

*Yeah ok, well we found this mouse in a bottle of YOUR beer, eh, and we was at a party and a friend of ours, a cop, had some and HE PUKED and he said come here and get free beer, or uh, he'll press charges.*

-- Doug McKensie, [Strange Brew](#)

The main reason for hobbyists to keep HONEY bees is that they produce surplus HONEY. Yes, pollination is a huge and important "product of the hive" but there are other pollinators that are simpler, cheaper and sometimes more effective for backyard hobbyists to keep. It is the production of vast amounts of surplus honey that separates our bees from all other creatures on our planet.

So every successful beekeeper must deal with a honey harvest. "Honey harvest" is just another way of saying "moving honey from the hive into storage containers." In earlier articles we've discussed ways to do that (e.g., see [Spinning Gold](#)). For most of us, this process ends up with honey in jars or bottles suitable for the end consumer, whether that is us, our friends and family or our customers.

Putting honey in a bottle sounds simple enough but I have seen many examples of creative ways to get it wrong. I've personally done my share of boneheaded goof-ups! However if we keep in mind a small handful of important tips, we can produce a product to be proud of. Even though our honey doesn't have to be State Fair quality, it should illustrate care, quality and healthiness. Hundreds of thousands, if not millions, of bees gave their lives to produce our harvest, and we put in quite a bit of effort ourselves. Let's respect that sacrifice and also show people that we aren't lazy, know-nothing bumpkins.

### The honey

Honey should be no more than 18.6% moisture. Honey wetter than this will likely ferment, which is a very bad thing. Naturally-fermented honey stinks terribly and tastes horrible. Honey that has been fully or mostly capped will usually be sufficiently dry, but not always. Use a honey refractometer to ensure



Award-winning honey that looks good enough to eat!

that it is properly cured. A reasonably decent hand-held refractometer can be purchased for around \$75 or so. \$75 may sound like a lot for a gizmo we'll only use once a year, but if it keeps us from ruining a bucket of honey, it is well worth it. Five gallons of honey (60 pounds) at \$10 per pound will pay for a whole lot of refractometers. Even better, convince a bee buddy to buy one and then borrow theirs! However we do it, we should check the moisture level.

Make sure to buy or borrow a refractometer that is calibrated for HONEY (lots of solids, very little moisture) instead of accidentally buying one that is calibrated for wine, beer or saltwater aquariums (lots of moisture, very little solids). One will not work for the other.

Don't bottle honey straight from the extractor. Let it sit for several days in a bucket after extracting so that foam, wax flecks, bee legs, etc. will rise to the top and can be skimmed off the surface. A noticeable layer of foam on the top surface of honey in the jars is unappetizing and indicates that the beekeeper either doesn't know how to take proper care of the honey or doesn't bother. Regardless, it simply isn't a high-quality product.

### Which bottle?

There is a dizzying array of options available for honey containers. Choices are partly driven by the form of honey, for example chunk honey needs to go into a wide-mouth jar so that the comb can be easily inserted and removed without breakage. Cremed honey is often sold



Honey bottles and jars come in an almost limitless variety of shapes and sizes. They can be found in glass, plastic, ceramic or metal.

in short, fat containers that allow it to be easily scooped out with a knife as you would pimento cheese or peanut butter. But by far, the most common form of honey these days is liquid honey; it typically comes in small-mouth (regular mouth) containers that make pouring easier.

Containers sizes are seemingly unlimited. There are two-ounce “baby bears”, half-pound, half-pint, pound, pint, two-pound, quart and gallon jars, not to mention buckets, barrels and single-serving straws. On top of that, we have a choice between glass, plastic, ceramic or even metal.

