Horticultural Crops Production -Level-IV

Based on March 2019, Version 2 Occupational standards

Module Title: - Overseeing compliance with an organic certification scheme

LG Code: AGR HCP4 M08 LO (1-5) LG (36-40)
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LG #36	LO #1- Identify compliance requirements of the selected organic standard relating to the farm system

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Accessing the selected organic certification
- Identifying and interpreting key clauses and requirements of the organic standard
- Identifying and documenting compliance of the farm system
- Identifying and documenting key farm operations

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Access the selected organic certification
- Identify and interpret key clauses and requirements of the organic standard
- Identify and document compliance of the farm system
- Identify and document key farm operations

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to
6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet 1- Accessing the selected organic certification

Organic certification: is a certification process for producers of organic food and other organic agricultural products. In general, any business directly involved in food production can be certified, including seed suppliers, farmers, food processors, retailers and restaurants. A lesser known counterpart is certification for organic textiles (or organic clothing) that includes certification of textile products made from organically grown fibers.

People are becoming increasingly wary of the ecological, social and health issues associated with conventional industrial food production. Bureau Veritas organic certification and auditing services support you in meeting the growing demand for organics.

Consumers are perpetually seeking healthy, safe, environmentally and ethically responsible food options. This is driving tremendous growth in the organic food market. Organic is a labeling term that refers to food and agricultural products produced in strict accordance with a specific set of production standards. Though organic food certification differs from region to region, they typically cover the entire value chain, from production, to processing, to distribution.

For organic producers, certification identifies suppliers of products approved for use in certified operations. For consumers, certified organic serves as a product assurance, similar to low fat, 100% whole wheat, or no artificial preservatives.

Certification is essentially aimed at regulating and facilitating the sale of organic products to consumers. Individual certification bodies have their own service marks, which can act as branding to consumers—a certifier may promote the high consumer recognition value of its logo as a marketing advantage to producers.

FAO reports that the farm's transition period to obtain organic certification is sometimes very expensive for the producer since the product is sold at its conventional price for 2 to 3 years, while it has to comply with the organic production principles. This means that at first there is an increase in production costs and a decrease in productivity.

However, producers must consider certification as an investment that will open doors to more lucrative markets. In order to lower certification costs, producers can form groups

and share an internal control system. In this regard, working together and maintaining trust is essential since a successful shared system will depend on cooperation and teamwork.

Characteristics of organic farming

- Maximum but sustainable use of resources and providing indirect crop nutrients with comparatively insoluble nutrient sources made accessible to the plant through the action of soil microorganisms.
- Self-sufficiency of nitrogen through the use of legumes and biological fixation of nitrogen, efficient recycling of organic products including crop residues and animal manures.
- Minimal use of purchased inputs, as complementary to local resources.
- Ensuring the biological functions of the soil-water-nutrients-human continuum.
- Creating alternative overall landscapes which give satisfaction to the local people.
- Protecting long-term soil fertility by keeping concentrations of organic matter, and promoting soil biological activity and mechanical care.
- Careful attention to the effect of farming on the wider setting and habitat conservation.

Figure 1.1 organically produced vegetables

Self-check 1	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Choose the best answer (15point)

1. Define organic farming? (5pts)
2. Explain are the characterstics of organic farming(5pts)
3. What is organic certification? (5pts)

Note: **Satisfactory rating _ 15 points** **Unsatisfactory - below 15points**

You can ask you teacher for the copy of the correct answers.

4.

Information Sheet 2- Identifying and interpreting key clauses and requirements of the organic standard

The Food and Agriculture Organization of the United Nations (FAO) reveals that there are specific requirements for certifying the organic production of most crops, animals, fish breeding, bee-keeping, forestry and wild harvest.

One of the main requirements for producers is related with the so-called transition period of the farm: the producer must use organic production methods typically from 2 to 3 years before it can stamp the organic label on the product.

Other factors that are taken into account according to FAO include the selection of seeds and planting material; plant enhancement methods; soil fertility management practices and recycling of organic materials; planting methods; water conservation; and pest, disease and weed control. Alimentación Sana further informs that criteria have also been established on the use of organic fertilizers and input for controlling pests and illnesses.

In connection with animal production, requirements have typically been laid down regarding animal health, diet, reproduction, living conditions, transportation and slaughter procedures.

Requirements vary from country to country (List of countries with organic agriculture regulation), and generally involve a set of production standards for growing, storage, processing, packaging and shipping that include:

- avoidance of synthetic chemical inputs (e.g. fertilizer, pesticides, antibiotics, food additives), irradiation, and the use of sewage sludge.
- avoidance of genetically modified seed;
- use of farmland that has been free from prohibited chemical inputs for a number of years (often, three or more);
- for livestock, adhering to specific requirements for feed, housing, and breeding;
- keeping detailed written production and sales records (audit trail);
- maintaining strict physical separation of organic products from non-certified products;
- undergoing periodic on-site inspections.

In some countries, certification is overseen by the government, and commercial use of the term *organic* is legally restricted. Certified organic producers are also subject to the

same agricultural, food safety and other government regulations that apply to non-certified producers.

According to FAO, Organic standards are mainly developed by private certifying agencies, but many countries have defined national standards. For example, the government of Costa Rica has established its own set of rules and certifications to support the organic agricultural sector.

