carolina farm stewardship association

A Practical Guide to Organic Certification

Developed by The Carolina Farm Stewardship Association

United States Department of Agriculture
Agricultural Marketing Service
National Organic Program
Transition to Organic Partnership Program

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Organic Certification

What is Organic Certification

Organic certification is a process through which farms, ranches, and food processors demonstrate that their operations comply with the USDA National Organic Program (NOP) standards. These standards require practices promoting ecological balance, conserving biodiversity, and improving soil and water quality. They prohibit using most synthetic inputs, genetically modified organisms (GMOs), sewage sludge, and irradiation.

Organic certification can open doors to new and premium markets. Demand for organic products continues to grow, driven by consumer interest in health, environmental sustainability, and transparency in food production. Certified organic products often sell for higher prices, which can help improve farm profitability.

Beyond market access, organic certification supports farmers who are committed to building resilient, biologically diverse systems. It reinforces practices that reduce chemical inputs, build healthy soils, and protect pollinators and water resources. For many, certification adds credibility to their stewardship values and helps communicate those values to consumers.

In short, organic certification is more than a marketing tool; it's a formal recognition of a farmer's commitment to producing food that supports ecological health, consumer trust, and long-term farm sustainability.

Trellised cucumbers in a high tunnel for disease management.

The Organic Certification Process

Becoming certified organic involves several steps and typically takes three years to transition land from conventional to organic production. However, if a producer can demonstrate that no prohibited substances have been applied to the land during that time, and that it has been managed in compliance with the NOP standards, a certifier may shorten the transition period. Regardless, the certification steps remain the same.

Choose a Certifier	Select a USDA-accredited certification agency that fits your operation's needs. Compare cost, inspector locations, turnaround time, services offered, and experience.
Submit an Application & Organic System Plan	Submit an application that includes the Organic System Plan (OSP), a legally binding document that explains how your operation complies with organic regulations.
Application and OSP Review	The certifier reviews your application and OSP to ensure they are complete and meet requirements. If acceptable, they assign an inspector to conduct an on-site inspection.
On-Site Inspection	The inspector conducts a site visit to verify OSP compliance, adherence to organic standards, review records, check for prohibited substances, and assess contamination risks.
Final Review	The inspector submits a report to the certifier for a compliance decision. The producer then receives a written determination, which may include required corrective actions.
Certification Granted	Once certified, you may label products as organic and use the USDA Organic seal. Certification must be renewed annually through updated documentation and inspection.

Overview of the National Organic Program Requirements

The following material is only a simplified summary of certain National Organic Program (NOP) regulations for organic crop production. It is not the complete regulation, does not include all requirements, and omits sections covering livestock, processing, and handling of certified organic products. This content is intended for general reference only and should not be used as a substitute for the official regulations or as a step-by-step certification guide. For full legal requirements, refer directly to the official NOP regulations in the Code of Federal Regulations (7 CFR Part 205) and seek guidance from an accredited certifying agent before making any certification decisions or changes to your operation.

§ 205.100 – Certification Requirement: Any operation that produces or handles agricultural products intended to be sold, labeled, or represented as "100 percent organic," "organic," or "made with organic (specified ingredients or food group(s))" must be certified and must meet all other applicable requirements.

§ 205.101 – Exemptions and Exclusions: Operations with less than $5,000 in gross annual organic sales are exempt from certification but must still comply with organic production and handling standards. Their products cannot be used as organic ingredients in products processed by other certified operations.

§ 205.102 – Use of the term "organic": Any agricultural product that is sold, labeled, or represented as "100 percent organic," "organic," or "made with organic (specified ingredients or food group(s))" must be produced following the NOP requirements.

§ 205.103 – Recordkeeping by certified operations: A certified operation must maintain records concerning the production, harvesting, and handling of agricultural products that are or that are intended to be sold, labeled, or represented as "100 percent organic," "organic," or "made with organic (specified ingredients or food group(s))."

§ 205.105 – Prohibited Practices and Inputs: To be sold or labeled as organic, products must be produced and handled without: 1) synthetic substances (unless allowed on the National List), 2) prohibited nonsynthetic substances, 3) genetic engineering (GMOs), 4) ionizing radiation, and 5) sewage sludge.

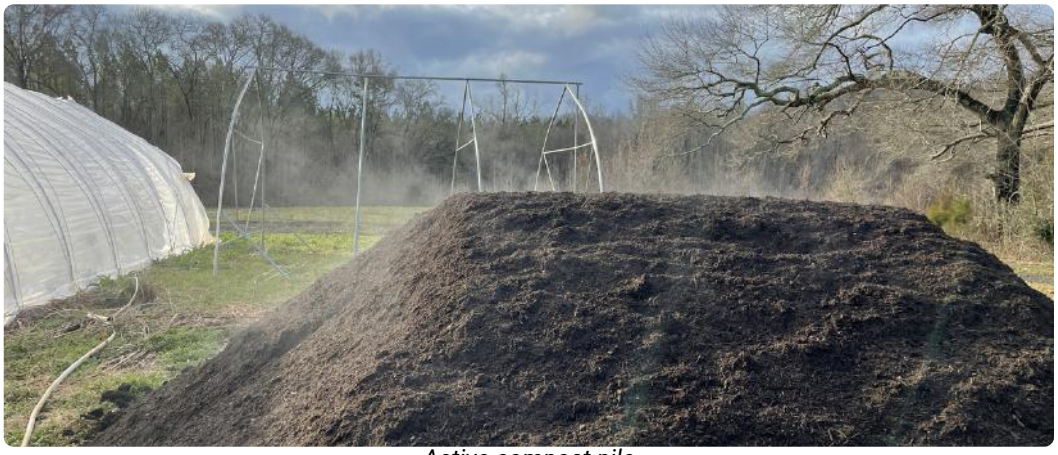
Trellised tomatoes grown in a high tunnel.

§ 205.201 – Organic Production and Handling System Plan: The producer must develop an organic production plan that is agreed to by the producer or handler and an accredited certifying agent. An organic production or handling system plan must include a description of: 1) practices and procedures, 2) monitoring practices, 3) recordkeeping systems, 4) management practices, and 5) a list of each substance to be used.

§ 205.202 – Land Requirements: Any field or farm parcel from which harvested crops are intended to be sold, labeled, or represented as "organic," must: a) have been managed in accordance with the provisions of §205.203 through §205.206; b) have had no prohibited substances, as listed in §205.105, applied to it for 3 years immediately preceding harvest of the crop; and c) have distinct, defined boundaries and buffer zones to prevent the unintended application of a prohibited substance to the crop or contact with a prohibited substance applied to adjoining land that is not under organic management.