What should we go with? Consider your audience and your goals. If you are only bottling honey for your personal home use, recycled mayonnaise jars are wonderful – don’t even bother removing the original label! But if anybody outside of your house is going to get a jar, take a tip from wine connoisseurs. I don’t know much about fine wine, but my understanding is that experts check the quality of the cork. That’s because nobody puts an expensive, high-quality cork into a bottle of nasty ol’ cheap wine. The same should hold true for your honey: if it is worth having, the container should reflect that fact. There is a store in Savannah that sells its honey in fancy wine-type bottles, 20 ounces for \$25 and up. Is the honey worth that price? I don’t know, but I’ll bet it isn’t bad.

With regard to sizes, I have learned that two or three different size options are a good thing, but more than that becomes a problem. Shoppers like having a choice between “a lot” and “a little”, but if we are given ten different size options in four-ounce increments, it makes decision-making extremely difficult. Deep down, I don’t care whether I buy 28 ounces or 32, and I don’t want to have to do higher math to figure out if one is a better deal than the other. Please spare me the stress of having to decide!

I’ve also learned that small, cheaper sizes compete directly with larger, more lucrative ones. That’s why I don’t sell honey sticks anymore. When Little Billy is whining for some honey, Mom will just as easily spend \$2 or \$3 for a 2-ounce honey bear as she will 25 cents for a honey stick, but she’ll take the cheaper option if it is available. As for me, I would rather make \$2 per sale than 25 cents per sale.

What about glass versus plastic? Personally, I love one- and two-pound plastic squeeze bottles with flip-top lids. A lot of my direct-sale customers are elderly, and I’m sure they appreciate the fact that plastic bottles are lightweight and non-breakable too. But every retailer I’ve worked with has insisted on glass jars. Why? Because glass gives the impression of cleanliness and quality, and there is no question that honey appears more sparkling and lustrous in glass. As a bonus, it is much easier to re-liquefy granulated honey in glass containers than plastic ones. So if you are going to wholesale honey to retailers, use glass.

Note that tops for plastic containers come equipped with tamper-evident safety seals. These attach automatically when the lid is snugly screwed onto the bottle. So do not screw plastic lids onto empty bottles. Doing so will attach the safety seal. It will then have to be removed before filling the bottle, which will ruin the seal.

What about bear-shaped containers? I love honey bears, but the fact of the matter is that I must be about the only person who does. Both in my personal experience and from what I’ve read, bear-shaped bottles don’t sell as well as



Who doesn't like honey bears? Answer: a lot of people.

regular bottles. I have no idea why. Customers will say, "Oh, isn't that cute!" and then reach right past the bears to buy a boring bottle. People are strange.

### Filling jars

Honey jars have a fill ring just below the cap threads. Every jar should be filled to the middle of the fill ring. Do not under-fill jars. Customers feel cheated, and rightfully so. Equally important, do not overfill jars. Honey in over-filled jars will ooze out when warmed and create a sticky mess.

Filling to the proper level can be a challenge. Here's a tip: Slightly under-fill all the



The red arrow points to the fill line, which is on every bottle just below the threads. This bottle is overfilled and may end up sticky.

jars and then use a one- or two-pound plastic squeeze bottle of honey to top off each jar to the correct level. The squeeze bottle gives better control over the amount of honey that goes into the jar.

Never have sticky jars. Customers perceive sticky jars as a sign of poor quality and unsanitary conditions. So do family and friends, even if they are too polite to say so.

### Labels

Labels for honey containers need to be water resistant. Regular ol' label paper from WalMart isn't water resistant and the ink will smear if it gets wet. High-quality labels, already prettied up with honey motifs, can be purchased at beekeeping supply stores. You'll add your personalized information using your own printer. If you want to create your own design, blank water-resistant label paper can be purchased from suppliers such as [onlinelabels.com](http://onlinelabels.com). This paper isn't cheap compared to regular paper but the cost of what's needed for each \$10 honey jar is miniscule.