Likewise, in countries such as the United States, Japan and those in Europe, national standards have been laid out and producers wishing to export to these markets are compelled to comply with the organic labeling requirements of the importing countries.

The selection of the certification agency is very important: it must be officially recognized by the importing country. Generally, national certification agencies are less expensive than international agencies, but may not be so well known in some foreign markets.

Self-Check – 2	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (15 pts.)

1. What are the main requirements of the organic standard? (5pts).
2. What is one of the main requirements for producers is related with the so-called transition period of the farm: the produce? (5pts).
3. Explain the trends of certification according to FAO and other countries?

Note: **Satisfactory rating _ 15 points** **Unsatisfactory - below 15points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 3- Identifying and documenting compliance of the farm system

Problem in the market to comply with standards

- Worldwide more than 400 standards / market requirements; food companies, retailers, traders, Governments, certification standards, quality standards, etc.
- All standards have different criteria and assessments
- No exchange of data possible / no interoperability
- Resulting in high (certification) cost for business, farmers, etc.
- No transparency and no trustworthy info for consumers

A practical solution to make compliance easy for farmers, cooperatives, traders, auditors and other stakeholders

2. A Framework to classify market requirement criteria
3. Allowing differentiation of product segments based on quality
4. Lowering audit cost by digitizing data and evidence documents
5. Of-site farm audits and monitoring becomes possible
6. Farmers get access to markets and buyers
7. Enabling and growing global trade
8. Global system, local implementation and ownership

ENVIRONMENTAL REGULATIONS

Farm regulations can impact any size farm operation. State and federal laws governing clean water & air continue to broaden. Ever increasing enforcement requires farms to adapt to changing environmental regulations and farm efficiency expectations. Farms must continue to modernize, grow, and adapt to match the changing landscape of food production and consumer demands. In today's economic setting, a farms ability to utilize farm data, record keeping, and every available option to improve efficiency and the environment can lead to a more profitable operation.

Manure management, crop rotation management, timing, tillage all connect to the farms ability to meet environmental requirements while having economic success. Maintaining annual application records, yield data, staying up-to-date on the farms state permit requirements, and producing annual nutrient management plans takes time that many farms struggle to find. The level of records and reporting for farms gets more complicated every year, and the ability of farms to collect that data has greatly improved.

Self-Check – 3	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What are the practical solutions to make compliance easy for farmers? (5 pts.)
2. What are the Problems in the market to comply with standards? (5 pts)

Note: **Satisfactory rating 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 4- Identifying and documenting key farm operations

General Checklist for all Organic Operations

- Current state organic registration (Department of Food and Agriculture or Department of Health Services), if applicable •
- Complaint Log (procedure for response to any complaints related to organic integrity). This is an ISO 65 requirement if any products are to be exported. •
- Documentation and/or demonstration of the correction of previously cited issues of noncompliance

Checklist for Planning for Inspection Day

•

- Ensure that you can devote the time and attention needed to complete the inspection. •
- Make prior arrangements for someone else to handle work-related tasks and/or family commitments. •
- Have all your records ready and accessible. •
- Provide a space where you and the inspector can comfortably review records. While a tailgate may suffice for some operations on a sunny day, a clear table and place to sit out of the wind and weather are prefer- able. Some inspectors require space for a laptop computer. •
- Be prepared to provide easy and prompt access to all fields, buildings, and storage areas, both on- and off-farm. This may include having keys to gates and sheds and having other management personnel avail- able. If you have multiple fields or sites, be sure to advise your inspector, so that sufficient time is allotted for your inspection. •
- Have enough gas in the pickup (or other appropriate vehicle) to reach the more re- mote parts of the farm or facilities.

Self-Check – 4	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. List the fundamental features of organic farming l **(5pts)**
2. How does organic farming maintains fairness **(5pts)**

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Operation sheet 1	Identifying organic farm operations on farmers field

Basically, identifying farm operations is very crucial point to undertake in organic farming. Therefore, to identify the major farm operations in organic farming, follow the following steps.

Take sample of seeds (input) and test and identify whether it is genetically treated by hormones and other growth regulators synthetically.

1. Interview the farmer and identify whether or not soil is treated with chemical fertilizers.
2. Interview and Identify and record whether or not the land used for organic production is Isolated at least 30 meters from the land that is used for production which uses commercial fertilizers
3. Interview the farmer and assess whether or not the crops are fertilized with the use of alternative nutrients sources such as crop rotation, residue management, organic manures, and biological inputs;
4. Interview the farmer and assess whether or not the farmer is managing weeds, diseases and insect pests by better management practices, physical and cultural means and biological control;
5. Finally, based on the above data by considering the requirements of organic production use your judgment whether or not the farmer is using organic production.

LAP Test	Practical Demonstration

Name_____ Date_____

Time started_____ Time finished_____

Instructions: **Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within **2** hour. The project is expected from each student to do it.