§ 205.203 – Soil Fertility and Crop Nutrient Management: Producers must: a) select and implement tillage and cultivation practices that maintain or improve the physical, chemical, and biological condition of soil and minimize soil erosion; b) manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials; and c) manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances. Animal and plant materials include:

- Raw animal manure, which must be composted unless it is: a) applied to land used for a crop not intended for human consumption; b) incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or c) incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles.
- Composted plant and animal materials produced through a process that: a) established an initial C:N ratio of between 25:1 and 40:1; b) maintained a temperature of between 131 °F and 170 °F for 3 days using an in-vessel or static aerated pile system; or c) maintained a temperature of between 131 °F and 170 °F for 15 days using a windrow composting system, during which period, the materials must be turned a minimum of five times.
- Uncomposted plant materials.



Active compost pile

Producers may manage crop nutrients and soil fertility to maintain or improve soil organic matter without contaminating crops, soil, or water with nutrients, pathogens, heavy metals, or prohibited substances. Approved inputs include:

1. A crop nutrient or soil amendment included on the National List of synthetic substances allowed for use in organic crop production.
2. Mined substances with low solubility.
3. Highly soluble mined substances, only if used according to conditions on the National List of prohibited nonsynthetic materials.
4. Ash from burning plant or animal materials, as long as the original material was not treated or mixed with prohibited substances, and the ash is not on the list of prohibited nonsynthetic materials.
5. Chemically altered plant or animal materials if included on the National List of allowed synthetic substances for organic crop production.

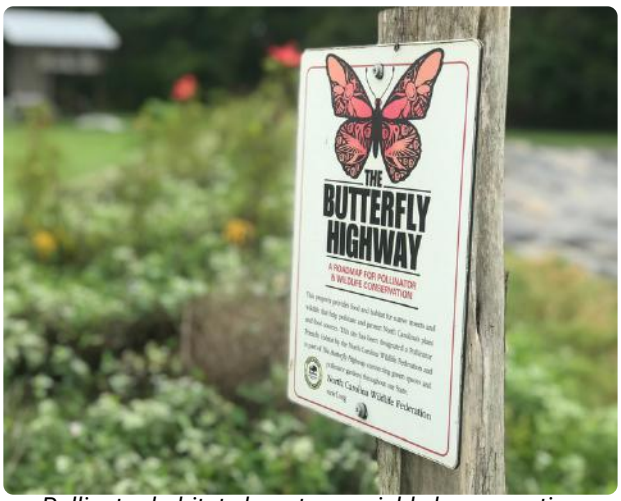
Producers are prohibited from using the following:

1. Fertilizers or composted plant and animal materials containing synthetic substances not listed as allowed for organic crop production;
2. Sewage sludge (biosolids) as defined in 40 CFR part 503; and
3. Burning crop residues as a disposal method, except when necessary to control disease or promote seed germination.

§ 205.204 – Seeds and Planting Stock: Organically grown seeds and planting stock must be used. Non-organic seed may only be used if an equivalent organic variety is not commercially available, and it must be untreated or treated only with approved substances. Non-organic annual seedlings may be used only with a granted variance.

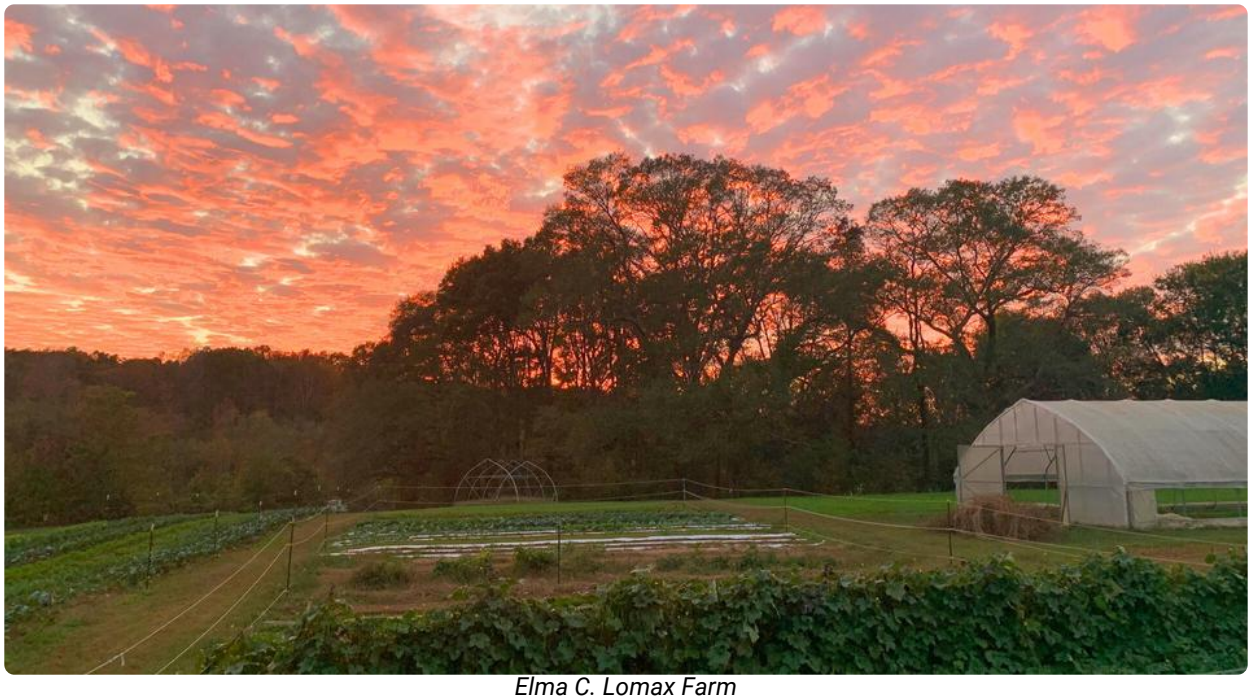
§ 205.205 – Crop Rotation: Organic producers must implement crop rotations that: 1) maintain or improve soil organic matter, 2) manage pests and diseases, 3) balance nutrients, and 4) prevent erosion.

§ 205.206 — Pest, Weed, and Disease Management: Preventive practices, including crop rotation, sanitation, and crop health promotion, must be prioritized. Control methods include: 1) mechanical/physical controls (e.g., weeding, mulching, grazing, flame weeding), and 2) biological controls (e.g., natural predators, botanical inputs). Allowed synthetic substances only when other methods fail, and use must be documented in the OSP.



Pollinator habitats boost crop yields by supporting bees and other beneficial insects.

