Georgia Poultry Environmental Management Systems

Guidebook

Farm Management for Improving Your Environmental and Economic Bottom Line

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LAYOUT AND DESIGN

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Georgia Poultry Environmental Management Systems Guidebook

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Focus of This Guidebook

The materials contained in this guidebook were developed to assist poultry producers in preparing key components of a functional EMS. This guidebook is meant to be flexible and the supplied templates should serve as guides for your modification. Other materials or different approaches can be used to develop an EMS.

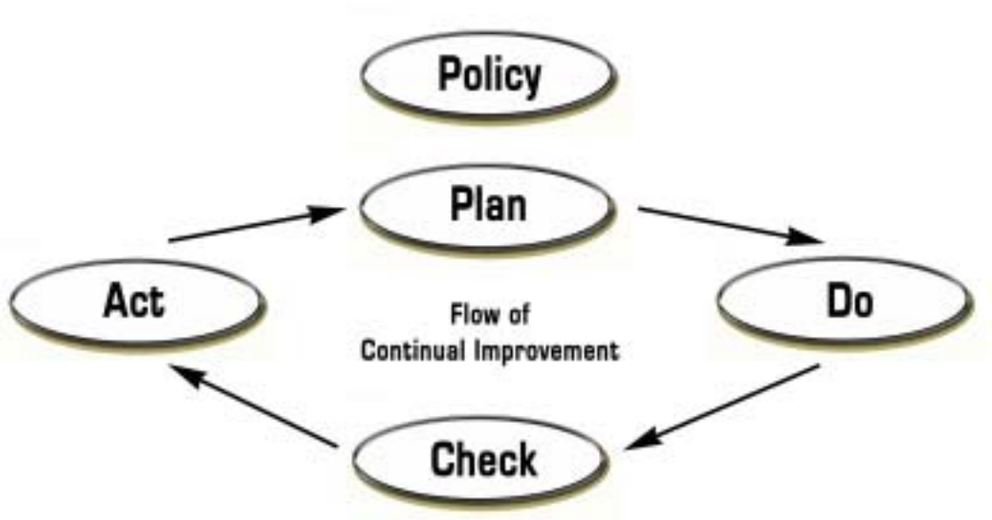
I. What is an Environmental Management System?

An Environmental Management System is an efficient way of integrating environmental considerations and requirements into day-to-day, and strategic long-term planning. This management approach helps you examine your production system from start to finish, from inputs to products. The EMS includes establishing an environmental policy for your farm, then planning, implementing, evaluating and reviewing your actions to reduce environmental risk. The plan involves assessing your activities that affect the environment. It accounts for the positive, proactive ways you manage your operation, and tells you where improvements may be needed. Each assessment can yield science-based solutions to problems. With an EMS you develop a plan for action that fits your needs and resources, supports voluntary pollution prevention goals, helps you comply with legal requirements, and helps you continually improve your operation. This plan, and your documentation of its use, can effectively provide non-farming neighbors and regulators assurance that your production systems are designed to prevent or correct environmental problems.

What is best about an EMS is that it is **yours** — it is **voluntary** and **you decide on the pace and priority** of changes you make to your operation. An EMS helps you be a better manager, and shows **your commitment** to the long-term productivity of your farm – its financial health and the condition of the soil, water, air and wildlife. An EMS can also assist in addressing the most important bottom line — the health and well- being of your family, their quality of life, and the environment that surrounds them.