Task 1. **Identifying organic farm operations on farmers field**

LG #37	LO #2-Keep records to comply with organic certification requirements

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Identifying the records and detail required for compliance
- Completing and maintaining clear and accurate records
- Communicating recording requirements
- Monitoring the record keeping process and maintaining records to the National Organic Standard

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, **you will be able to**:

- Identify the records and detail required for compliance
- Complete and maintaining clear and accurate records
- Communicate recording requirements
- Monitor the record keeping process and maintaining records to the National Organic Standard

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to

Information Sheet 1- Identifying the records and detail required for compliance

An Overview of Certification Records

- Description of farming operation & crop products
- Transition plan
- Appendix questionnaires for apiculture, wild crop harvesting, greenhouse production, on farm processing and livestock production
- Certification History
- Physical Layout
- Field History
- Inputs
- Production Methods
- Product Handling

In considering whether organic certification is right for your farm, the recordkeeping requirements are often one of the major turn offs for farmers that are already strapped for time. However, many of those that actually seek certification can testify to the positive results of consistent documentation of:

- farm inputs,
- field activities,
- pest problems,
- harvest yields,
- Market sales and other pertinent information.

Each growing season brings new challenges and is riddled with unpredictable factors. With an extensive history of past decisions and the results, a farmer is better equipped to avoid unnecessary risks and repeated failures in the field and marketplace. Your records are a tool to help you save time and understand what parts of your operation are most profitable.

At the peak of the growing season when every minute of daylight is precious, it can become overwhelming to keep up with the office work and recordkeeping of running a farming business. For this reason it is essential to spend some time during the slower part of the year developing a recordkeeping plan so that the necessary tools are in place to streamline your efforts. Then your only potential obstacle in keeping helpful records will be your own discipline.

Self-Check – 1	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What is the consistent documentation of organic farmers for certification? (5 pts.)
2. What is essentiality of spending some time during the slower part of the year developing a recordkeeping plan? (5 pts.)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 2- Completing and maintaining clear and accurate records

National Organic Program Recordkeeping Requirements for Certified Operations:
(a) 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))."
(b) Such records must:

- Be adapted to the particular business that the certified operation is conducting;
- Fully disclose all activities and transactions of the certified operation in sufficient detail as to be readily understood and audited;
- Be maintained for not less than 5 years beyond their creation; and
- Be sufficient to demonstrate compliance with the Act and the regulations in this part.

(c) The certified operation must make such records available for inspection and copying during normal business hours by authorized representatives of the Secretary, the applicable State program's governing State official, and the certifying agent.

Recordkeeping Templates – all of these templates were designed to comply with the requirements of the USDA's National Organic Program Farm Recordkeeping Form Templates – includes multiple forms:

- List of Organic Certification Records
- Field History Sheet
- Newly Purchased Land or Rented Land Verification
- Seed Verification Form
- Field Activity Log
- Input Use Record
- Compost Production Record
- Neighbor Notification Letter
- Verification of Adjoining Land Use
- Buffer Crop Usage
- Crop Harvest Record Crop Harvest & Storage Record
- Clean Transport Affidavit
- Split Operation or Parallel Production Crop Record
- Audit Control Summary
- Complaint Log

Self-Check – 2	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. List five (5) of the record keeping templates required by USDA (5 pts.)
2. Define record keeping? (5 pts.)

Note: **Satisfactory rating – 10_points** **Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answer

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet 3- Communicating recording requirements

Communication about the requirements of recording is a key process in organic production. During record keeping sharing ideas with one another is very important. During communication, we should focus on the requirements of the recording process.

Record keeping is one of the most important requirements to maintain organic integrity. Farmers are expected to keep detailed production, processing and marketing information. This information includes everything that enters and exits the farm.

Third party, independent inspectors require farmers to present the above mentioned documentation when inspecting the farm operation. Once the record-keeping requirements are understood and the reporting procedure established, paperwork becomes routine.

Self-Check – 3	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What is the need of communication in record keeping? (5 pts.)
2. What should be focused on during communication? (5 pts.)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answer

Information Sheet 4- Monitoring the record keeping process and maintaining records to the National Organic Standard

A formal record keeping system that is consistently used while monitoring is essential to a successful IPM program. Proper monitoring should identify specific areas within a crop where pests are absent or where pests are present at levels well below those necessary to cause damage, thus preventing unnecessary control applications and expenditures.

Good records can also help growers know what pest and beneficial organisms they can expect on particular crops on the farm at different times of the year. By knowing the pest history of a field and what problems exist in it during a growing season, farm managers can develop a crop production strategy to reduce pest damage. This strategy should be integrated along with other management decisions such as fertility management, tillage methods, and conservation management.

4.1 National Organic Program Standards for IPM

The National Organic Program (NOP) final rule states certified organic growers must use a wide range of integrated pest management (IPM) practices to prevent crop pests, weeds, and diseases. As stated in the rule, pest problems may be controlled through mechanical or physical methods. Only when these practices are insufficient to prevent or control crop pests may an organic farm manager apply either

(1) a biological or botanical material not on the National List of non-synthetic substances prohibited for use in organic crop production.
(2) a substance included on the National List of synthetic substances allowed for use in organic crop production, to prevent, suppress, or control pests. However, the conditions for using the substance must be anticipated and documented in the organic system plan.

4.2 National Organic Program Requirements for Pest Control

Section 205.206 of the USDA's regulations for organic production and handling outlines the requirements for crop pest, weed, and disease control for certified organic production.

