

Beekeeping Basics

Don't Panic, It's Organic! Or Is It?

*Demystifying the term
"organic" in honey bees*

by MEGHAN MILBRATH



The official USDA Organic 4-color seal. Agricultural products that are sold, labeled, or represented as organic must be produced and processed in accordance with the National Organic Program (NOP) standards.

Many beekeepers use terms like raw, natural, local, and organic to describe their honey. These words are great for marketing, and show that beekeepers understand that today's consumer is savvy to honey fraud and contamination concerns. One of these terms is not like the others, however. While any beekeeper using any practice can technically use the terms raw, natural, and local, the term "organic" stands apart. It is a regulated term with federal guidelines and consequences for its misuse.

This regulation has not stopped beekeepers and bee bloggers from misusing the term all over their labels and the internet; many beekeepers and writers throw the term "organic" around as synonymous with "natural," or even "treatment-free," ignoring the true definition of the word. It is important for beekeepers and consumers alike to understand what the term really means for beekeeping, as there are many areas where organic practices intersect with beekeeping and honey production: Honey can be labeled as organic, hives can be kept on organic farms, and honey bees can be managed using organic practices and treatments. The term organic and how it relates to beekeeping is often misunderstood in all of these areas.

To understand the term "organic," we will have to have a little alphabet soup, the USDA AMS NOP — The United States Department of Agriculture (USDA) has the Agricultural Marketing Service (AMS), which runs the National Organic Program (NOP). The NOP was established by Congress

(U.S. Code 7 Chapter 94¹) as a federal regulatory program that develops and enforces uniform national standards for organically-produced agricultural products sold in the United States.

THE ORGANIC CERTIFICATION PROCESS

If you want to use the word "organic" to describe your bee practices or your honey, then you have to be certified. If you are not certified organic, you must not make any organic claim on the principal display panel or use the USDA Organic Seal anywhere on the package. If you use the term or the seal and you are not certified, you can be fined. People who sell or label a product "organic" when they know it does not meet USDA organic standards can be fined up to \$17,952 for each violation.² While it may just feel like another layer of government oversight, enforcement is important to maintain consumer confidence in the integrity of the USDA Organic Seal. Consumers specifically look for the organic seal because they know that there are meaningful standards behind it. If people misuse the organic term or seal to label products that haven't been certified, then the term loses its meaning.

Anyone can be certified as USDA organic, regardless of where in the world they are located. The USDA National Organic Program³ (NOP) outlines the certification process.⁴ The first step is to develop an organic system plan that details how all of your practices will comply with organic requirements. This means you will need to outline details of your animal care, harvest, storage, and transport.

You'll need to keep good records and develop barriers to keep organic products and non-organic products from co-mingling. Once you have a plan you will have to have your plan reviewed by a certifying agent. The certification process is a public-private partnership. The NOP accredits third-party organizations to certify that farms and businesses meet the national organic standards and maintains lists of USDA-Authorized Organic Certifying Agents.⁵ Agents can also be found through the NOP database of certified operations⁶ by searching "honey" in the "Certified Products" field.

The certifying agent will have to come and inspect your operation. These comprehensive inspections will look at everything from your preventive health management practices, to the storage areas at your processing facility. The findings will then be compared to your submitted organic system plan. The inspector will also present an assessment of the risk of contamination and analyze potential hazards. If the certifier finds that your operation complies with the rules, the certifying agent will issue an organic certificate that lists the products that can be sold as organic from your operation. You will have to be inspected at least once a year to maintain your certification, and you'll have to update your plan as you change any practices. If you produce less than \$5000 worth of organic product, you are exempt from the formal certification process, but you still must follow the requirements to have your product considered organic.



Honey bees on a feed bucket. An organic beekeeper can only use organic feed if their bees require supplemental feed. Organic sugar is widely available, but there are not currently any organic pollen supplements on the market.

REQUIREMENTS FOR ORGANIC HONEY

There are no federally accepted organic guidelines specifically for honey bees, but there are guidelines for other livestock and draft guidelines for honey bees. Therefore, the Agricultural Marketing Service of the USDA has issued a written statement affirming that your beekeeping operation may be certified as organic if a certifier determines that your operation follows the guidelines for other livestock and the draft guidelines for bees. The guidelines for organic livestock are in the Electronic Code of Federal Regulations (Title 7 Subtitle B Chapter I Subchapter M Part 205 Subpart C Sections 205.236 to 205.240 USDA organic regulations for the scope of livestock production⁷). These sections outline requirements related to the origin of the livestock, livestock feed, health care practice standards, living conditions, and pasture standards. These requirements cover things like use of feed additives as well as ensuring that sufficient food is continuously available.

In 2010 the National Organic Standards Board (NOSB) developed a draft apiculture practice standard that includes parameters specific to beekeeping and honey production.⁸ While USDA organic regulations have not yet been formally amended to accept these standards, certifiers can still use these draft recommendations. The Apiculture practice standard outlines requirements for the origin of bees, the construction of equipment, and the land where the bees are kept. Below is a summary of some

of the key requirements. For a full list, see <https://www.ams.usda.gov/sites/default/files/media/NOP%20Livestock%20Final%20Rec%20Apiculture.pdf>.

Transitioning bees and equipment:

It takes at least a year to transition your apiary to ensure that the bees and the equipment/comb are fully under organic management. At the beginning of the one-year transition, foundation wax must all be replaced and new comb must be produced by bees under organic management. The foundation can be organic wax, plastic foundation dipped in organic or conventional wax, or organic or conventional wax. Once the apiary is organic, however, all the foundation must be made out of or dipped in organic wax. Queens do not have to be from organic sources, but the bees do if you are replacing more than 25% of your colonies, and you do not collect honey from them for at least 60 days.