§ 205.601 — Synthetic substances allowed for use in organic crop production and § 205.602 — Nonsynthetic substances prohibited for use in organic crop production: Using a prohibited substance may result in the loss of organic certification. To avoid this, all substances intended for use in organic crop production must be included in your OSP and approved by your certifier before use. While some synthetic substances may be permitted under specific restrictions, they must not contribute to the contamination of crops, soil, or water. Additionally, certain non-synthetic (natural) substances are also prohibited. To verify whether a substance is allowed, consult the USDA National Organic Program's National List of Allowed and Prohibited Substances.



Elma C. Lomax Farm

USDA Accredited Certifying Agents in the Carolinas

Choosing a certifier for organic certification is an important decision, similar to hiring any service provider. Doing some research ahead of time can help you make an informed decision. Some key factors to consider include:

Location: Certifiers don't need to be in your state; any certifier accredited by the USDA can operate nationwide. However, the travel distance and location of the inspector can affect costs. Asking about inspector travel fees and coordinating inspections with nearby farms can help reduce expenses.

Fee Structure: Certification fees vary by certifier, but typically include an application fee (either for new applicants or annually), fees based on acreage or gross sales, and an inspection fee that covers the inspector's time and travel costs. Small farm certification typically costs between $1,000 and $1,500 annually. The USDA's Organic Certification Cost Share Program (OCCSP), administered through the USDA Farm Service Agency, or State Departments of Agriculture (such as the North Carolina and South Carolina Departments of Agriculture), reimburses up to 75% of the cost of organic certification per category, with a maximum of $750 per category. Eligible expenses include application fees, inspection costs, and other related certification expenses.

Turnaround Time: Depending on the complexity of the operation, the initial certification process can take 3 to 6 months or longer. Asking about average turnaround times, busy seasons, and expedited options can help with planning.

Services Offered and Experience: Not all certifiers offer certification for crops, livestock, and processing. Farmers should ensure the certifier supports the specific products they want certified. Experience and regional familiarity are also important, as local knowledge can improve service quality.

End Product Considerations: If the product is entering a supply chain or being exported, aligning certification with downstream certifiers (e.g., processors or exporters) can streamline marketing. Some certifiers can also certify to international organic standards.

Interpretation of Standards: While USDA organic standards are generally clear, some parts require interpretation. Certifiers may differ slightly in how they apply the standards, so it's important to consult certifiers before making decisions.

Certifiers in the Carolinas who certify ten or more operations annually	
Certifier Name	**Phone Number**
Baystate Organic Certifiers	774-872-5544
CCOF Certification Services, LLC*	831-423-2263
Clemson University (SC only)	864-646-2129
Oregon Tilth Certified Organic*	503-378-0690
Pennsylvania Certified Organic	814-422-0251
Quality Assurance International*	734-769-8010
Quality Certification Services	352-377-0133
Where Food Comes From Organic*	303-895-3002

**The Organic Certifier Searchable Comparison Tool, developed by the Community Alliance with Family Farmers, provides more information on these certifiers.*

Tip: CFSA offers direct technical assistance and resources to help farmers transition to certified organic. Check out our services!

Recordkeeping

§ 205.103 – Recordkeeping by certified operations
A certified operation must maintain records concerning the production, harvesting, and handling of agricultural products that are or that are intended to be sold, labeled, or represented as "100 percent organic," "organic," or "made with organic (specified ingredients or food group(s))." Records must: Contain a full disclosure of all activities and transactions in sufficient detail as to be readily understood and audited, span the time of purchase or acquisition through production, to sale or transport, be traceable, include audit trail documentation, and be maintained for 5 years.

When deciding whether organic certification is right for your farm, recordkeeping requirements are often one of the biggest hurdles—especially for farmers already pressed for time. Yet many who complete certification report that consistent documentation of farm inputs, field activities, pest issues, harvest yields, market sales, and other key details brings long-term benefits. Each growing season presents new challenges and unexpected problems. With a detailed history of past decisions and their outcomes, you can make more informed choices, reduce unnecessary risks, and avoid repeating costly mistakes. Good records can also reveal which parts of your operation are most profitable.

Your recordkeeping system must be detailed enough for an inspector to perform a Mass Balance Audit, confirming the amount of organic inputs purchased and used matches the products sold or fertility applied. For instance, if you bought a 25-gallon container of fish emulsion and 10 gallons remain at inspection, your records must show when and how the other 15 gallons were applied. Likewise, if you purchased seed for ¼ acre of carrots, your harvest log should document the equivalent yield from ¼ acre.

Tip: Using slower months to set up recordkeeping tools and systems ensures better organization and efficiency during the busy season.

Records play a key role during an inspection in verifying seed sourcing practices. You must provide invoices, seed tags, or receipts to show that certified organic seed was purchased whenever it was commercially available. If organic seed could not be sourced, records of search efforts (emails, phone logs, or catalog notes from multiple suppliers) need to demonstrate that you made a good-faith attempt before using untreated, non-GMO conventional seed. Inspectors also review documentation, such as seed tags or affidavits, to confirm that any non-organic seed used was not genetically modified or treated with prohibited substances. Seed purchase records are cross-checked against field planting logs and harvest records to ensure that the amount of seed bought matches the crops grown and products sold, creating a clear audit trail that upholds organic integrity.

The Organic Vegetable Operation Record Keeping Systems guide offers detailed examples and practical tips for setting up an effective system. CFSA's Farm Recordkeeping Toolkit also includes customizable templates to help you tailor records to meet your needs.

Allowed and Prohibited Substances

§ 205.601 - Synthetic substances allowed for use in organic crop production
§ 205.602 - Nonsynthetic substances prohibited for use in organic crop production.
Using a prohibited substance may result in the loss of organic certification. To avoid this, all substances intended for use in organic crop production must be included in your Organic System Plan (OSP) and approved by your certifier before use. While some synthetic substances may be permitted under specific restrictions, they must not contribute to the contamination of crops, soil, or water. Additionally, certain non-synthetic (natural) substances are also prohibited. To verify whether a substance is allowed, consult the USDA National Organic Program's National List of Allowed and Prohibited Substances.