- Part (a) lets producers know that management practices MUST be used to control pests and disease, to include sanitation, crop rotation, and site-specific cultural practices.

- Parts (b), (c), and (d) give specific mechanical and physical methods that MAY be used for the control of pests, weeds, and disease problems, respectively. It is not until part (e) where the regulations allow for the use of compliant materials / "materials consistent with the national list" to control pest, weed, and disease problems. A producer's "organic farm plan" must outline the methods to be used for pest, weed, and disease control, and must also contain a listing of any and all materials to be used for organic production. The following is an excerpt from the NOP Final Rule regarding pest management standards:

Particulars	Conventional farming	Organic farming
Application of compost / FYM	√	√
Judicious application of inorganic fertilizers	√	×
Biofertilizers	√	√
Pesticide applications	√	×
Fungicide applications	√	×

Table 1. Differences between organic and conventional farming

Self-Check – 4	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test : Short Answer Questions (10 pts.)

1. Why monitoring of record keeping? (5pts)
2. What is a good record? (5pts)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answer

LG #38	LO #3- Support compliance with organic standards by staff in the farm business

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Identifying all steps within the production system
- Supporting staff and key personnel
- Keeping accurate records at all key supply chain steps

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, **upon completion of this learning guide, you will be able to**:

- Identify all steps within the production system
- Support staff and key personnel
- Keep accurate records at all key supply chain steps

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
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4. Accomplish the “Self-checks” which are placed following all information sheets.
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Information Sheet 1- Identifying all steps within the production system

One of the first steps in organic farming is to understand the area and requirements following which the long term strategies must be addressed. And some of the problems faced by many countries are;

- Poor health of soil due to loss of organic matter and soil microbes.
- Increased temperature
- Reduced water supply
- Costly inputs as opposed to lower returns.

Successful organic farming

Successful organic farming is that favors the maximum use of organic materials to improve soil health and to increase yield. Design and management of the production are critical to the success of the farm. Organic crop yields vary, depending on the success of the manager. Corn can be successfully developed after forage legumes or if manure has been applied. And markets for organic feed grains have been strong in recent years.

Fruit and vegetable crops present greater challenges mainly depending on the crop. Certain insect or disease pests are serious in some regions than in others. Some pest problems are difficult to manage with the organic process. This is less of an issue as more organically approved bio pesticides become obtainable. The yield reduction varies by particular crop and farm. Some organic producers have added value to products with on-farm processing.

Livestock products can be produced organically. In recent years, organic dairy products have become very popular. There is an expanding market for organic meat products and animals must be fed only organic feeds (except under exceptional circumstances). And feed should not contain mammalian, avian or fish by-products. All genetically engineered organisms and also substances are prohibited. Antibiotics, growth hormones and insecticides are commonly prohibited. If an animal becomes ill and antibiotics are needed for recovery, they should be administered. Vaccinations are permitted when diseases cannot be controlled by other means and artificial insemination is permitted.

Organic farming involves the following five principles;

The main principle of Organic farming is the conversion of land from conventional management to organic management;

1. Management of the entire surrounding structure to ensure biodiversity and sustainability of the system;
2. Crop production with the use of alternative nutrients sources such as crop rotation, residue management, organic manures, and biological inputs;
3. Management of weeds and pests by better management practices, physical and cultural means and biological control;
4. Maintenance of livestock in tandem with the organic concept and make an integral part of the entire system.

Self-Check – 1	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What are the principles of organic farming? (5 pts.)
2. What are the consequences that result from ignoring organic farming? (5 pts.)

Note: **Satisfactory rating -10 points Unsatisfactory – 10 points**
You can ask you teacher for the copy of the correct answers.

Information Sheet 2- Supporting staff and key personnel

Existing organic farmers are generally very helpful in sharing valuable technical information. A good mentor should be able to provide transitional producers with knowledge, practical experience and suggest appropriate reading materials.

Mentors are able to identify some of the most important challenges transitional farmers will be confronted with. Mentors may also help source production materials that are otherwise difficult to find. Producers should also contact agrologists, veterinarians and other agricultural and financial consultants, in order to learn ways to improve their current farming practices.

The Internet is a valuable source of information, especially to new organic farmers. A broad range of reading materials are available from many organic/ecological organizations such as the Organic Agriculture Centre of Canada (OACC), the Atlantic Canadian Organic Regional Network (ACORN), the Canadian Organic Growers (COG), the Certified Organic Associations of British Columbia (COABC), the National Sustainable Agriculture Information Services/Appropriate Technology Transfer for Rural Areas (ATTRA), the Sustainable Agriculture Research and Education (SARE), and the Agri-réseau/agriculture biologique- Quebec. Consider joining an organic organization or network to access these valuable resources and establish good working contacts.

Self-Check – 2	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. How does existing organic farmers can help new organic farmers (5 pts)
2. What is the role of internet new organic farmers? (5 pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**
You can ask you teacher for the copy of the correct answers.

Information Sheet 3- Keeping accurate records at all key supply chain steps

While recordkeeping is not among the top 10 best things about farming, keeping good records can provide significant benefits to farmers and ranchers. Having a historical perspective of the planting dates for each field, correlated with information on various crop yields, is invaluable in planning crop rotations from year to year. Organic certification requires good records so that the organic inspector can verify that you are doing acceptable activities those records represent a functioning organic system on your farm. Organic farming relies on good management rather than synthetic inputs.

