



Understanding Organic Certification Standards and their application to Forest Products

September 2017

Kathryn Fernholz

Jeff Howe, Ph. D

Richard A. Levins, Ph. D.

Jim Bowyer, Ph. D

Harry Groot

Ed Pepke, Ph. D.



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Figure 1. USDA Organic Seal
<https://www.ams.usda.gov/rules-regulations/organic/organic-seal>

Executive Summary

In 2016, organic sales in the US totaled \$47 billion, an increase of almost \$3.7 billion from the previous year and the first time the American organic market surpassed the \$40-billion mark.¹ The global organic market expanded between 2012 and 2016 at a 10.9% annual growth rate and is forecast to exceed \$187 billion by 2021.² There are 87 countries around the world with established organic regulations and an estimated 2.4 million organic producers worldwide.³

Could organic standards apply to wood? The question is open, and the answer is only in the trying. In reality, many forest products are being grown organically with widespread use of native species, natural crop rotations and limited use of artificial pesticides or fertilizers (i.e., primarily during establishment phases and ending many years before products are harvested). However, the forest products provided by this type of management are not readily identifiable to consumers. There is no widely recognized organic forestry standard and only two certifiers have developed national organic forestry standards (Debio in Norway and Naturland in Germany).⁴

The organic industry is one of the most widely recognized examples of a green marketplace opportunity that has driven change in land management and crop production over the past fifty years. The USDA National Organic Program (NOP) and the organic seal (Figure 1) are readily recognized in the marketplace and significant economic benefits are often available to organic producers.

The certified organic approach is cost-effective (e.g., certification fees are low and market values are high), and both large and small producers participate. Defined roles and activities are spelled-out in the requirements and product claims are largely backed by government programs and legal systems. Also, the necessary infrastructure exists for efficiently certifying operations, including multiple auditing bodies in almost every US state. The USDA NOP has already certified a small number of forest products, including Christmas trees and maple syrup.

This report provides an introduction to organic certification and the standards that apply. The report explores how forest products – including fiber materials, solid wood, energy products, and soil amendments – might align with and benefit from organic certification. Related concerns and considerations are also addressed.

Background

Organic production systems are well established and widely distributed around the world. The formalization of market-based certification programs to identify and label products from these systems began by the mid-1900s and led to the formation of government-based programs by the 1990s. There are organic regulations in place worldwide, including established national standards in 87 countries. There are many different reasons why industry groups, producers and governments have engaged in

¹ <https://ota.com/resources/organic-industry-survey>

² <http://marketline.com/blog/rapid-growth-in-asia-pacific-organic-food-market-set-to-change-global-market-shares/>

³ http://www.ifoam.bio/sites/default/files/annual_report_2016.pdf

⁴ An International Federation of Organic Agriculture Movements (IFOAM) Draft Forestry Standard was produced in 2002 and voted down in 2005. http://www.sristi.org/mtsa/s_14_1d.html

establishing organic regulations. These agriculture policies support income generation through exporting and importing, environmental protection, rural development, and smallholder supports for market access and competitiveness. The International Federation of Organic Agriculture Movements (IFOAM) formed in 1972 and is an umbrella organization uniting over 750 member organizations in 116 countries.⁵ IFOAM participates in international agricultural and environmental negotiations with the United Nations and multilateral institutions to further the interests of organic agriculture.

In the US, the organic movement began in the 1940s when a loose network of farmers – including J. I. Rodale, Ehrnefried Pfeiffer of Kemberton Farm School, and Paul Keene of Walnut Acres Farm – shunned chemical agriculture by choosing to farm organically and write about their experiences. This led to the formation of Natural Food Associates (NFA) in Atlanta, Texas, to help connect scattered organic growers with fledgling markets for organically grown foods in 1953.

In 1972, the insecticide DDT was banned in the US which in some ways was the start of the modern environmental movement.⁶ The organics industry grew appreciably due to expanding consumer opposition to chemical pesticides, coupled with a desire for food produced without harming the environment. Furthermore, the growth of the organics industry prompted activists across the US to form regional groups and create organic standards by which to certify farms and crops. A group of farmers formed California Certified Organic Farmers (CCOF), becoming a pioneering organization to certify organic farms in North America. Their standards contributed a model for the Organic Food Protection Act of 1990.