### Label requirements

A high-level description of the minimum information requirements for a honey label can be found on the NC State Beekeepers Association's [website](http://www.ncbeekeepers.org). The important bits, summarized by the NC Department of Agriculture and Consumer Services, are:

"Products which are sold or represented to be honey must be labeled as follows:

- 1) The common or usual name honey must appear on the label. A floral source such as sourwood, clover, etc., may be part of the name provided the product contains a significant amount of pollen from that flower.
- 2) The name, address and zip code of the manufacturer, packer or distributor must also appear on the label.
- 3) A declaration of net contents must appear in the lower thirty percent of the label panel expressed as weight."

It is fine to include additional information

but these three items are required by law.

### *Name and address*

I often see improperly labeled honey jars where the seller includes a phone number or e-mail address but not the physical address required by #2. As mentioned, it is okay to include more information, such as an e-mail address or website, but that cannot substitute for the other information that is required. The US Fair Packaging and Labeling Act, [Section 500.5](#), clearly states:

- a. The label of a consumer commodity shall specify conspicuously the name and place of business of the manufacturer, packer, or distributor.
- c. The statement of the place of business shall include the street address, city, state, and zip code; however, the street address may be omitted if it is listed in a readily accessible, widely published, and publicly available resource, including but not limited to a printed directory, electronic database, or Web site.

In other words, if someone can look up your business name on the internet and find the street address, then that specific bit of information isn't required to be on the label. Name, city, state and zip code are still required. This is Federal law, which in this case trumps State law and NCSBA guidelines.

### *Weight*

I've seen honey containers where weight isn't included or either the pound/ounce or the metric measure (grams) isn't included. Both pound/ounce and metric measures must be there, according to the US Fair Packaging and Labeling Act, [Section 500.7 and 500.8](#). It says:

- The net quantity of contents shall be expressed in terms of weight or mass, measure, numerical count, or a combination of numerical count and weight or mass, size, or measure so as to give accurate information regarding the net quantity of contents thereof, and thereby facilitate value comparisons by consumers. The net quantity of contents statement



This bottle, from an actual store shelf, is noticeably underfilled. It is also topped with foam and scum. Yummy!

shall be in terms of fluid measure if the commodity is liquid, or in terms of weight or mass if the commodity is solid, semi-solid, or viscous [*honey*], or a mixture of solid and liquid.

- Statements of weight or mass shall be in terms of both avoirdupois pound and ounce and SI metric kilograms, grams, or milligrams. (Examples of avoirdupois/metric declarations: "Net Wt 15 oz (425 g)" or "Net Wt 1 1/2 lbs (680 g)" or "2.5 oz (70.8 g)"; examples of metric/avoirdupois declarations: "Net Mass 425 g (15 oz)" or "Net Mass 680 g (1 1/2 lbs)" or "100 g e (3.5 oz).")

### *NC Guidelines*

The [North Carolina Honey Standard](#) contains additional ethical and common sense rules that define Best Practice, but these rules are not the law. However the NC Department of Agriculture has said that anyone who sells honey in any of the State-run farmers markets, such as the one in Raleigh, must meet the requirements defined in the Honey Standard. Since following the Honey Standard ensures consistency and transparency, there isn't any good reason not to go along with it.

A few key points from the NC Honey Standard are:

- 1) If anything is added to honey, including natural flavors, then the final product may not be labeled as "Honey". For example, if



blueberry flavor is added to honey then the product may be labeled as “Blueberry – Flavored Honey Syrup”; but it may not be labeled as “Blueberry Honey”.

- 2) If anything is added to the honey, then the product may not use the term “Honey” as the final noun in the name of the product. For example, a mixture of high fructose corn syrup and honey could not be labeled as “High Fructose Honey” but it could be labeled as “Honey Flavored Corn Syrup”.
- 3) If anything is added to honey, then the use of the word “Honey” in the product name must be in a font size that is no larger than the last word of the product name.
- 4) If honey is labeled as coming from a particular floral source such as “Sourwood Honey” then the honey must meet the following criteria:
  - a) Based on pollen analysis, at least 51% of the honey must come from the labeled floral source and
  - b) The honey must accurately represent the labeled floral source in color, odor, and flavor. The honey must correspond with the organoleptic, physicochemical, and microscopic properties of the labeled floral source.
- 5) The requirements on floral source do not restrict the labeling of honey as “Fall Flower Honey”, “Wildflower Honey”, or other similar descriptions.