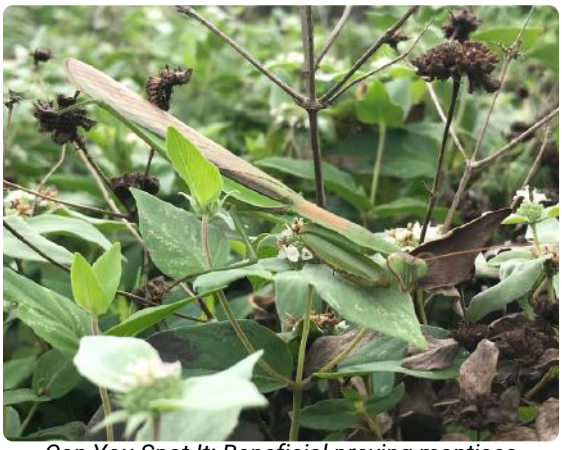
The USDA National Organic Program (NOP) strictly regulates what inputs can be used in organic crop production. To maintain certification, every substance you apply must be listed in your Organic System Plan (OSP) and approved by your certifier before use. However, not all fertilizers, pesticides, or soil amendments are allowed, and those that are permitted may have specific conditions for how, when, or why they can be used. Inputs may be prohibited, allowed, or restricted to certain conditions. These restrictions ensure inputs are consistent with organic principles, protecting soil health, biodiversity, and ecological balance, while minimizing environmental harm and synthetic dependency.

Categories of Organic Inputs: Prohibited, Allowed, and Restricted		
Category	**What it Means**	**Examples**
Prohibited	Never allowed in organic production because they conflict with organic principles or pose high risks.	Synthetic fertilizers, most conventional pesticides, sewage sludge, Genetically Modified Organisms
Allowed	Permitted for use in organic systems, as they are natural, low-risk, and consistent with organic practices.	Lime, gypsum, bone meal, beneficial insects
Restricted	Allowed only under certain conditions, with limits on use. Farmers must justify their use and follow safeguards.	Copper fungicides, raw manure, plastic mulch

The National List of Allowed and Prohibited Substances (7 CFR §205.601–205.602) regulation details which synthetic inputs are permitted and which the USDA prohibits. However, because the list can be challenging to interpret, most farmers rely on third-party tools such as the Organic Materials Review Institute (OMRI). OMRI provides searchable lists and product-specific labels indicating whether a commercial product is allowed in certified organic production.

General Guidelines

- **Synthetic substances:** Only those specifically allowed on the National List may be used, with restrictions (e.g., only for certain crops or conditions).
- **Natural (nonsynthetic) substances:** Many are allowed, but not all. Some natural substances, like arsenic, are prohibited.
- **Documentation:** Some inputs, especially micronutrients and soil amendments, may only be applied if you can show a documented need through a soil or tissue test. Keep those records on file for inspection.



Can You Spot It: Beneficial praying mantises eat aphids and caterpillars.

Pesticides

Pesticides are only allowed if preventive, cultural, mechanical, or biological practices do not adequately control the pest, and you must document those efforts for your certifier (§205.206). When they are permitted, many pesticides have restrictions on how, when, or under what conditions they can be used. Always check OMRI listings for restrictions before using any product. For example, insecticidal soaps are OMRI-approved for pest control, but when labeled for herbicidal use, they may only be applied in non-crop areas (for farmstead maintenance such as ditches, roadways, and building perimeters) or for ornamentals. Serenade (naturally occurring, beneficial bacterium, Bacillus subtilis) products are OMRI-approved as a biological fungicide/bactericide. However, it is listed as "Allowed with Restrictions," meaning it can only be used as part of an integrated system and after preventive, mechanical, physical, and biological practices have been tried first.

> **Tip:** Always check both the National List and OMRI, and consult with your certifier before introducing a new input. Keep labels, invoices, and approval letters on file for inspections.

Soil Amendments

Soil amendments are essential to organic farming, but are not the foundation for soil health. Amendments are also something that certifiers pay close attention to. The NOP requires fertility inputs to supplement soil health practices, not replace them. In other words, cover crops, compost, and crop rotations should come first, and purchased inputs should only be added when there's a documented need.

- **Micronutrients and minerals**
  - Inputs like boron, zinc, copper, and manganese may only be applied if a soil or tissue test shows a deficiency. Keep copies of these tests and submit them to your certifier.
  - Materials like lime, gypsum, or rock phosphate are allowed broadly but must be clean (no synthetic additives or heavy metal contamination).
  - Highly soluble mined inputs, such as Chilean nitrate, are prohibited or strictly limited because they behave similarly to synthetic fertilizers.

- **Manure and compost**
  - Raw manure is allowed under strict application timing rules: 90 days before harvest (for crops not in contact with soil) or 120 days before harvest (for crops that do).
  - Compost is allowed if it meets the NOP requirements for temperature and turning. Be prepared to show records of how it was made, or purchase compost with an affidavit verifying compliance.
- **Commercial organic fertilizers**
  - Products like fish emulsion, kelp meal, alfalfa meal, or feather meal are OMRI-listed and widely used. However, check each product's listing carefully; some are only approved for specific uses (e.g., foliar sprays vs. soil applications). Watch for added ingredients in blended products. Sometimes a fertilizer mix will have one non-allowed material that makes the whole product prohibited.
- **Recordkeeping and approval**
  - All amendments must be listed in your OSP and approved by your certifier before use.
  - Keep product labels, purchase receipts, and any documentation (soil tests, compost logs, affidavits) on file.
  - Inspectors will check that your applications match your OSP and test results.

Developing an Organic System Plan

> **§ 205.201 Organic Production and Handling System Plan**
> The producer must develop an organic production agreed to by the producer or handler and an accredited certifying agent. An organic production or handling system plan must include a description of: 1) practices and procedures, 2) monitoring practices, 3) recordkeeping systems, 4) management practices, and 5) a list of each substance to be used.

An Organic System Plan (OSP) is the foundation of your farm's documentation for complying with the National Organic Program (NOP) and achieving USDA Organic certification. Beyond being a regulatory requirement, it also serves as a practical business plan outlining the different areas of your farm, how they operate under organic principles, and the methods you use to document and verify those practices.

While the USDA provides generic OSP templates, it is best to use the application form supplied by the certifier you choose. Doing so streamlines the process, reduces extra work, and minimizes revisions. The USDA's Agricultural Marketing Service also offers crop and livestock OSP templates and other resources to help transitioning growers become familiar with what's required.

Once you select a certifying agency, you will complete an application that becomes your farm's OSP and your first formal communication with your certifier. Reviewing a blank application ahead of time is highly recommended so you know what information you'll need to gather and document.

The level of detail in your OSP directly affects how quickly your farm can become certified. Incomplete or vague information will result in requests for clarification, which slows down the process. Certification can take a minimum of two months, so it's important to be thorough from the start.

Because the OSP is legally binding, writing down three years of past management and your plans for the coming season can feel daunting. Remember, though, the OSP is a living document; you can request changes throughout the year if circumstances require.

Always communicate potential changes with your certifier before taking action. For example, if you want to introduce a new input or change your cropping plan, your certifier must provide written confirmation (including email) that the change is officially reflected in your OSP. Keep these communications on file for future reference.