The organic industry had estimated sales of more than \$1 billion when the US Congress passed the Organic Foods Production Act of 1990 (OFPA), which established the framework to create National Organic Standards. OFPA mandated the formation of the National Organic Standards Board (NOSB) to advise the Secretary of Agriculture in setting the standards for the USDA National Organic Program (NOP). NOSB based its recommendations on industry consensus. In 1997, the USDA's initial proposal for organic standards was presented for approval despite the inclusion of provisions not recommended by the National Organic Standards Board (NOSB); the measure was soundly rejected.⁷

In 2000, organic industry members and consumers sent over 275,000 responses to the USDA on the proposed National Organic Standards, requesting stricter standards for organic farmers. In 2001, the USDA passed the NOP after reinstating prohibitions on irradiation, use of sewage sludge, and genetic modification. USDA's NOP for organic labeling certification was implemented in 2002.

Today the organic industry is one of the fastest growing agricultural segments in the US, with sales of \$47 billion in 2016. About 38,000 farms and businesses – throughout the US and in more than 100 countries around the world - are certified to the USDA organic regulations.⁸ The USDA reports that 3 of 4 US grocery stores have certified organic products available and organic sales account for over 4 percent of total US food sales.⁹ Research has found that retail-level organic price premiums range from 7 percent to as high as 82 percent.¹⁰

⁵ <http://www.ifoam.bio/en>

⁶ <https://www.epa.gov/ingredients-used-pesticide-products/ddt-brief-history-and-status>

⁷ Om Organics, *History of Organics*, <http://www.omorganics.org/page.php?pageid=82>

⁸ As of 1 Sept. 2017, the USDA database lists 38,456 certified operations (available at: <https://organic.ams.usda.gov/Integrity/>). This data does not account for the many producers that practice organic agriculture without pursuing certification.

⁹ <https://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture.aspx>

¹⁰ Carlson, A. and E. Jaenicke. 2016. Changes in Retail Organic Price Premiums from 2004 to 2010. USDA. Economic Research Service. https://www.ers.usda.gov/webdocs/publications/45547/5472_err209.pdf?v=42514

USDA Certified Organic

The US Department of Agriculture (USDA) is responsible for developing and executing US government policy on farming, agriculture, and food. The USDA's NOP regulates the standards for farms, wild crop harvesting, or handling operations that want to sell an agricultural product as organically produced.

The USDA organic regulations recognize four categories of organic products:

- Crops - plants grown to be harvested as food, livestock feed, fiber, or used to add nutrients to the field;
- Livestock - animals that can be used for food or in the production of food, fiber, or feed;
- Processed products - items that have been handled and packaged, or combined, processed and packaged;
- Wild crops - plants from a growing site that is not cultivated.

The NOP is part of the USDA's Agricultural Marketing Service (AMS) and has regulatory oversight responsibilities for the USDA organic standards and the accreditation of organic certifying agents. The NOP also has authority to take appropriate legal action to enforce organic standards and protect the integrity of the USDA organic standards, from farm to market, around the world.

Organic certification includes verifying that the farm or handling facility complies with the USDA organic regulations. This certification allows products from the producer or facility to be sold, labeled, and represented as organic. Farms all over the world may be certified to the USDA organic standards. Most farms and businesses that grow, handle, or process organic products must be certified. Certification allows a product to be called "organic" and to carry the USDA seal (Figure 1).

Organic certification may provide a number of benefits:

- Price premiums
- Market access (local, regional, and international)
- Local economic growth
- Direct consumer market access
- Access to funding and technical assistance

The USDA organic regulations describe production standards for use of the word "organic" or the USDA organic seal on food, feed, or fiber products. The NOP oversees these regulations, with input from a citizen advisory board and the public. Accredited third-party certifying agents do the auditing for compliance to the organic regulation.

Organic standards

The 5 basic requirements for organic certification are that the organic production system must:

1. *Not use genetically modified organisms (GMOs)*
2. *Not use artificial fertilizers¹¹*
3. *Not use artificial pesticides¹¹*
4. *Include a soil nutrient management plan*
5. *Include a crop rotation system*

¹¹ The USDA organic regulations allow most natural substances in organic farming while prohibiting most synthetic substances. For example, the use of most synthetic pesticides and fertilizers, growth hormones, sewage sludge, irradiation, and genetic engineering (genetically modified organisms or GMOs) are prohibited. The National List of Allowed and Prohibited Substances provides the details. . <https://www.ams.usda.gov/rules-regulations/organic/national-list>

These 5 basic requirements for organic can be addressed within a written Organic System Plan. There are additional specific production requirements for individual crops and livestock that must also be considered within the plan. For example, producers must use preventive practices to manage crop pests, weeds, and disease. Organic livestock must have access to the outdoors, shade, shelter, exercise areas, fresh air and direct sunlight as is appropriate for the type of animal and the local climate. Organic livestock may not be given antibiotics in feeds or preventively or hormones and must be fed organically grown feed. Ruminant livestock must have access to open pasture.

