

**National Organic Standards Board
JOINT CROPS & COMPLIANCE, ACCREDITATION, AND
CERTIFICATION COMMITTEE**

**Implementation of Biodiversity Conservation in
Organic Agriculture Systems**

March 5, 2009

I. INTRODUCTION:

Biological diversity is the diversity of life existing at three levels: genetic, species and ecosystem diversity. Therefore, biological diversity (biodiversity) includes variety in all forms of life, from bacteria and fungi to grasses, ferns, trees, insects, and mammals. It encompasses the diversity found at all levels of organization, from genetic differences between individuals and populations (groups of related individuals) to the types of natural communities (groups of interacting species) found in a particular area. Biodiversity also includes the full range of natural processes upon which life depends, such as nutrient cycling, carbon and nitrogen fixation, predation, symbiosis and natural succession.

Long held principles of organic farming commonly articulate values and goals that link organic farms with protection of biodiversity.¹ Many organic production systems show a farmer's regard for the value of biodiversity as well as an understanding that agricultural systems innately function within and interact with the larger ecosystem. The value of biodiversity for healthy agriculture and for society at large is recognized in the NOP Rule in several regulations. In response, NOSB has issued guidance statements in 2004 and 2005 pertaining to the implementation of standards related to biodiversity conservation.

The organic community largely supports biodiversity conservation being incorporated into organic systems, but some have issues related to increased paper work, requirements that do not produce real on the ground results and added production and regulatory costs. A particularly controversial issue is how to deal with conversion of native forests or grasslands for organic crop cultivation.

The goal of this "guidance" is to improve and increase biodiversity conservation implementation in organic agriculture systems as required in Section 205.200 of the Regulations and as directed in previous NOSB Guidance statements. This is to be achieved through 1) increased education and information for farmers, inspectors and certifiers; uniformity of inspection and certification procedures with regard to growers' implementation of biodiversity standards 2) incorporation of biodiversity standards within the procedures for accreditation and audit of certification agents and 3) use of materials evaluation criteria that foster consideration of biodiversity conservation when adding or deleting materials from the National List.

¹ NOSB Principles of Organic Production and Handling—adopted October 17, 2001.

The time is ripe to move forward with stronger, more consistent implementation of biodiversity conservation standards as substantial funding has recently been authorized in the 2008 farm bill that may be used in part for this purpose including: increased funding for NOP from 3.1 million to 11 million in 2012, inclusion of organic farming practices as conservation methods within USDA's Environmental Quality Incentive Program (EQIP), funding of data collection about organic products (5 million annually in mandatory funding through 2012), grants for beginning organic farmers and ranchers and \$78 million in competitive grants to research institutions for organic initiatives. The Conservation Stewardship Program now has streamlined the application process so that it can be coordinated with organic certification.

II. BACKGROUND

A number of the organizations interested in the subjects of biodiversity conservation and sustainability in organic agriculture have produced work to advance these goals within organic agricultural practices. In particular, the Wild Farm Alliance (WFA) and the National Center for Appropriate Technology (NCAT) have worked with NOSB to develop systems for implementing the NOP the NOP biodiversity and conservation standards. The International Organic Inspectors Association (IOIA) has played an important role in filling the need for biodiversity educational materials and criteria and using them in their inspector training programs.

The WFA has published guides about biodiversity conservation, one each for farmers and certifiers, describing practices and actions farmers can take to conserve biodiversity. In 2006, WFA mailed a guide to all organic farmers and certifiers in the nation. In addition, ATTRA developed an Organic System Plan (OSP) template that includes a section intended to assist growers with documenting their efforts to address biodiversity conservation. Rodale Institute also provides electronic versions of the OSP that contain these conservation references. IOIA includes the ATTRA's OSP's and WFA guides on conserving biodiversity in their inspector training classes. In May 2008, WFA issued a new document "Biodiversity Compliance Assessment..." which offers a list of compliance indicators designed to allow both certifiers and growers to measure progress toward protecting biodiversity on organic farms.

A NOSB Guidance Document titled "Compatibility with a System of Sustainable Agriculture and Consistency with Organic Farming and Handling" was adopted April 29, 2004 . The Guidance stated in part:

"In order to determine if a substance, its use, and manufacture are compatible with a system of sustainable agriculture and consistent with organic farming and handling, and in consideration of the NOSB Principles of Organic Production and Handling, the following factors are to be considered:

L) Does use of the substance have a positive impact on biodiversity?"

The same guidance document stated that *"There is strong support by all commenters for this position"*.

The NOSB Policy and Procedure Manual mentions biodiversity in the section called “NOSB Guidance on Compatibility with a System of Sustainable Agriculture and Consistency with Organic Farming and Handling”, factor 12, “Does use of the substance have a positive impact on biodiversity?” However, this requirement has not been added to the materials checklist used by committees in evaluating petitions.