Key Components of an Organic System Plan

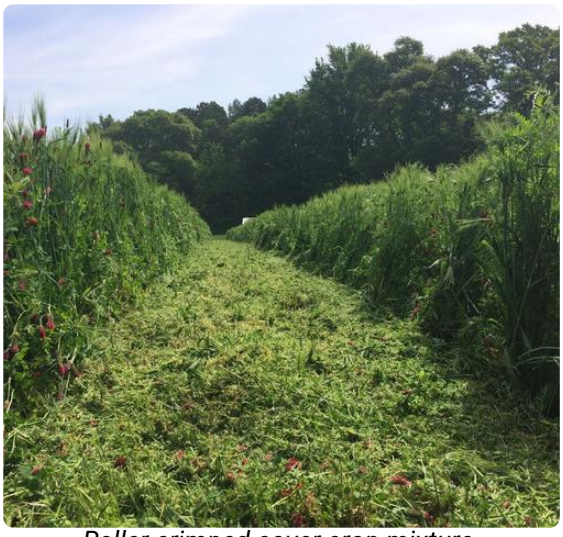
Every OSP includes several core sections, though the level of detail may vary by certifier. Common elements address:

Land Requirements: Includes address and maps of the operation, eligibility for certification based on the last date a prohibited substance was used, buffers from non-organic properties and practices.

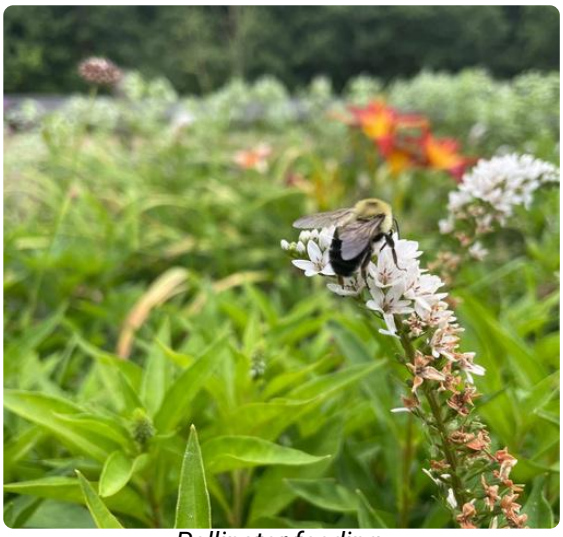
Soil & Nutrients: Descriptions of how soil is managed and when, how and what nutrients are used for crops on certified/transitioning land, crop rotations, greenhouse management, seeds/planting stock, and documentation for verification of all proposed practices.

Manure/Compost: If and how the operation handles these, as well as documentation of compost production, applications of manure/compost, and analysis or affidavits about the ingredients in such inputs.

Natural Resource Conservation: Ways in which air, water, soil, and other resources are considered, and harm is reduced from your operation. Monitoring and recordkeeping are required.



Roller crimped cover crop mixture.



Pollinator feeding.

Pest, Weed, and Disease Management: This section outlines the strategies and practices used to manage pests, weeds, and diseases in compliance with NOP standards. It also details the methods for documenting these practices and the procedures for verifying that they are implemented effectively.

Materials List: List of all inputs, fertilizers, pesticides, fungicides, cleaners, and sanitizers used in all production areas or that may contact crops, equipment, and/or workers.

Audit Trail: Traceability is key to ensuring the authenticity of organically produced goods. Documentation and a protocol must exist to track produce from the seed to the field, field to packhouse, and from packhouse to the end consumer. This consists of detailed lot numbers, field maps, and harvest and sales records to complete this audit. Certified operations will be required to perform a mock audit during their annual inspection.

Labeling: Strict requirements govern what and how organic products are labeled. This section of the OSP outlines how your operation handles labeling and marketing organic products.

Post-Harvest Handling, Sanitation, and Storage: This section of the OSP focuses on how the product is harvested, washed, packed, stored, and transported to prevent the commingling of organic and non-organic products or the contamination of organic products with non-approved substances. Records must be developed and utilized to demonstrate how commingling is prevented.

Soil Fertility

§205.203 Soil fertility and crop nutrient management practice standard
Organic farmers must build soil fertility through crop rotations, cover crops, and plant and animal materials, while also preventing erosion and contamination of soil, crops, or water. Compost and manure must be handled according to NOP standards, raw manure is only allowed if incorporated at least 90 or 120 days before harvest, depending on the crop. Plant and animal materials (like compost, manure, and green manures) must be applied in ways that protect against contamination with pathogens, heavy metals, or prohibited residues. Allowed supplements include certain mined minerals or other inputs listed on the National List, while sewage sludge, unapproved synthetics, and burning crop residues for fertility are prohibited.

Healthy soil is the foundation of organic farming. The National Organic Program (NOP) requires that farmers manage fertility in ways that build long-term soil health rather than relying on quick chemical fixes. Under §205.203 Soil Fertility and Crop Nutrient Management, certified organic operations must:

- Use tillage and cultivation practices that maintain or improve the soil's physical, chemical, and biological condition, while minimizing erosion.

- Manage fertility primarily through crop rotations, cover crops, and applying plant and animal materials.
- Handle fertility inputs in ways that prevent contamination of crops, soil, or water with nutrients, pathogens, heavy metals, or prohibited substances.

Building Soil Health

Organic farming emphasizes biological processes over purchased inputs. Cover crops, compost, and diversified crop rotations add organic matter, improve nutrient cycling, and improve soil structure. For example, planting a rye and vetch cover crop before summer vegetables can add nitrogen, suppress weeds, and protect against erosion. Similarly, rotating a heavy feeding crop like corn with legumes or small grains can balance nutrient demand and help keep soil healthy.

Inputs should be supplemental, not the foundation for soil health. Certifiers will look closely at how you are building soil health through your management practices before they approve additional fertility products.

Allowed Practices and Inputs

The NOP permits a variety of tools to support fertility, as long as they are used within the rules:

- **Composted plant and animal materials** must meet NOP standards for temperature, turning, and carbon-to-nitrogen ratio. If you make compost on-farm, keep management records, and if you purchase it, ask for an affidavit.
- **Raw animal manure** can be used, but only if it's incorporated 120 days before harvest of crops whose edible portion touches the soil and 90 days before harvest of crops that don't touch the soil.
- **Uncomposted plant materials** may be applied without restriction.
- **Mined substances with low solubility** (e.g., gypsum, rock phosphate) are generally permitted if free from prohibited additives or contaminants.
- **Ash from plant or animal materials** is allowed if the material has not been treated with prohibited substances.
- **Certain synthetic substances** may be used if they appear on the National List (§205.601) and are applied under the listed restrictions.