The NOP Standards require organic producers to manage soil fertility through the use of rotations, cover crops, and the application of plant and animal materials or low-solubility natural minerals. These practices must maintain or improve soil organic matter content, manage deficient and excess plant nutrients, and control soil erosion.

Organic certification process

To become certified, a producer must apply to a USDA-accredited certifying agent. A list of accredited agents is maintained at the USDA website.¹² There are approximately 80 certifying agents that are accredited, including 48 based in the US. Each agent is authorized to issue an organic certificate to operations that comply with the USDA organic regulations.

When determining which certifier(s) to apply to, key considerations are:

- Fee structure¹³
- Location/distance to the farm/operations
- Authorization (e.g., accredited scope)

The organic certification process is cost-effective given the low cost of audits as well as the demonstrated market premiums. Organic certification has been shown to be accessible to both large and small producers. Many states further reduce barriers to entry by offering programs that facilitate organic certification and reduce or reimburse the auditing costs. State and federal agencies offer organic certification cost-share reimbursement for new and/or continuing operations (each state can vary on the rate and what operations are eligible). For example, one certifier's website estimates that an operation with a \$1,000 fee would have a net cost of \$250 after the cost-share reimbursement. The annual costs of organic certification audits are generally proportional to the initial cost and may be approximately 50-75% of the original year-one cost since a similar on-site inspection is required each year.¹⁴

When applying to a certifier, information about the operation must be provided:

- Detailed description of the operation to be certified,
- History of substances applied to the land during the previous 3-year period,
- Listing of organic products grown, raised, or processed; and
- A written Organic System Plan describing the practices and substances to be used.

¹² <https://www.ams.usda.gov/services/organic-certification/certifying-agents>

¹³ Many certifiers make cost estimates publically available. For example, one website lists initial application fees for growers/producers ranging from \$850 to \$1450 depending upon the location and timing of application (<http://certification.oeffa.org/fees.php>).

¹⁴ For example, according to one certifier's website: *Many small farms can be certified for approximately \$750 the first year and between \$375 and \$575 in later years. Small organic food processors are routinely certified for about \$1,250 in the first year and approximately \$950 in later years.* Source: CCOF, <https://www.ccof.org/certification/fees>

The basic Organic Certification Process includes the following 5 steps:

- 1) Producer adopts organic practices; submits application and fees to certifying agent
- 2) Certifying agent reviews application to verify that practices comply with USDA organic regulations
- 3) Inspector conducts an on-site inspection of the applicant's operation
- 4) Certifying agent reviews the application and the inspector's report to determine if the applicant complies with the USDA organic regulations
- 5) Certifying agent issues organic certificate

Certified operations are also required to complete an *annual recertification process*, which includes providing an annual update and participation in an annual on-site inspection of the operations by the accredited certifying agent.

A period of three years is generally required to transition from conventional to organic production during which time products may be marketed as “transitional organic” but not as certified organic. If the product has been grown with organic methods for a longer period (i.e., > 3 years), it is likely to be acceptable as an organic product.¹⁵

How might “organic” apply to forest products?

Today certified organic is a well-recognized label around the globe and often commands a premium in the marketplace. Organic producers can receive the revenues and recognition for their efforts and consumers have access to products with benefits they desire. Forest management certification systems exist as well, yet the value proposition has been questionable for both producer and consumer. For producers, forest certification systems are complex, often accompanied with significant cost, and they are voluntary programs without government oversight. For consumers, the benefits of the current forest certification programs are unclear. Claims are inconsistent between competing and evolving programs and forest products are increasingly being labeled as certified with little to no actual material from certified forests in them due to the use of material credit systems and combinations with recycled claims.