Nuts & Bolts of an EMS

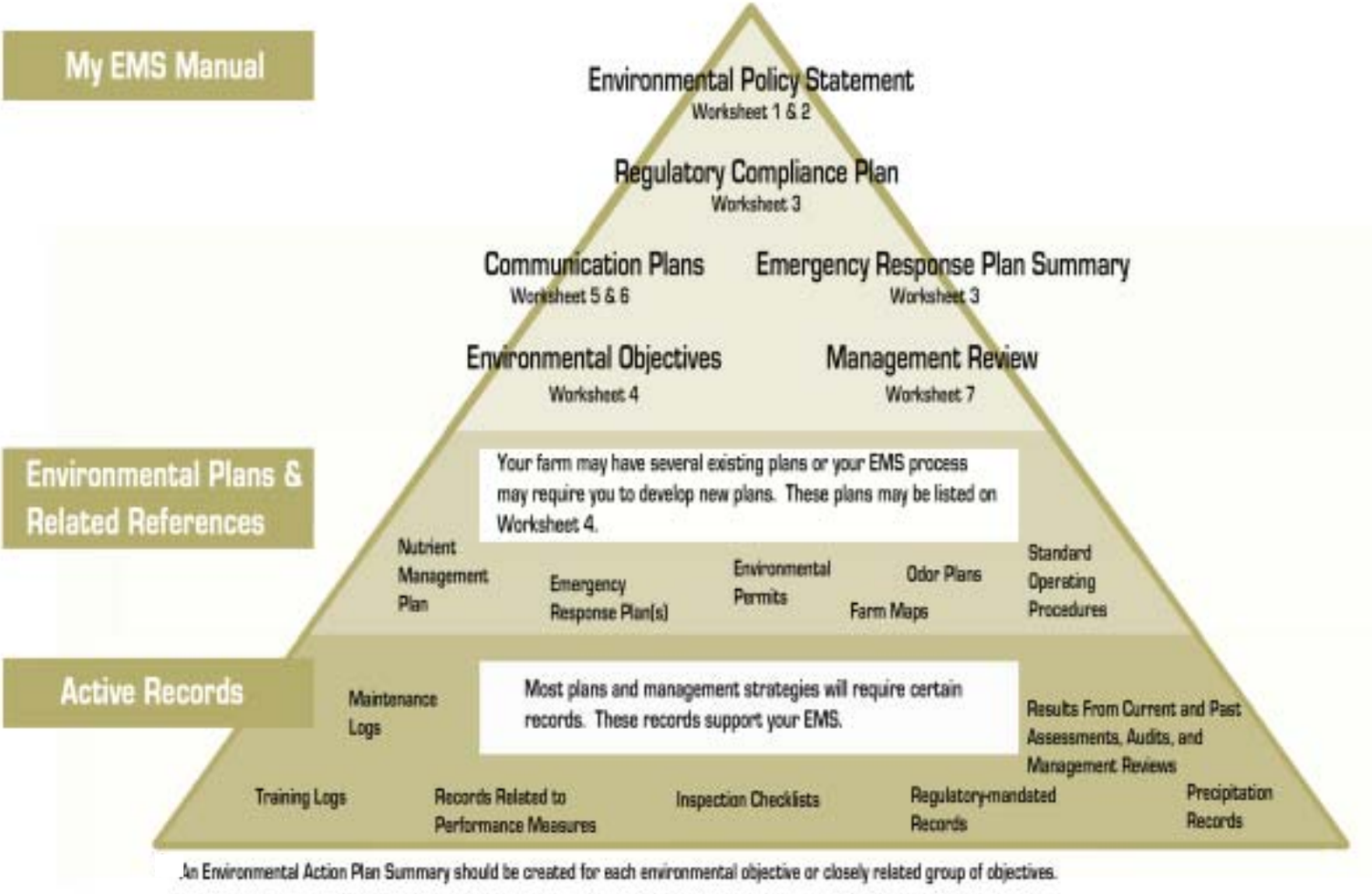
The EMS model is frequently described as a **Plan, Do, Check, Act** sequence. Chances are good that you are already doing much of this process! Do you have management plans for manure handling, pests, or nutrients? Do you have records on soil testing, chemical applications, feeding requirements, or worker training? Here is a way to build on these efforts, be more organized and have a concrete and useful plan for handling environmental risk and managing your operation.



THE AGRICULTURAL EMS STEPS TO CONTINUAL IMPROVEMENT
(Adapted from the 'Plan-Do-Check-Act' Environmental Management System model, ISO 14001:1996E.)

