

# Why Adopt a Honey Standard?

Dr. Malcolm T. Sanford

Apis Enterprises

<http://apis.shorturl.com>

# Topics in This Talk:

- Definition of honey
- Types of honey
- Adulteration and contamination issues
- Consequences of no standard
- Efforts to adopt a standard (U.S. – Florida)
- Strategies
- Conclusions

# What is Honey?

- Official Definition: National Honey Board 1996
- **Honey** is the substance made when the nectar and sweet deposits from plants are gathered, modified and stored in the honeycomb by **honey** bees.
- The **definition** of **honey** stipulates a pure product that does not allow for the addition of any other substance. This includes, but is not limited to, water or other sweeteners.

# Problems with Definition

- Broad general definition
- Many honey types exist
- Judged on taste, aroma – subjective
- Color (Pfund grader) – more objective?
- Geographic origin (mountain honey)
- Plant Origin (wildflower, tupelo, citrus)

	Average	Range	Standard Deviation
Fructose/Glucose Ratio	1.23	0.76 - 1.86	0.126
Fructose, %	38.38	30.91 - 44.26	1.77
Glucose, %	30.31	22.89 - 40.75	3.04
Minerals (Ash), %	0.169	0.020 - 1.028	0.15
Moisture, %	17.2	13.4 - 22.9	1.46
Reducing Sugars, %	76.75	61.39 - 83.72	2.76
Sucrose, %	1.31	0.25 - 7.57	0.87
pH	3.91	3.42 - 6.10	---
Total Acidity, meq/kg.	29.12	8.68 - 59.49	10.33
True Protein, mg/100g.	168.6	57.7 - 567	70.9

# Types of Honey

- Comb
  - Square sections
  - Rounds
- Chunk
- Blended (packer's blend) Funny Honey
- Extracted, liquid (U.S. Grade A)
  - Granulated (crystallized)
  - Partially crystallized (creamed)

Grade	Flavor and Aroma Description	Score Points
Grade A	Good - free from caramelization, smoke, fermentation, chemicals, and other causes	46-50
Grade B	Reasonably good - practically free from caramelization, free from smoke, fermentation, chemicals, and other causes	40-44
Grade C	Fairly good – reasonably free from caramelization, free from smoke, fermentation, chemicals, and other causes	35-39
Substandard	Poor – Fails Grade C	0-34

# Economic Adulteration

- Adding anything that the bees don't to increase the profit margin of selling honey
- Water – self limiting 20% - fermentation!
- Sugar
- Flour?, etc., a basis for the first food laws
- High Fructose Corn Syrup (HFCS) of special importance since 1970s; used in many human applications
- Glucose, Beet sugar (from a Dicot!)

# Contamination

- Antibiotics – sulfa drugs, Terramycin (oxytetracycline) in U.S. and Canada and more recently chloramphenicol (China), nitrofurans (Argentina)
- Pesticides both outside (spraying) and inside (controlling mites) bee hives
- Potentially others in the pipeline?

# Consequences of No Standard

- Difficult to control adulteration; misbranding rampant : The Wall of Shame:  
<http://bee-quick.com/wall/>
- Those injured due to adulterated products have little recourse to those adulterating
- Public remains confused and misinformed
- Especially true when honey used as a medicine or pharmaceutical – nutraceutical
- U.S. has no standard; Europeans do

# Honey Graham Life (Quaker Oats)

- **Ingredients:** Oat Flour, Sugar, Corn Flour, Whole Wheat Flour, Rice Flour, Natural and Artificial Flavor(s), Calcium Carbonate, Salt, Disodium Phosphate, Caramel Color, Reduced Iron, Niacinamide, Zinc Oxide, BHT Preservative, Yellow 5, Yellow 6, Thiamine Mononitrate, Pyridoxine Hydrochloride (HCL), Riboflavin, Folic Acid

# European Model

- Joint FAO/WHO Food Standards Programme.  
The main purposes are protecting health of the consumers and ensuring fair trade practices in the food trade, and promoting coordination of all food standards work undertaken by international governmental and non-governmental organizations

# U.S. Efforts to Adopt a Standard

- Honey Industry Roundtable 2005, spearheaded by the National Honey Board
- Asked FDA to develop and adopt a standard based on the European model (Codex alimentarius)
- FDA refused in part because the process thought to “reduce competition.”
- Finally refused due to lack of funds to implement and enforce

# Why did the FDA say no?

- Previous problems enforcing economic adulteration; a Michigan test case in 1995 resulted in acquittal with “egg on face”
- Considerable doubt in the mind of the jury about “what constituted purposeful adulteration” (no standard!)
- Due to lack of funds “other agency priorities and limited resource availability.”

# Alternative Plan

- Get a standard adopted in states
- Based on the concept that if enough states adopt a standard it will give notice to the FDA and this might cause a reaction
- Oregon's Death With Dignity Act of 1997 forced then Attorney General John Ashcroft to attempt to overturn the law, and this went all the way to the supreme court (upheld!)

# Efforts in Florida

- Use “rule making” to modify the definition of honey, without legislative action
- Rules are intended to facilitate the governmental process, level the playing field, and protect the rights of all
- Provides recourse to the civil courts, whereas criminalization does not
- Get the Ag Commissioner’s attention; he has come around to supporting the concept

# Overall Strategy

- It converts a run-of-the-mill strategy of lobbying government to “do the right thing” into a truly ground-breaking one of accessing the civil courts as a lever to get it done.
- It becomes possible to inflict economic pain on violators, while at the same time putting pressure on government agencies to look at enforcement options.

# Burden of Proof

- Criminal case (high) vs. Civil Case (not as high)
- O.J. Simpson example
- Acquitted of crime of murder
- Civil suit effectively caused suffering via economic hardship
- Convicted of burglary

# What Standard?

- Challenge in Florida was to determine the exact standard to use in proposed Rule SK-4.027: The one to be adopted substantially conforms to criteria set forth in the “Codex Standard for Honey, 12-1981, Rev. 1(1981), Rev. 2 (2001)”
- Codex Alimentarius – International food standard by FAO/WHO already “vetted” scientifically sound and legally responsible.

# Campaign to Adopt a Standard

- Keys - Adopted standard must be standard (**the same in every state!**)
- States contacted CA (Federation meeting) and GA
- Others indicating interest:

OR, TX, KS, OH, ND, SD, MD,  
NC, WV, VA, NY, UT, and WI

# Campaign to Adopt the Standard

- “Stay the course and focus first on getting the standard adopted. No standard, no action.” For more information, contact Ms. Gentry at [farmbees@gmail.com](mailto:farmbees@gmail.com)

Conclusions: Adopting a standard via rulemaking provides access to the civil courts and in the long run forces regulatory bureaucracies to change course

# Honey's Reputation

- A great reputation for food and health
- Association with the honey bee and nature
- Must be guarded from adulteration and contamination at all costs
- If regulatory bodies take no action, others can via the civil courts
- Nothing happens without a Standard!