One way to break free from the limitations of current forest certification approaches is to look for examples of marketplace success and eco-labels that have been effective in creating benefit for producers and consumers. “Certified Organic” and the USDA NOP provide one example. From its inception as a grassroots movement to the establishment of federal policy, today's USDA NOP has established a process for certifying a full range of products. The program and its logo are readily recognized in the marketplace, and there are often significant economic benefits available to organic producers. Government authority, trade agreements and legal systems support organic product claims. Also, the necessary infrastructure exists for efficiently certifying operations, including multiple auditing bodies in almost every US state. These capacities allow certified organic products to get to the market in an efficient and cost effective manner.

A small number of forest products are currently listed in the USDA database¹⁶ as certified organic, including maple syrup, Christmas trees, firewood, nursery stock, fruits and nuts from tree orchards, various medicinal products, and charcoal.¹⁷ There is ongoing organic research related to agroforestry,

¹⁵ For example, the Naturland Standards for Organic Forest Management (Version 05/2014) states, “*A transition phase as in agriculture is not necessary, since the forest concerned can be used in accordance with the standards immediately, and the development of non-indigenous stands in a forest composed of indigenous trees requires decades.*” http://www.naturland.de/images/UK/Naturland/Naturland_Standards/Standards_Producers/Naturland-Standards-Organic-forest-management.pdf

¹⁶ <https://organic.ams.usda.gov/integrity/>

¹⁷ The NOP also allows for specific forms of cellulose to be used in organic processing and handling. https://www.ams.usda.gov/sites/default/files/media/Cellulose_TR%202_11_2016.pdf

fiber crops, and aromatic and medicinal plants derived from forest management systems. Interest in organic certification for these types of materials go beyond the potential human health benefits of reduced exposure to chemicals in food items. The perceived benefits of organic non-food items include the expanded use of land management systems that have reduced use of fertilizers and pesticides and improved protections for soil health and other ecosystem services. These systems may provide improved water quality, benefits to wildlife, and other outcomes that producers and consumers support.

A major fiber product that is currently eligible for organic certification through the USDA NOP is cotton. From 2005-2008, the global market for organic cotton showed an average annual growth rate of 185%. In 2015, US organic cotton production exceeded 18,000 bales, more than double the production reported in 2011.¹⁸ There are products such as organic cotton t-shirts and household items in the marketplace which indicate to consumers that the cotton is organically grown and from a farm that is organically certified. In this situation, the original main ingredient is organically certified and labeling rules for the product processing and handling apply.¹⁹ Similar approaches are used for other processed food and non-food products that may have a number of different inputs of which only some may be certified organic. The approach that has been used to certify organic cotton may provide a model for allowing producers of forest-based fibers that are used in textiles and other products to also participate in the NOP and access the organic seal.

Organic certification for “wild crop harvesting”

One component of the NOP with particular relevance to forestry is related to “wild crop harvesting”. The USDA’s wild crop harvesting practice standard was published in 2000 and guidance completed in 2011 to inform the organic certification of wild crops.

For the USDA NOP a *wild crop* is defined as: *Any plant or portion of a plant that is collected or harvested from a site that is not maintained under cultivation or other agricultural management.*

To become certified for the organic production of a wild crop the Organic System Plan must include:

- 1) A map of the harvesting area, including boundaries, borders and buffer zones
- 2) Documentation that no prohibited materials have been applied within the previous three years
- 3) Description of the natural environment of the harvest area
- 4) Description of the proposed ecosystem management and harvesting practices, the impact on the long-term viability of the wild species and ecosystem, information about the harvest equipment, and a description of the environmental monitoring system
- 5) Listing of any rare, threatened or endangered (RTE) species in the harvest area
 - a. If present, a description of any potential impacts to RTE species and mitigations
 - b. As necessary, mitigation measures for any other potential or actual negative impacts from the wild crop management and harvesting
- 6) Procedures to prevent contamination from adjoining land use or other sources
- 7) Training and procedures to ensure crop harvesting in accordance with the Organic System Plan (OSP)
- 8) Record keeping system that identifies all collectors, practices, and provides quantities and dates of wild crop harvesting

¹⁸ <https://www.ams.usda.gov/mnreports/cnaocms.pdf>

¹⁹ For more information about organic labeling, see:

<https://www.ams.usda.gov/sites/default/files/media/Labeling%20Organic%20Products%20Fact%20Sheet.pdf>

According to the USDA NOP wild-crop policy:

Operations may be certified to the wild-crop harvesting of species from a defined terrestrial or aquatic area described in an Organic System Plan (OSP) in a manner that maintains or improves the natural resources of the area. Eligible species can be plant or other non-animal species, such as mushrooms, kelp, or seaweed that are fixed to a defined location by a species part, such as a root, holdfast, mycelial thread, rhizoid, or stolon.