Good records serve as an economic safety net if things do not go as planned. If a prohibited pesticide drifts to your field from a neighboring farm, utility crew, or aerial sprayer, your records are invaluable in obtaining a financial settlement from the operator who chemically trespassed on your farm. Your field records have your specific crop yields and sales records to prove the dollars received. Your yearly field histories illustrate the crop rotation and the organic crop sales you will lose for three years if the field becomes ineligible for organic certification due to their negligence.

Tracking fertilizers and soil nutrient amendments and the crop responses to those inputs over time pinpoints which inputs offer the most bang for the buck. When you have your own records, you know how late you can plant a specific crop and still get acceptable yields. You also have the information you need to develop different crop rotations by soil type and location on the farm, and can choose when to harvest a crop, such as taking corn silage instead of letting the corn grow to maturity.

Self-Check – 3	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. Why is record keeping in organic farming? (5 pts.)
2. What is the existence of good records for the organic inspector? (5 pts.)

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answer

LG #39	LO #4- Meet annual audit requirements of the selected organic certification scheme

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Complying with the specific certification requirements.
- Preparing the farm and organic records and documents for audit.
- Conducting an internal organic audit of the farm system
- Taking corrective actions
- Participating in an annual organic audit.
- Complying with and close any corrective actions

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, **upon completion of this learning guide, you will be able to**:

- Comply with the specific certification requirements.
- Prepare the farm and organic records and documents for audit.
- Conduct an internal organic audit of the farm system
- Take corrective actions
- Participate in an annual organic audit.
- Comply with and close any corrective actions

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).

Information Sheet 1- Complying with the specific certification requirements.

Specifications and standards OF organic farming

Obtaining and maintaining an organic farming certification means that a requested to an approved organization needs to be done. Businesses will then get certified if they show evidence of complying with strict specifications which vary depending on the type of production. Yet, some of the most common principles of organic farming are:

- No use of synthetic chemicals – yet, fertilizers or pesticides at their natural origin are allowed;
- No use of genetically modified organisms (GMOs);
- Recycle all organic waste;
- Crop rotation to improve soil regeneration;
- Pest control by biological agents;
- Extensive breeding with organic food and give priority to alternative medicines and preventions;
- Ensure animal welfare (soil surfaces must be habitable, there must be outdoor courses and grazing, prohibition of breeding above the ground);
- Respect for the environment and preservation of natural resources;
- Maintenance and development of biodiversity (cultivation and breeding of various species, maintaining or planting hedges).

It is also important to note that a transition period is required for the conversion of a conventional farm into a certified organic farm. This period depends on the type of production but it usually takes up to three years.

Self-Check – 1	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What are the most common principles of organic farming? (5 pts.)
2. What is meant by Obtaining and maintaining an organic farming certification? (5 pts.)

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answer

Information Sheet 2- Preparing the farm and organic records and documents for audit.

The audit of records can be the longest part of the inspection. Operations with clear and complete records will have faster inspections. Some complex operations have records that are easier to review than some simple operations. Records relevant to organic certification generally fall into two categories: audit trail and organic integrity.

Audit trail includes all records of purchases, internal movement, and sales of inputs, ingredients, intermediates, and final products. Have these records organized and accessible. The inspector will probably focus on records from the past year but the NOP requires all records to be kept for five years, so these should be accessible as well.

- Growers should prepare a copy of your Organic Farm Input Report (OFIR) (see sample), to show all inputs going back to the last inspection. If there are many redundant input applications, you may prepare a summary OFIR that lists each material applied.
- Mixed operations (organic and non-organic) should separate organic records so they are more accessible and easy to understand.
- Processors and handlers must be prepared to track final products back through processing stages to starting ingredients.
- The inspector must understand the audit trail before s/he can test it. Frequently, inspectors have to dig and ask a lot of questions to understand an audit trail. Be prepared to explain how your audit trail works. Prepare a flow chart if your audit trail is complex. Teach the inspector how your records work; this will make their job easier and faster.
- ***Organic integrity*** records are often required to document measures used to prevent potential non-compliances, such as commingling or prohibited materials contamination. Equipment that contacts non-organic product, or that is exposed to prohibited substances like pesticides or cleaning agents, requires a cleaning log for each organic use (harvest bins, transport trailers, packing lines, processing equipment, holding tanks, etc.). Buffer crops or purged products require disposal records. If you use non-organic seed, keep a journal of your organic seed research. Log your calls to seed suppliers (date, supplier, result) and your searches of seed catalogs or web sites. Spare the inspector having to prompt you, piece by piece, for all these things. If you anticipate these types of situations, please have your management plan and appropriate log forms prepared in advance.

Self-Check – 2	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What is auditing or inspection of records? (5 pts.)
2. What are the two types of records relevant to organic certification? (5 pts.)