Location: Beekeepers also have to include maps of their apiary locations to demonstrate that the bees will be foraging on land that fits organic standards. These maps have to outline a "Forage Zone" and a "Surveillance Zone." The forage zone is the area within a 1.8 mile (3 km) radius that provides the bees with water, nectar, pollen, and propolis. The surveillance zone is a 2.2 mile radius (3.4 km) beyond the forage zone that may not contain high risk activities. High risk activities include sanitary landfills, incinerators, sewage treatment facilities, power plants, golf courses, human housing, towns or cities, land to which prohibited materials are applied, and other sources of potential contamination. Non-organic crops that are attractive to bees are not permitted on land in the surveillance zone. The reason that you have to outline both a forage zone and a surveillance zone is to show that there should be sufficient clean forage near the bees, so that they should not under normal conditions need to forage outside this area.

Split operations: Some beekeepers may find a few yards that would be eligible for organic honey production, but may not be able to convert their entire operations. You can run a split operation as long as you list and describe measures to prevent comingling through drifting and robbing.

Records: A producer of organic apiculture products must maintain records in accordance with §205.103 and §205.236(c). Records must include

the following (taken directly from the draft recommendations):

- (1) map of the forage zone, the surveillance zone, and the flowering times of the various plants in those zones for all bee yards
- (2) affidavits verifying the 3 year land management history for the certified forage zones
- (3) sources of foundation and whether foundation is organic
- (4) date of last use of prohibited substances
- (5) identification system for hives and bee yards
- (6) verification that all comb has been drawn out under organic management
- (7) the season these "clean" frames had been used for the production of organic honey
- (8) a system of tracking hives, queens introduced or raised, monitoring through the season
- (9) a list of inputs used and labels of inputs
- (10) records of feeding including materials and dates
- (11) source of any organic sugar, organic honey, organic pollen and/or organic pollen substitutes fed to colonies; certification documentation for materials fed
- (12) records of all health care interventions and products used
- (13) estimated yields of all bee products per hive
- (14) dates of harvest of bee products
- (15) sales records of bee products
- (16) packaging and labeling for bee products sold

Care of bees: Many beekeepers think that treatment-free and organic are somehow related, when in fact treatment-free beekeeping, as it is most commonly used, would not be compliant with organic standards. That is because many of the organic standards were instituted to protect animal welfare. Under the organic livestock health care practice standard (205.238), it is clearly outlined that the producer must include preventive health care, and cannot withhold treatments from an animal. This is even more clearly outlined in the apiculture draft standard, which states, "The producer must not: Accept the presence of pests, parasites, or disease without initiating efforts to restore the health



Placement of a single strip of Mite Away Quick Strips (MAQS) as a varroa control method. These hives are kept on the Michigan State University Student Organic Farm, so we strive to keep them using organic methods.

of the colony." It also states that "The producer must establish and maintain preventive health care practices, including: Use of therapeutic applications of non-synthetic materials to control pests, parasites, and diseases, *Provided*, that such materials are not prohibited under § 205.604; and Use of therapeutic applications of synthetic materials, *Provided*, that such materials are allowed under § 205.603."

What treatments/therapeutic applications are organic? Many beekeepers think that all naturally derived materials are organic, but that is not the case. At the moment, formic acid (CAS #64-18-6) is allowed for use as a pesticide within honey bee hives. At the time this was written in September 2020, oxalic acid has been petitioned for use, but has not yet been accepted as treatment for bees. All other products, even those that are made with organic ingredients, are not considered organic treatments for bees, and would not be allowed in an organic honey operation.

BEES ON AN ORGANIC FARM

Many people think that organic farms are better for bees than conventional farms, and are very excited to be asked to provide hives at an organic farm. There is a common misconception that organic farmers do not use pesticides, or that organic pesticides are safer for bees. In reality,

organic standards for fruit and vegetable production are not designed to protect honey bees and other pollinators, and many products used by organic growers can be dangerous to bees. You can kill bees organically, just as easily as you can conventionally! The Xerces Society has a very useful document, "Organic Pesticides: Minimizing risks to pollinators and beneficial insects," that outlines the relative risks of different chemistries that are used in organic production: <https://xerces.org/publications/guidelines/organic-pesticides>.

Just like any other farm, it is important to have clear communication with the farmer to understand where and when they are going to spray and what products they will be using. Let the grower know about high-risk situations like spraying when plants are in bloom, or usage of broad spectrum pesticides.

You do not have to be a fully certified organic operation to take advantage of organic practices. A lot of work was put in to create the guidelines and to think carefully about how to improve the welfare of the bees and to reduce exposure to harmful substances. Even if you don't want to deal with the paperwork, record-keeping and cost of organic certification, take some time to look over the standards, and see if any can be useful for your practice. If nothing else, please just stop misusing the term "organic"!

REFERENCES

- 1 <https://uscode.house.gov/view.xhtml?req=granuleid%3AUSC-prelim-title7-chapter94&saved=%7CZ3JhbnVsZWlkOIVTQy1wcmVsaW0tdG10bGU3LWNoYXB0ZXI1NC1mcm9udA%3D%3D%7C%7C%7Cfalse%7Cprelim&edition=prelim>
- 2 <https://www.ams.usda.gov/rules-regulations/organic/organic-seal#NOP>
- 3 <https://www.ams.usda.gov/about-ams/programs-offices/national-organic-program>
- 4 <https://www.ams.usda.gov/services/organic-certification/becoming-certified>
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