The requirements for wild crop harvesting could be widely applied to a large number of forest products. Wood products that are derived primarily from uneven-aged silvicultural practices or using low-impact harvesting techniques may align well with the requirements. The USDA database currently lists certified organic products that include ingredients for teas, medicinal products, various non-timber forest products, and other materials that are produced from forest habitats using the wild crop provisions of the USDA NOP.

Approval of forest products as an organic input

Another avenue for forest products to be engaged in the organic industry is through NOP regulation 7 CFR 205.203(c) which addresses the soil fertility and crop nutrient standard and requirements for management and application of plant and animal materials. To meet these requirements, providers of seeds, fertilizers, pest-control materials, soil amendments, and other materials to organic producers can complete an independent testing process for their products. The producer of the organic input applies to have the material independently reviewed to confirm it is not a prohibited substance. Accepted products will then appear on approved product lists and may be used in organic production systems.

If a proposed organic input product is not independently tested and reviewed to achieve a listing then the organic producer must provide the documentation that attests to its NOP compliance.²⁰ The required documentation can be a verification form completed by the producer of the input.²¹

The approval of forest products as allowable inputs to organic production systems has already been utilized for a number of biochar products that are allowed under the US NOP standards as crop fertilizers and soil amendments.²² The NOP also allows for specific forms of cellulose to be used in organic processing and handling and sawdust or woodchips may be used in various production systems (e.g., organic mushroom cultivation).

Concerns and Considerations about Organic Programs and Standards

Despite the demonstrable success and positive impact that can be attributed to organic certification, it is not without its concerns and critics. Even after many decades of effort, including substantial government investment, organic systems still represent a very small proportion of cropland (1.1% globally) and consumer purchasing (< 5% of US food sales). There are also continued criticisms of the standards – considered too weak by some and cost-prohibitive or infeasible by others. In recent years concerns have been raised about the integrity of supply chains and organic claims in the marketplace, especially in

²⁰ For example, the *Excluded and Prohibited Methods* verification requires the producer to list the products that have been provided and “affirm that the above product(s) have not been produced using genetic engineering, genetically manipulated organisms or ingredients, sewage sludge, processed using ionizing radiation, or - for proteinated feed minerals - sourced from slaughter by-products.”

²¹ Examples of forms: <http://mosaorganic.org/forms/>

²² For examples see: <https://www.omri.org/about-omri-listed-products>

relation to imported materials.²³ While many countries have organic regulations in place, the global marketplace for organic trade is still incomplete and subject to inconsistencies (Figure 2).