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answer

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet 3- Conducting an internal organic audit of the farm system

INTERNAL INSPECTION

Consists of the formal review of the documentation and processes required for compliance of the Code of Conduct, which are reviewed directly in the field and / or in places where the documents and processes have been implemented. During this verification, compliance is verified in order to set up corrective actions and should preferably be done prior to the (external) audit. At the level of individual farms, this inspection should be done by the person assigned as responsible for implementation or through a third party that is not engaged by the Certified Body contracted for the certification. In the case of producer groups, the ICS establishes the procedure for conducting the inspection in a way that does not create any conflicts of interest for the internal inspectors appointed.

SELF-INSPECTION OF THE GROUP

It is an analysis that is done to establish the level of compliance with the current requirements of the Code of Conduct. The document to be used for self-inspection is the

The audit documents for purchase, receiving, storage, production, packaging, handling, transport, and sales may include, but are not limited to, invoices, weight slips, purchase orders for incoming materials, invoices for finished product, descriptions of product tracking or coding, logs for receiving, processing, storage and inventory systems, transport cleaning documentation for incoming and/or outbound materials, and product labels. The input/output balance audit documents may include, but are not limited to, inventory, purchase, production, and storage records—including typical conversion figures for shrinkage, reconditioning, donated products, samples, and dumping, shipping, and sales records.

In fact, switching to organic farming requires a major philosophical shift. Farmers who turn to organic farming solely to capture market premiums often fail because it does not mean simply substituting one type of inputs for another, such as replacing a synthetic pest control with Bacillus thuringiensis or applying organic fertilizers in place of synthetic ones.

In organic farming, a mind shift is essential. You must go from treating problems to treating the causes of the problems and recognize that every decision you make will affect other aspects of your system.

When deciding if organic farming might be right for you, consider the list of characteristics shared by successful organic farmers:

Self-Check – 3	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What is internal inspection? (5 pts.)
2. What are the challenges of shifting from inorganic farming to organic farming? (5 pts.)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet 4- Taking corrective actions to comply with the specific certification requirements.

Observing and Recording Non -conformities When an "automatic satisfactory" is observed on an audit, the auditors hall write a detailed observation of the practice or procedure that caused the failure 'including time, location, individual who witness edit and the specific question or item that was noted as a non-conformity.

The observation causing the failure should be reported verbally and in writing to the person who oversees the Food Safety Program for the auditee. A corrective action report form is attached for the auditor's use. The same procedure shall be followed when a particular scope fails to meet the minimum passing score, i.e., a corrective action report must be completed for the non - conformities noted. Evaluating Corrective Action Reports When the lead auditor or state audit program supervisor receives the corrective action report from the auditee.

Self-Check – 4	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What is corrective action? (5 pts.)
2. What issues needs to be corrected? (5 pts.)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 5- Participating in an annual organic audit.

The best way to imagine an audit trail is to think of a food safety product recall. If you found out that a specific lot of an organic ingredient was contaminated, you would use your recordkeeping system to determine which final batches of product that ingredient went into. An audit trail is the collection of documents that would allow you to do that.

Audit trail includes all records of purchases, internal movement, and sales of inputs, ingredients, intermediates, and final products. Have these records organized and accessible.

Your audit trail documents should show the purchase and use of organic products, in addition to showing how much finished product was produced and sold. Records should disclose all of your activities and transactions with enough detail to be readily understood and audited.

Whether audits are line-specific, product-specific or system wide, audits consume time and resources – so there is great impetus to reduce the total number of audits a business is subjected to by reducing redundancy among global standards and variations in customer requirements.

The **Consumer Goods Forum**, an international body headed up by some of the world's largest retailers, created the **Global Food Safety Initiative (GFSI)** to address the issue of differences in standards on a global scale and reduce resultant audit inefficiency.

The European Court of Auditors (ECA) is conducting an audit of organic-food checks in the EU. The auditors will examine the control system governing the production, processing, distribution and import of organic products. They will seek to assess whether consumers can now have greater confidence that products are truly organic than they could at the time of the ECA's last audit of the sector in 2012. The auditors have also published a Background Paper on the EU organic-food control system for those interested in the subject.

Organic production is a way of producing food and other products that respects natural life cycles. The organic nature of products is verified on the basis of a certification system laid down in EU law and overseen by the European Commission. The system is implemented by the Member States and inspections are made by both public and private bodies.

Retail sales in the EU organic market grew by 54% between 2010 and 2015. Imports of organic produce grew by 32% between 2012 and 2015.

Self-Check – 5	**Written test**

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What is the importance of attending audit? (5 pts.)
2. What points should be included by audit trial? (5 pts.)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 6- Complying with and close any corrective actions

The actual amount of documentation the individual producer will need in order to comply with organic regulations will depend on the complexity of the operation. A list of the types of documents kept by organic farmers is provided at the end of this chapter. Although the list may appear to be rather lengthy, many of these records are the same ones kept by any farmer, such as records of planting, fertilizing, spraying, harvest, and sales.

The records of particular importance to the organic industry are the documents necessary to determine the source, movement, and transfer of ownership of any organic product. These records, also called the audit trail, provide a paper trail that can trace the product from farm to table. A complete audit trail allows a product an apple in a grocery store, for example to be traced back to the orchard where the apple was grown. Processed products will have a lot code to allow each ingredient in the product to be traced back through the processor and to the farmer. The audit trail for fresh produce will be simpler than that for a processed product, but it may still involve records kept by several operations including the grower, the warehouse, the packer, the distributor, and the final retail store, plus all shippers. The records will include harvest records, purchase invoices, sales invoices, bills of lading, and others as needed. Sometimes the concept of audit trail is also extended to include production records and inputs, which also serve to demonstrate that the producer is farming organically.