Examples:

- Fish emulsion is a common OMRI-listed nitrogen source, but it must be listed in your Organic System Plan and documented with receipts.
- A broccoli farmer's soil test indicates a boron deficiency. To address it, the farmer applies Solubor (an OMRI-listed boron product) as a foliar spray and keeps the test results on file. This application is compliant because the deficiency was documented and the product is approved. Applying it without supporting test results would have been a violation.

Tip: When applying manure or compost, write the application date directly in your planting log. That way, you can easily show the 90 or 120-day interval before harvest without needing to cross-check multiple records.

Prohibited Practices and Inputs

Some practices and materials are never allowed in organic systems, including:

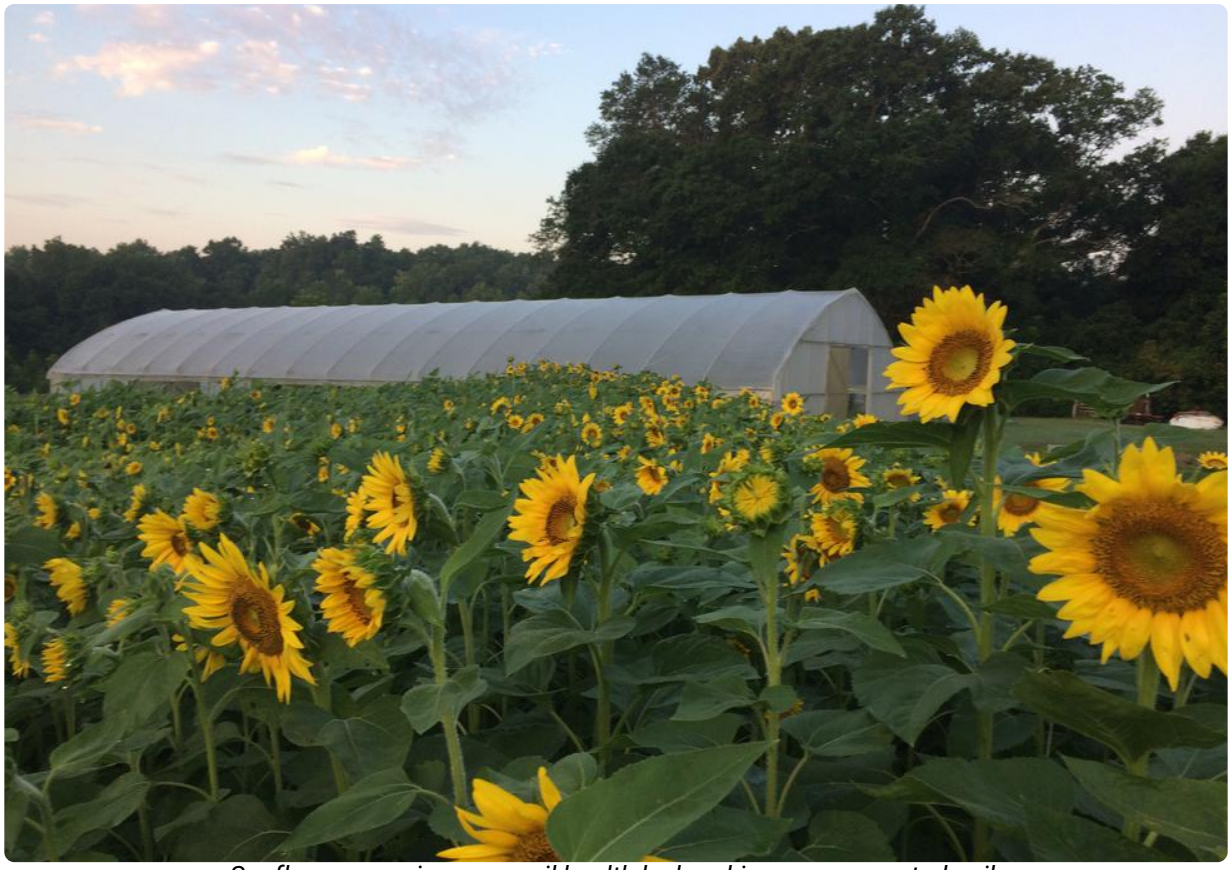
- Sewage sludge (biosolids).
- Synthetic fertilizers or amendments that are not on the National List.
- Burning crop residues to build fertility (only permitted for disease control or to stimulate seed germination).

Recordkeeping and Certification

Every fertility practice and input must be included in your Organic System Plan (OSP) and approved by your certifier before use. Keep records of:

- Soil and tissue test results, especially when applying micronutrients.
- Compost production records or affidavits for purchased compost.
- Product labels and receipts for all purchased amendments.
- Inspectors will review your OSP and compare it with your records to verify compliance with the standards.

Soil fertility in organic farming is about managing the soil as a living ecosystem. Compost, rotations, and cover crops come first. Inputs like fish emulsion, rock phosphate, or boron can help fill gaps, but only when approved, documented, and never used in ways that risk contamination or introduce prohibited materials. Building organic matter and feeding soil life is the best long-term fertility strategy, and the key to resilient, productive organic fields.

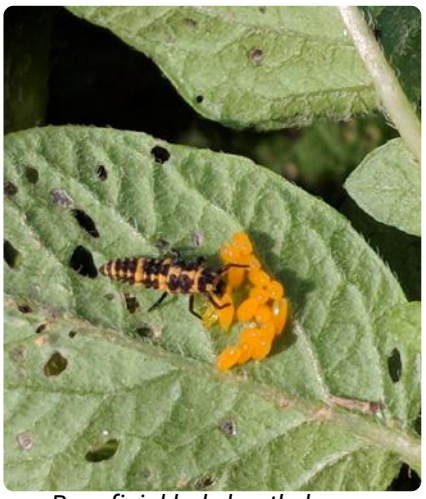


Sunflowers can improve soil health by breaking up compacted soil.

Pest Management

§ 205.206 Crop pest, weed, and disease management practice standard.
Preventive practices, including crop rotation, sanitation, and crop health promotion, must be prioritized. Control methods include: 1) mechanical/physical controls (e.g., weeding, mulching, grazing, flame weeding), and 2) biological controls (e.g., natural predators, botanical inputs). Allowed synthetic substances only when other methods fail, and use must be documented in the Organic System Plan (OSP).