At the NOSB’s fall 2004 meeting, WFA requested that the Board incorporate biodiversity criteria into their model Organic System Plan. The request was sent to the Crops Committee and subsequently the Board, at the spring 2005 meeting, approved a draft on biodiversity conservation. Further refinement in the draft was made with assistance from NCAT. On August 16, 2005, NOSB approved an Amendment to NOSB Organic System Plan Template “Maintaining or Improving Natural Resources”, which added criteria to the OSP on biodiversity management. Although the use of the OSP forms is not mandatory, it was hoped the use of the model would help to bring consistency to inspection, certification, and accreditation.

The NOSB biodiversity criteria approved for the OSP is presented below and the detailed biodiversity management points are listed in Appendix A.

D. Natural Resources

NOP Rule 205.2 defines Organic Production as a production system managed in accordance with the Act and its regulations to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. NOP Rule 205.200 and 205.203(a) requires that production practices maintain or improve natural resources (soil and water quality, wetlands, woodlands and wildlife) of the operation.

The use of the WFA guides on biodiversity conservation in IOIA training has been largely well received and useful in calling attention to needs and opportunities. However, not all accredited certifiers have adopted the OSP templates that include the section on biodiversity management.

A recent survey by the WFA (see Appendix B) provides a detailed response by certifiers to a query about their implementation of NOP biodiversity standards. The NOP’s audit review compliance checklist does not include any requirement for auditors to verify whether accredited certifying agencies are implementing the natural resources standard in 205.200.

III. RELEVANT AREAS IN THE RULE

The Preamble to the Rule (Federal Register/Vol. 65, 246/Thursday, December 21, 2000/pg. 80563 (4) CONSERVATION of BIODIVERSITY states in part *“we agree with commenters and have amended the definition of organic production to require that a producer must conserve biodiversity on his or her operation. The use of “conserve” establishes that the producer must initiate practices to support biodiversity and avoid, to the extent practicable any activities that would diminish it. Compliance with the requirement to conserve biodiversity requires that a producer incorporate practices in his or her organic system plans that are beneficial to biodiversity on his or her operation.*

NOP Rule passages relevant to Biodiversity Conservation are as follows:

205.2 Terms defined:

Crop Rotation. Perennial cropping systems employ means such as alley cropping, intercropping and hedgerows to introduce biological diversity in lieu of crop rotation.

Natural resources of the operation. The physical, hydrological, and biological features of a production operation, including soil, water, wetlands, woodlands, and wildlife.

Organic production. A production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.

Organic System Plan. A plan of management of an organic production or handling operation that has.....

Pasture. Land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources.

Soil and water quality. Observable indicators of the physical, chemical, or biological condition of soil and water, including the presence of environmental contaminants.

205.200 General

Production practices....must maintain or improve the natural resources of the operation including soil and water quality.

See Also:

205.203 Soil fertility.....

205.205 Crop rotation

205.206 Crop pest, weed, and disease management practice

205.707 Wild-crop harvesting

205.237 Livestock feed

205.238 Livestock health care

205.239 Livestock living conditions

IV. DISCUSSION:

The value of biodiversity for healthy agriculture, and for society at large, is generally recognized. In addition, long held principles of organic farming commonly articulate values and goals that link organic farms with conservation of biodiversity. These tenets were accepted in the NOP Rule and subsequently in NOSB guidance statements issued in 2004 and 2005 pertaining to the implementation of standards related to biodiversity conservation.

Biodiversity conservation was a topic of discussion at the May 2008 NOSB meeting and resulted in the full Board directing a Joint Crops and Compliance, Accreditation, & Certification Committee to review implementation of standards and, as necessary, prepare further guidance for Board consideration. The Joint Committee determined that the biodiversity conservation requirements were not being implemented fully or consistently.

In October 2008, the Committee issued a discussion paper, “Implementation of Biodiversity Conservation in Organic Agriculture Systems”. More than 60 written and oral comments were received from the public prior to and at the November 2008 NOSB Board. Most all the public comments strongly supported the need to improve and increase implementation of biodiversity conservation in organic agriculture systems, with many expressing a sense of urgency. No comments challenged the goal of the document, only a very few expressed concerns with the added work and costs. Public suggestions have been incorporated into this document.

V. GUIDANCE DOCUMENT RECOMMENDATION:

In order to ensure consistent application of biodiversity conservation requirements, the NOSB recommends general actions by two different vehicles as described below.

- 1) **Materials Review by the NOSB:** Add biodiversity considerations to the checklist used for the review of materials as shown below for specific categories and lines:

Category 1. Adverse impacts on humans or the environment?