Self-Check – 6	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

3. What is a complete audit trial? (5 pts.)
4. Why audit trial is extended to include production records and inputs? (5 pts.)

Note: **Satisfactory rating - 10 points Unsatisfactory - below <10 points**

You can ask the your teacher for the copy of your answer

LG #40	LO #5- Comply with food safety requirements

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Identifying food safety requirements
- Communicating food safety requirements
- Keeping records to demonstrate compliance
- Correcting any non-conformance issues This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, **upon completion of this learning guide, you will be able to**:
- Identify food safety requirements
- Communicate food safety requirements
- Keeping records to demonstrate compliance
- Correct any non-conformance issues

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).

Information Sheet 1- Identifying food safety requirements

Food safety: is used as a scientific discipline describing handling, preparation, and storage of food in ways that prevent food-borne illness.

Food handlers and consumers can:

- know the food they use (read labels on food packages, make informed choices, become familiar with common food hazards);
- handle and prepare food safely, practicing the WHO Five Keys to Safer Food at home, or when selling at restaurants or at local markets;
- grow fruits and vegetables using the WHO Five Keys to Growing Safer Fruits and Vegetables to decrease microbial contamination.

Third-party verification and certification to food safety standards is a wide and growing trend in the food industry. This means that for businesses to remain competitive they must increasingly adopt certified standards – and be subjected to food safety audits on a regular basis to maintain this certification.

Impact of Organic farming on food safety

These environmental damages and poisoning of food chain is raising consumer concerns as well. Organic farming is a sustainable method which depends upon natural way of farming and using techniques like crop rotation, vermi-composting, bio-fertilizers, crop management, animal manure, off-farm organic waste, crop residues etc., instead of synthetic chemicals, which allows soil to stay alive and food to be safe.

Organic farming enhances the food safety because of three prominent reasons:

A. lower nitrogen application (which reduce nitrate concentrations);
B. avoidance of pesticide use (which results in virtually no pesticide residues);
C. No use of chemical fertilizers (to ensure low concentrations of chemical residues). These effects may minimize the incidence of cancer and the transfer of resistance genes from animal production systems to human pathogens.[7]

Positive qualities associated with organic foods include the healthy, tasty, authentic, natural, free from pesticides, antibiotics and GMO, low in nitrate content, safe and certified. Studies also suggest that organic food also has high nutritional value. According to a UK study, CLA, omega-3 fatty acids, vitamin E and carotenoids were increased in milk from organic farms with grazing dairy cows. These compounds are

nutritionally desirable and have all been linked to a reduced risk of cardiovascular disease and cancer. By contrast, less desirable fatty acids (i.e. omega-6 fatty acids and CLA10) were not increased in organic milk, which helps to improve the crucial ratio between the two.[8]

Organic foodmarketis one of the fastest growing businesses in India with increase in demand and people are willing to pay premium due to the perceived advantage of organic food. Even the Indian government is promoting organic food in the country through National Project on Organic Farming(NPOF)scheme. Launched in October 2004 with an initial outlay of Rs 57 core, NPOFschemecontinues till date with substantially enhanced budget.[9] India has 5.71 million ha organically certified area and produced 1.35 million MT certified organic products like oil seeds, tea, fruits, spices eta, and exports 20% to rich markets like EU and US.[10]

The trend of organic food that was initiated in the developed regions such as Europe and North America has expanded to developing countries like India. Europe and North America are the largest consumers of organic food; however, the organic food market in Asia is likely to account for the highest growth rate over the next five years. In India, upcoming brands like 24 Organic Mantra, Organic Tattva are providing various organic foods like juices, snacks, oil, cereals etc. In 2015, sales of organic packaged food grew by 20% to reach Rs2.4 billion and with rising consumer awareness for organic products, are expected to further rise at a CAGR of 11% at constant 2015 prices over the forecast period, reaching Rs4.0 billion in 2020.

Figure 1.1 Food safety inspections

Self-Check – 1	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (15 pts.)

1. How organic farming does enhances food safety? (5 pts.)
2. What are the two countries which are the largest consumers of organic food (5 pts.?)
3. Define food safety? (5 pts.?)

Note: **Satisfactory rating - 10 points Unsatisfactory - below <10 points**

You can ask the your teacher for the copy of your answer

Information Sheet 2- Communicating food safety requirements

Food safety is important as foodborne illness outbreaks cause great economic and societal losses. Efforts to protect public health and reduce foodborne illness outbreaks will not be fully effective unless the resulting information is communicated to consumers. However, food safety communications have not been particularly satisfactory If food safety information were more accessible, consumers would be more likely to use it

In this regard, the Internet presents great possibilities for communicating food safety information to the public. But media's role has been largely overlooked in existing literature. When the lack of research is combined with consumers' increasing interest in food safety (Food Safety News, 2016), the need to understand media's effect is pressing. To further the understanding of media's role in influencing food safety communication outcome, three progressive studies were conducted.