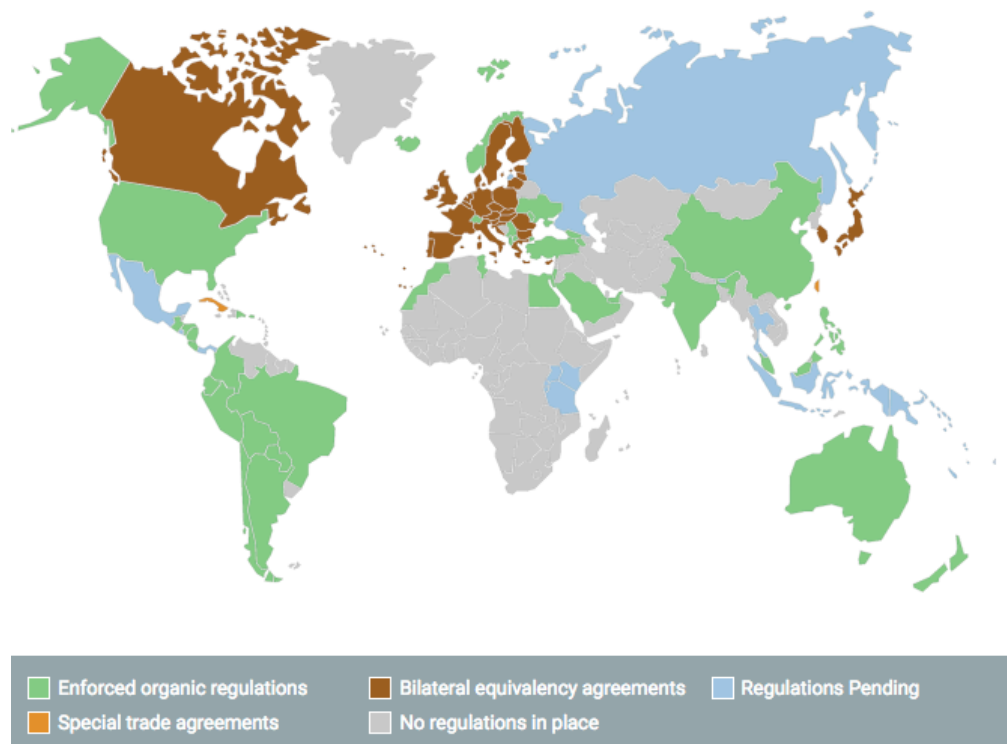


Figure 2. International Status of Organic Regulations and Agreements

Source: Organic Trade Association <http://www.globalorganictrade.com/>

Specific to forestry, organic is unlikely to be a good fit for a number of forest product producers and the market interest for organic forest products is largely unknown. While considerable areas of managed forests meet the five basic requirements of organic, a significant proportion of commercial, intensively managed forests may not. Furthermore, the ban on the use of genetic modification may not be an acceptable limitation for forest managers and researchers interested in using this technology to enhance forest health and productivity. A perceived need for expansion of government subsidies to support further organic production may also be a limiting factor. Another concern is that organic producers are able to apply to be exempted from assessment payments into the USDA Research & Promotion programs (i.e., check-off programs) and this can undermine the capacity and effectiveness of these programs.²⁴

Perhaps one of the greatest limitations to application of the certified organic model to forestry involves envisioning what a workable organic forestry standard might look like. While organic forestry models exist from work completed primarily in Europe, these efforts are similar to the approach taken by the Forest Stewardship Council (FSC) and may not represent a significant departure from the challenges and

²³ For further discussion of these concerns, see: *Organic Grain Production in the Upper Midwest – Status and Prospects*, Dovetail Partners, July 2017, Available at: http://www.dovetailinc.org/report_pdfs/2017/dovetailorganicgrains0717.pdf

²⁴ See: <https://www.ams.usda.gov/rules-regulations/research-promotion> and <https://www.ams.usda.gov/resources/rp-organic-exemption>

limitations that have been associated with existing forest certification programs.²⁵ Similarly, the models used for organic cotton and other fibers may not be acceptable to stakeholders who would want forests to be held to a different standard than annual cropping systems.

While recognizing these challenges, the fact remains that many forest products are being produced in such a manner today that they could easily be shown to meet the basic requirements of organic programs. However, there is no clear government-supported mechanism for the attributes of these production systems to be communicated to consumers on a level playing field with materials that are currently recognized through the USDA's NOP and a variety of international agreements. The pathway to inclusion of more forest products in the NOP would require industry and producer leadership to evaluate the market potential and partner with the USDA to complete the standards development process.²⁶ Without this leadership and insight, the current situation will remain unchanged.

Bottom Line

There are several routes by which it may make sense for forest products to go the organic path instead of, or in addition to, the current forest management certification path. The growth of organic demonstrates what market-based systems can offer. Organic is recognized globally with government-backed requirements and offers measurable benefits of market access and price premiums. However, certified-organic still accounts for only a small portion of the market, critics and criticisms continue, and producer access is limited to only some products. While organic certification focuses on food, there are fiber products, non-timber forest products, and limited examples of wood products that have been recognized as organic. Forest products have also been recognized as allowable inputs to organic production systems. Further opportunity development for forest product producers interested in accessing organic markets will depend upon marketplace developments and USDA actions as well as forest sector and forest industry leadership.

Special thanks to Pooja Shah, Research Intern

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²⁵ For further discussion of the intersection between organic and FSC, see: *Smith, M.W., et al. 2006. Combining Organic and FSC Certification of Non-Timber Forest Products. Dovetail Partners.*

http://www.dovetailinc.org/report_pdfs/2006/dovetailntfpcert1006.pdf

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528 Hennepin Ave., Suite 703 Minneapolis, MN 55403 USA

info@dovetailinc.org | **Phone:** +1 612-333-0430 | **Fax:** +1 612-333-0432

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