIGNED HEREBY CERTIFY that the apiaries of Mr. Mike Bush were inspected on May 16, 2012 by a qualified inspector of the Nebraska Department of Agriculture.

COPY

APIARY HEALTH CERTIFICATE ISSUED TO:

Mr. Mike Bush
8201 – 214th St.
Greenwood, NE 68366

Telephone: 402-[illegible]

DESCRIPTION OF ITEMS FOR SALE:

Colonies: 23
Supers of comb:
Lids:
Bottoms:
Other equipment:
Identifying markings: None
Destination: For Sale

STATEMENT OF FINDINGS:

	Colonies Examined	Method Used	Findings
American Foulbrood:	23	Visual	0
Varroa mite:	23	Visual	0
Chalkbrood:	23	Visual	0
Other diseases:			
Abatement measures:	None		
County(s) of origin:	Cass		
Inspector:	Butz Vance		

State Entomologist

Chief, Bureau of Plant Industry

NEBRASKA DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry
301 Centennial Mall South, P.O. Box 94668, Lincoln, NE 68509
Telephone: (402) 471-2351

APIS.doc

Contact Info

Michael Bush

bees at bushfarms dot com

www.bushfarms.com

Book: The Practical Beekeeper

"It will be readily appreciated that in the course of many years and daily contact with bees, the professional bee-keeper will of necessity gain a knowledge and insight into the mysterious ways of the honeybee, usually denied to the scientist in the laboratory and the amateur in possession of a few colonies. Indeed, a limited practical experience will inevitably lead to views and conclusions, which are often completely at variance to the findings of a wide practical nature. The professional bee-keeper is at all times compelled to assess things realistically and to keep an open mind in regard to every problem he may be confronted with. He is also forced to base his methods of management on concrete results and must sharply differentiate between essentials and inessentials."--Beekeeping at Buckfast Abbey, Brother Adam

Quotes

"Contradiction is not a sign of falsity, nor the lack of contradiction a sign of truth." --Blaise Pascal

"All models are wrong, but some are useful" -- George E.P. Box

" 'Tis with our judgments as our watches, none Go just alike, yet each believes his own." -- Alexander Pope