Question
3. Is the substance harmful to the environment AND BIODIVERSITY? [§6517c(1)(A)(i);6517(c)(2)(A)i]
5. Is there potential for detrimental chemical interaction with other materials used? [§6518 m.1]
6. Are there adverse biological and chemical interactions in agro-ecosystem? [§6518 m.5]
7. Are there detrimental physiological effects on soil organisms, crops, or livestock . [§6518 m.5]
9. Is there undesirable persistence or concentration of the material or breakdown products in environment?[§6518 m.2]
10. Is there any harmful effect on human health? [§6517 c (1)(A)(i) ; 6517 c(2)(A)i; §6518 m.4]

Category 2. Is the Substance Essential for Organic Production?

Question
1. Is the substance formulated or manufactured by a chemical process? [6502 (21)]
2. Is the substance formulated or manufactured by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral, sources? [6502 (21)]
3. Is the substance created by naturally occurring biological processes? [6502 (21)]
4. Is there a natural source of the substance? [§205.600 b.1]
5. Is there an organic substitute? [§205.600 b.1]
6. Is the substance essential for handling of organically produced agricultural products? [§205.600 b.6]

7. Is there a wholly natural substitute product? [§6517 c (1)(A)(ii)]
8. Is the substance used in handling, not synthetic, but not organically produced? [§6517 c (1)(B)(iii)]
9. Is there any alternative substances? [§6518 m.6]
10. Is there another practice that would make the substance unnecessary? [§6518 m.6]

Category 3. Is the substance compatible with organic production practices?

Question
1. Is the substance compatible with organic handling? [§205.600 b.2]
2. Is the substance consistent with organic farming and handling AND BIODIVERSITY? [§6517 c (1)(A)(iii); 6517 c (2)(A)(ii)]
3. Is the substance compatible with a system of sustainable agriculture? [§6518 m.7]

2) Development and Implementation of the Organic System Plan

Take the following actions with regard to the Organic System Plan:

a) Certified Grower/Producer

Producers shall incorporate biodiversity conservation into their OSPs. The questions on ATTRA’s OSP templates (Pages 7&8 on the farm template) or guidance tools such as those developed by WFA, provide detailed information and direction. The producer shall be ever vigilant to biodiversity problems and conservation opportunities. Conversion of native habitat to crop production has consequences to biodiversity that must be considered and the producer should discuss such planned conversion with his or her Certifier before action is taken.

b) Inspectors

Inspectors shall receive training in biological diversity conservation such as is currently given by IOIA and include methods for verification of NOP biodiversity standards in all inspections of organic farms using appropriate checklists and other tools.

Other issues not explored by biodiversity verification methods, but that should be evaluated by inspectors include:

- Sustainable practices for incorporating new land into agriculture
- Practices which enhance soil biodiversity

c) Certifiers

Certifiers shall adopt an OSP and other certification documents that address the NOP biodiversity requirements. Certifiers may devise a format and content for these documents that is suitable to their own certification system.

Certifiers shall require all production operations to address biodiversity conservation in their OSPs. Conversion of native habitat to crop production has important consequences to biodiversity and normally should be discouraged.

Certifiers shall document the degree to which producers are addressing biodiversity when performing inspections and when making certification decision. Only severe violations would lead to suspension or revocation of a producer's certification, other violations would be cited as minor non-compliances by the certifiers and corrected by the operator within a specified timeframe.

d) National Organic Program

The NOP shall emphasize biodiversity in its training of NOP-accredited certification bodies. Trainings shall include such topics as indicators of compliance with biodiversity standards, differentiating major and minor non-compliances for violations of biodiversity standards, evaluating corrective actions taken to correct minor violations. The focus should be on education, teaching practices and the benefits of conservation.

The NOP shall also revise the checklist used to audit certifiers so that it includes questions about NOP's biodiversity standards in every audit.

Each of the above actions would require additional work for producers, certifiers, NOP and NOSB, but these tasks can be integrated into existing plans and operations.

Joint Committee vote:

Moved: Barry Flamm Second: Joe Smillie

Yes- 10 No- 0 Abstain- 1 Absent- 0

APPENDIX A:

Biodiversity Criteria Approved for the OSP
NOSB - 2005

BIODIVERSITY MANAGEMENT

Whole Farm Biodiversity Considerations:

Does your field map include features such as hedgerows, woodlands, wetlands, riparian zones, and special habitats? Yes No

List wildlife and dominant native plants present on the farm: (note priority species)

What steps do you take to plan/provide for biodiversity conservation?

- . understand farm's location within watershed
- . ascertain what wildlife and dominant native plants existed on the land prior to farming
- . learn about regional natural areas and conservation priorities
- . work with neighbors/others to enhance biodiversity (connectivity, restoration, etc.)
- . other* describe/explain:

How do you manage water for the needs of crops/livestock, native species and riparian ecosystems?