The climate of the Carolinas, with its extended growing season and mild winter temperatures, ample rainfall, and increased heat and humidity, lends itself to significant pressure from insect pests, noxious weeds, and fungal diseases (collectively referred to as "pests" throughout this document). Pests can lead to devastating economic loss in high-value fruit and vegetable production. Without the option of using synthetic inputs, organic growers must depart from the standard agricultural approach of reacting to pests only after they become problematic. Rather, organic pest management requires forward thinking and making proactive choices to prevent pest outbreaks. National Organic Program (NOP) approved pest control inputs should be considered an option only after other measures of prevention prove unsuccessful.


Beneficial lady beetle larvae eating potato beetle eggs.

Nutrient Management and Crop Rotation Practices

Enhancing the quality of your soil is one of the most important ways you can lower your crops' vulnerability to pests. Healthy crops grown in a nutrient-balanced, biologically active soil have stronger immune functions and are less susceptible to pest attack. Insect pests and diseases are often more attracted to plants that suffer from nutrient deficiencies or excesses. Furthermore, a diverse crop rotation makes it more difficult for pests to access host crops and proliferate from season to season. The Sustainable Agriculture Research and Education Program's (SARE) Crop Rotation on Organic Farms manual provides in-depth information on how cover crops can help manage pests, diseases, and weeds.


Basil intercropping to deter pests and attract pollinators.

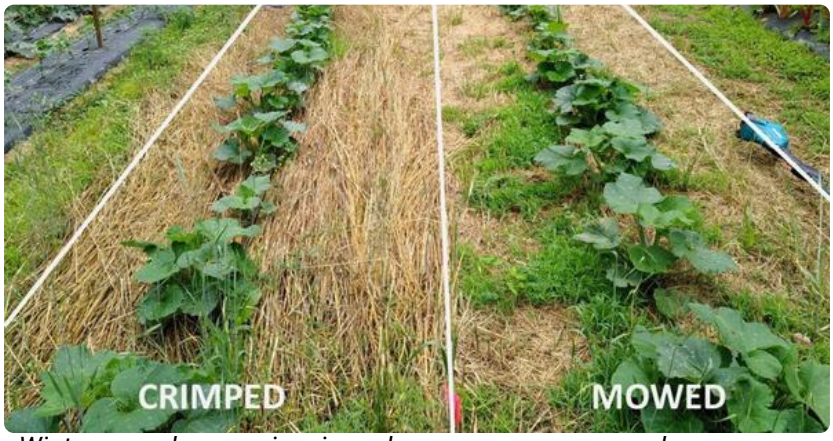
Pest Scouting and Identification

Organic growers must be active observers who regularly devote time to scouting for pest issues. There is no substitute for dedicated study of the identification and life cycles of insect, weed, and disease pests that are prevalent in your region.

Spend some time researching what resources are available and most helpful to your operation. These could be nearby farmers, Extension Service staff, regional agriculture conferences, or any number of publications available online. Both North Carolina State University and Clemson University have diagnostic labs that can assist you with identifying pests and diseases on your farm.

Cultural Practices

The NOP Final Rule highlights the need to establish “cultural practices that enhance crop health" to manage pests, weeds, and diseases. This term encompasses several practices, such as variety selection, timing of planting, field and equipment sanitation, irrigation methods, trellising, planting trap crops, etc. This is often referred to as Integrated Pest Management and consists of many cultural and management practices that are implemented and precede any use of organically approved chemical applications. North Carolina Cooperative Extension’s Insects and Related Pests of Vegetables includes pest profiles and nonchemical control strategies for common pests of vegetable crops grown in North Carolina.



Winter squash grown in crimped cover crops vs. mowed cover crops.

Think about which crops might be the most vulnerable targets to pests and when. Identify crops that have serious regional pest challenges in the absence of pesticides and consider not growing them at all or seeking resistant varieties of susceptible crops. Time crop plantings so that they have a lower risk of pest damage due to population fluctuation or seasonal conditions. For example, Mexican bean beetles are the most damaging to early crops of snap beans when larvae first emerge. Delaying your plantings until later in the summer can significantly reduce their prevalence. On the other hand, cucurbits are far less afflicted by powdery mildew in the early summer, a disease that typically peaks in the late summer and early fall.

Beneficial Insects

Many insect pest populations are capable of rapid growth because there are insufficient natural predators present to feed on them. This natural imbalance can be shifted with practices to encourage the enemies of pests. Farm scaping is a whole-farm approach to managing pests where beneficial insect habitats (and other needed resources) are established near crop fields. To supplement your efforts in building attractive natural areas for beneficial insects, a variety of pest predators and parasites are commercially available to target pest species. Cornell University has a helpful resource for understanding biological controls and integrated pest management.

Parasitic wasp Cotesia congregata *on hornworm* Manduca sexta. *Attribution: Beatriz Moisset, CC BY-SA 3.0, via Wikimedia Commons.*

Examples of Beneficial Organisms Used to Control Pests	
Beneficial Organism	**Pests Controlled**
Ladybird beetles	Aphids, mealybugs, mites, soft-bodied insects
Green Lacewing	Aphids, thrips, whiteflies, mealybugs, small caterpillars
Encarsia formosa	Greenhouse whitefly
Trichogramma wasps	Attacks caterpillar eggs
Minute Pirate Bug	Thrips, aphids, spider mites, small caterpillars, whiteflies
Predatory mites	Thrips, whitefly, spider mites
Parasitic nematodes	Soil-dwelling insects: fungus gnat larvae, thrips pupae, root weevils, cutworms

Approved Pesticides as a Last Resort

When pest populations increase to a level where damage to the crop greatly reduces yields, it may be time to consider pest control inputs. As discussed in the Allowed and Prohibited Substance section of this handbook, it is important to reference the NOP Final Rule and the Organic Materials Review Institute (OMRI) listing to know what your options and limitations are for using various pesticides. The conditions that warrant your use of these inputs must be a part of your Organic System Plan (OSP). Be sure to let your certifying agent know whenever you are considering applying a new product to get approval and to update your OSP BEFORE you begin using it.