It is very important to note that the Honey Standard is voluntary and does not replace NC or US laws regarding labeling. The guidance against fraud and mislabeling are really just examples of things that are already prohibited by State and Federal law, but it is nice to see honey-related examples. But statements in the Honey Standard that appear to contradict NC or US law should be disregarded. For example, the Honey Standard says, “The name and address or phone number or e-mail address of a contact person must be provided,” which can be interpreted to mean that a name and phone number, or name and e-mail address, are all that are required. **This interpretation is not**

**correct**, as explained above.

### ***Nutrition Label***

What about the Nutrition Label, the one with percent of fats, carbohydrates, etc.? Most of us don’t have to put that on our honey jars. [Federal food labeling law](#) states: “The following foods are exempt from this [Nutrition Label] section ... Food offered for sale by a person who makes direct sales to consumers (e.g., a retailer) who has annual gross sales made or business done in sales to consumers that is not more than \$500,000 or has annual gross sales made or business done in sales of food to consumers of not more than \$50,000, provided that the food bears no nutrition claims or other nutrition information in any context on the label or in labeling or advertising. Claims or other nutrition information subject the food to the provisions of this section [*i.e. the label would be required*].” In addition, “... the product shall be eligible for an exemption [if] the person claiming the exemption employed fewer than an average of 100 full-time equivalent employees and fewer than 100,000 units of that product were sold in the United States....”

So unless you are selling a lot of honey and have a lot of employees, you aren’t required to supply the Nutrition Label.

<b>Nutrition Facts</b>	
Serving Size 1 Tbsp (21 g)	
Servings Per Container 22	
Amount Per Serving	
Calories 64	
	% Daily Value*
Total Fat 0g	0%
Sodium 0mg	0%
Total Carbohydrate 17g	6%
Sugars 16g	
Protein 0g	
* Percent Daily Values (DV) are based on a 2,000 calorie diet	

### ***Help with labeling***

All of these labeling rules may seem confusing and impossible to keep straight. However if you intend to sell honey within the

United States, you must have a legal label. Take the time to do it right, then you won't have to ever do it again! Help can be found on the NCDA&CS [website](#) for home-based food businesses. Also see the US Food and Drug Administration's draft [Guidance for Industry: Proper Labeling of Honey and Honey Products](#).

### State Fair

Once you get pretty good at harvesting and bottling, you may want to enter honey in the [State Fair competitions](#). For extracted honey, the judges evaluate the following factors as described in the rule book:

- 1) Density (15 points). The judge will award a full score of 15 points to the entry if the water content is between 16%-17%. Points can be deducted above 17% or below 16% water content. Water content above 18.6% will be disqualified.
- 2) Absence of crystals (10 points)
- 3) Cleanliness (35 points)
- 4) Without lint (8 points)
- 5) Without dirt (12 points)
- 6) Without wax (9 points)
- 7) Without foam (6 points)
- 8) Flavor (20 points). Points will be reduced for honey flavor that has been adversely affected by processing.
- 9) Accuracy of filling and uniformity (10 points)
- 10) Container appearance (10 points)

It doesn't take a genius or expert to win at the State Fair, just careful attention to detail. It can be done -- even I have come home with several ribbons of various colors over the years. But it isn't really about winning or losing, it is about trying something new, advancing in your craft and having some fun (and winning sure does add to that fun!) I guarantee that if you put sincere effort into entering at the fair, you'll learn techniques that will make your honey a higher quality product.

### Quality from beginning to end

Regardless of whether you intend to sell to the public or just share with friends, your honey deserves to be presented in a way that reflects its value. Proper bottling and labeling are a major part of that. Doing it right isn't really difficult; the hard part is knowing what to do. Hopefully these tips have given you a helpful start toward getting it right.

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