The first study explored consumers' preferences, motivations, information needs, and information usage. The second study examined consumers' experience interacting with websites used for food safety communication and mapped website characteristics to users' perceptions. The third study investigated the relationships among website characteristics, perceptions, efficacies, and behavioral intention, and tested the impact of media on communication outcomes. Results of Study 1 revealed that the Internet was consumers' preferred media choice for food safety communication. Among Internet-based platforms, websites were most preferred. Media, information, and source characteristics interact in influencing consumers' experience with the

Self-Check – 2	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions

1. What would happen if food safety information were more accessible? (5 pts.)
2. What is the contribution of media in food safety communication? (5 pts.)

Note: **Satisfactory rating - 10 points Unsatisfactory - below <10 points**

You can ask the your teacher for the copy of your answer

Information Sheet 3- Keeping records to demonstrate compliance

In order to become certified organic, producers must demonstrate to an accredited certifier that their operation complies with National Organic Program regulations

All operations producing and/or selling organic products must keep records to verify compliance with the regulation. Such records must:

1) Be adapted to the particular operation;

2) Fully disclose all activities and transactions of the certified operation in sufficient detail as to be readily understood and audited;

3) Be maintained for at least 5 years beyond their creation; and

4) Be sufficient to demonstrate compliance with the regulation. The operator must make the records available for inspection.

Organic System Plan forms are typically provided by certifying agents as part of the application process. The plans must be updated annually, and operators are required to notify their certifying agents of all changes to the operation which might affect the operation's certification status. Organic operations must follow their Organic System Plans, and they must be inspected at least annually.

The audit documents for purchase, receiving, storage, production, packaging, handling, transport, and sales may include, but are not limited to, invoices, weight slips, purchase orders for incoming materials, invoices for finished product, descriptions of product tracking or coding, logs for receiving, processing, storage and inventory systems, transport cleaning documentation for incoming and/or outbound materials, and product labels. The input/output balance audit documents may include, but are not limited to, inventory, purchase, production, and storage records including typical conversion figures for shrinkage, reconditioning, donated products, samples, and dumping, shipping, and sales records.

Self-Check – 3	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions (10 pts.)

1. What are the kinds of records kept in organic farming to verify compliance? (5 pts.)
2. What is the purpose of keeping records in organic farming? (5 pts.)

Note: **Satisfactory rating - 10 points Unsatisfactory - below <10 points**

You can ask the your teacher for the copy of your answer

Information Sheet 4- Correcting any non-conformance issues

If non conformities are admitted by the farmer and if it is discovered by certifying agencies such as:

- Downgrading of the farm and products and exclusion of the producer for the on-going year
- downgrading of the farm and products and exclusion of the producer for two years
- Conventional production in the same farm, without sufficient separation
- Producer with the same product in organic and conventional.
- Biodiversity not sufficiently considered
- Growing cotton after cotton on the same plot.
- Insufficient integration of leguminous plants in the rotation system.
- Use of chemical fertilizers.
- Use of chemical pesticides.
- Use of seeds treated with chemicals.
- Use of non-recommended material for collecting the harvest.
- Storage of chemical pesticides or fertilizers in the farm.
- Storage of organic products in the conventional storeroom.

Immediate corrections should be taken by the organic producers otherwise measure will be taken.

The National Organic Program (NOP), part of AMS, oversees certifiers accredited under the USDA organic regulations, and certifiers are responsible for ensuring that certified operations and applicants for organic certification comply with the USDA organic regulations.

The U.S. Department of Agriculture's (USDA) Agricultural Marketing Service (AMS) published a Noncompliance and Adverse Action Flow Chart, a resource and training visual aid that will assist USDA-accredited certifying agents (certifiers) in overseeing certified organic farms and businesses.

When organic farms and businesses do not comply with the USDA organic regulations, certifiers issue non-compliance notices, so that the operation knows what actions are required to come back into compliance. When farms and businesses fail to fix

correctable non-compliance issues, a proposed adverse action, such as a Notice of Proposed Suspension or Revocation, may be issued.

Publishing this flow chart is part of AMS' ongoing work to support sound and sensible compliance and enforcement. It reminds certifiers of the correct steps to take in highlighting farm and business non-compliance issues. It also helps make sure that certifiers are giving organic operations the due process allowed for in the USDA organic regulations.

This chart also supports the AMS goal of fair and focused enforcement, focusing enforcement on willful violators, while handling minor violations in a way that leads to compliance. Correctly following the adverse action approach in the chart helps achieve those dual goals.

Self-Check – 4	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test: Short Answer Questions

1. List at least four (4) types of non-conformances of organic production? (5 pts.)
2. What actions are taken by certifying agencies if farmers do not implement corrective action? (5 pts.)

Note: **Satisfactory rating - 10 points Unsatisfactory - below <10 points**

You can ask the your teacher for the copy of your answer

Reference Materials

- PREPARING FOR AN ORGANIC INSPECTION: STEPS AND CHECKLISTS _Edited by Paul Williams
- https://hortnews.extension.iastate.edu/2004/7-23-2004/vegguide.html
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- https://globalfoodsafetyresource.com/food-safety-standards/
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