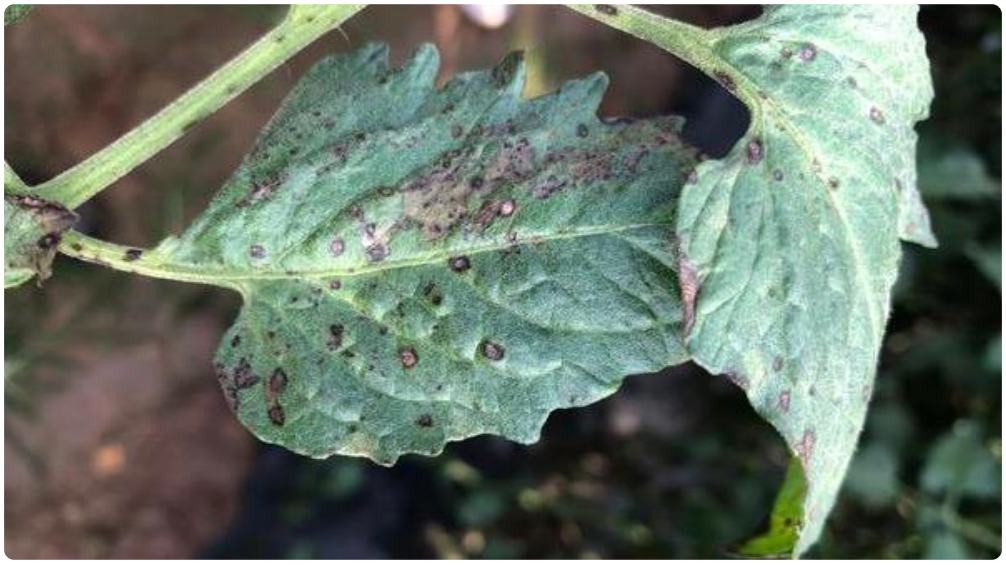
When looking for products that effectively control a pest, consult multiple sources for information. Cornell University's Resource Guide for Organic Insect and Disease Management includes organic crop management practices to control insect pests and diseases by crop and information on the effectiveness of organic pest control products.

They also provide crop-specific organic production guides covering integrated pest management practices for more than 30 fruit and vegetable crops, as well as an extensive list of pests, diseases, and approved control products. ATTRA's Sustainable Pest and Weed Control Database is an interactive tool that can help you identify OMRI-approved products for controlling specific crop pests.

> **Tip:** For general principles of organic production as they pertain to pest management, view the NC State Integrated Pest Management resource hub.

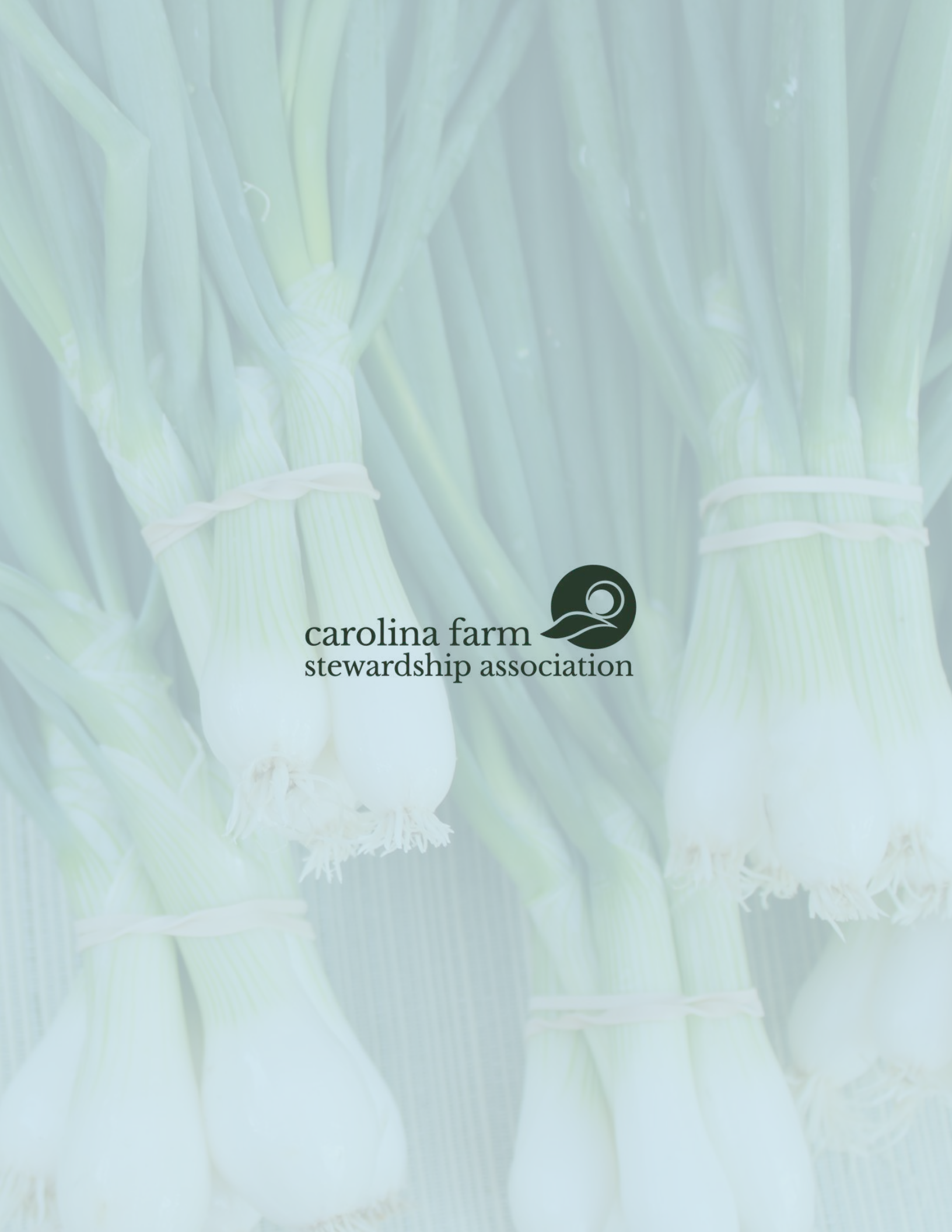
Pest control is a critical area of management for any operation. Insects, weeds, and disease can be major limiting factors to overall crop health and farm profitability. Understanding how they contribute to each other and the overall health of your operation is critical for farm and ecosystem sustainability. Many other resources are available on this subject, and continued understanding is necessary to manage pests appropriately.

Above: Early blight on tomato; Below: Septoria Leaf Spot on tomato. Photos courtesy of NC State.



Key Resources for Transitioning & Organic Farmers

Organization	Technical Assistance	Conferences	Workshops; Webinars; Field Days	Online Resources	Organic Research	Apprentice, Intern, & Mentorship, Journey Person	Online Courses
Carolina Farm Stewardship Association							
Organic Growers School							
Center for Environmental Farming Systems							
NC State Extension							
Clemson Extension							
Virginia Association for Biological Farming							
Georgia Organics							
Rodale Institute							
Florida Organic Growers							
eOrganic							
National Sustainable Agriculture Information Service (ATTRA)							
Organic Farming Research Foundation (OFRF)							
Sustainable Agriculture Research and Education (SARE)							


carolina farm
stewardship association