- . plant regionally appropriate crops
- . conserve water
 - manage water for priority species
- . retain/restore vegetated riparian buffers/wetlands
- . protect/improve natural hydrology/ecological function of riparian area
- . other*

Uncultivated Area Biodiversity:

What actions do you take to provide habitat for pollinators, insect predators, birds and bats?

- . bird/bat/bee boxes
- . hedgerows/windbreaks
- . maintain/provide natural roosting/nesting/ foraging sites
- . other*

How are you restoring and/or protecting natural areas?

- manage for native plants/wildlife specific to the site
- preserve/restore wildlife corridors/large blocks of habitat
- establish legal conservation areas

native habitats not converted to farmland since certification
. other*

List problem invasive:

What actions do you take to control invasive plant/animal species, especially those threatening natural areas?

- . learn about invasives
- . use weed- and pest-free seed/planting stock/soil
 - amendments/mulches (this was up on the line above, but it is a separate item)
- . monitor for new introductions and control immediately
- . suppress invasives using organic methods
- . other*

Cropland Area Biodiversity:

How do you conserve and provide habitat for wildlife?

- . companion planting/intercropping
- . crop diversity
- . wildlife-friendly fences
- . manage fallow fields for wildlife

- . other*

Do you schedule farm practices to benefit wildlife?

- . avoid nests during breeding season
- . stagger mowing/tilling practices
- . plan fields to leave food/cover for wildlife
- . other*

Biodiversity When Livestock are Involved:

How do you protect riparian areas and sensitive habitats?

- . fence to minimize impacting wildlife
- . control sensitive area access
- . prevent bank erosion
- animals fed away from water
- . other*

What are you doing to improve your pasture or rangeland?

- prevent overgrazing
- reseed/protect trampled/eroded areas
- plant native pasture
- ecologically-sound grazing system
- prescribed burning

other*

What wildlife-friendly management practices do you use?

- guard animals
 - grazing schedule when predation pressure low
 - livestock spend night in protected area
 - circumstances of livestock death documented
 - other*
 - list problems with predators or other wildlife
-
-

Have you assessed the farm for biodiversity problems and greatest opportunities, and developed goals a timeline for biodiversity conservation?, yes no

describe/explain: _____

How do you monitor farm biodiversity?

- visually
- species counts
- other*

Wild Harvest Enterprises Biodiversity:

How do you maintain or improve the sustainability of the harvested species?

- harvest from stable populations
- minimize disruption of priority species/sensitive habitats
- avoid erosion
- allow reestablishment
- monitor wild crop sustainability
- other*

***If you check other, please explain.**

Add the following boxes under the Natural Resources: Water Use:

What practices are used to protect water quality?

- sediment basin
- compost/fertilizer stored away from water

APPENDIX B:

**REPORTS OF CERTIFIERS IMPLEMENTATION OF
NOP BIODIVERSITY STANDARDS**

(Compiled by Wild Farm Alliance)

In 2006 almost all of the organic certifiers were contacted to see if they were aware of the 205.200 biodiversity/natural resources standard and if they were addressing or had plans to address it in their inspection process. The agencies that responded positively at that time were contacted in 2008 to determine their current status with regard to their implementation of the NOP biodiversity standard.

It is possible that more certifiers than noted are inspecting for the standard. Many had implemented biodiversity standards between the 2006 survey and the 2008 survey

CERTIFIER	HOW THEY DETERMINE COMPLIANCE WITH 205.200	FIRST ESTIMATE OF FARMER MEMBERS	LATEST ESTIMATE OF FARMER MEMBERS MID SEPT 08
<u>Certifier Checks for Compliance with 205.200</u>			
California Certified Organic Farmers	Inspector asks CCOF questions	1100	1508
Global Culture	Farmer answers NOSB adopted biodiversity questions	50	65
Idaho Dept. of Agriculture	Farmer answers NOSB adopted biodiversity questions	90	190
Indiana Certified Organic	Farmer answers many of the NOSB questions	195	300
Nature's International Certification Services	Farmer answers ICS questions	230	100
Marin County Dept. of Agriculture in California	Farmer answers Marin Co questions	40	47
Midwest Organic Services Association	Farmer answers many of the NOSB questions	550	1000
MN Crop Improvement Assoc.	Farmer answers MCIA questions	45	30
Oregon Tilth	Farmer answers OT questions	800	640
Quality Certification Services in FL	Farmer answers most NOSB adopted biodiversity questions	220	241
Stellar/Demeter	Farmer answers Stellar biodiversity questions	100	109
Washington State Dept of Ag	Inspector looks for non compliances	840	791
NM Organic Commodities Commission	Plan on addressing when they have time	100	120
Total		4738	5236