Three levels of EMS's have been identified. They are: assessment based EMS, functional EMS, and "registered" or certified EMS. The most basic EMS is an assessment based EMS that provides a "snapshot in time" of a farm's environmental performance. If conducted over time, these assessments can be used to indicate whether or not a farm's environmental performance is improving. Some sort of evaluation examining potential environmental impacts of an operation is a core component to a functional EMS. A functional EMS contains a few extra steps and components that complete the "Policy Development and Plan, Do, Check, Act" sequence of this management tool. A registered or certified EMS undergoes a verification process and adheres to certain standards. ISO 14001 is the most well known standard for EMS. One major difference is that ISO certified EMS's have a 3rd party verification system completed by registered consultants. Following the steps in this guidebook leads towards a functional EMS which uses certain philosophies of the ISO standard but DOES NOT require third party verification. Any of the contacts listed on this publication can provide you with more information on this issue.

The following graphic (Organizational Triangle) depicts how the EMS process and its components fit into overall farm management. The EMS should be an umbrella that helps streamline the various plans and record keeping requirements of the operation. The pieces of this graphic will make more sense as you progress through the guidebook. It may be helpful to refer back to it throughout the process.



II. What are the Poultry Operation's Priority Issues?

Step 1

Owners and/or operators of each farm operation will place priority on different issues based on current and anticipated environmental regulations, community and neighbor concerns, and the producer's own personal goals and knowledge of the farm operation. Identifying priority issues should allow a producer to focus resources on those areas likely to achieve the greatest benefits. Also, additional stakeholders must be considered for farms to continue operating in today's atmosphere of intense environmental scrutiny. Stakeholders are those whose opinions may directly or indirectly influence management practices of the farm operation.

Input from stakeholders can be gathered in a variety of ways. Reports from local news media may clearly illustrate the opinions of certain people or groups. In some situations it may beneficial to directly ask different stakeholders, "What is important to you?" In other situations, it may simply be appropriate to consider what issues they may regard as important. Previous communications with stakeholders may also provide insight into their opinions. The decision, of which stakeholders to consider in identifying priority issues and eventually developing an environmental policy, is that of the producer.

This exercise is not intended to involve a great deal of time or elaborate surveys; it is a subjective snapshot of the current climate that the farm is operating in. Worksheet 1 in the EMS Templates Pack should be completed while considering the stakeholders listed on the form. Additionally, there may be other people or groups not listed below whose opinions may need to be considered.

After completing Worksheet 1, you will be asked to circle or otherwise indicate those issues that will be considered high priority issues for the farm. You should skip any issues that do not apply to the farm. How you determine which issues are high priority is based on your knowledge of the farm and the stakeholder groups. You can select those that have the highest numerical score or have the most "very important" responses. Some issues may receive lower numerical scores or only be "somewhat important" but may be significant to the farm because the owner/manager believes the issue is important, or because a key stakeholder believes it is important. (For example, "wildlife habitat" may not receive a high score with all stakeholders, but the farm owner may believe it is important and decide to rank it as a priority issue anyway.)

It is also important to recognize site-specific conditions (e.g., shallow ground water table may make nitrate contamination of ground water a priority) or critical wildlife habitat that can be impacted by environmental contaminants associated with livestock. Such site-specific conditions can dramatically increase the risk of environmental contamination beyond that typically experienced by similar operations in your region. Such site-specific factors should also be considered in identifying priority issues.

Is this a priority environmental issue? Within each row, add up the circled numbers and add one if site-specific factors are present that might worsen the situation. Write that number in the right-hand column of the table. Circle or otherwise highlight those issues that will be considered the farm's priority environmental issues. These issues may include those with the highest total stakeholder importance value, but they may be also selected based on other criteria judged important by the farm owner/operator.

Check it Off...

☐ **Complete Worksheet 1 in the EMS Template Pack at this time!**

III. Writing the Farm Environmental Policy Statement

Step 2

The Farm Environmental Policy Statement sets the foundation for the EMS and provides the framework for setting environmental objectives and targets. The policy statement is one of the most important activities associated with EMS development. All future environmental management of the farm operation will be measured by the question "Is this compatible with our environmental policy?"

Time that is spent in creating a policy statement that is meaningful and visionary will be worthwhile, especially when asked to defend or explain the farm's environmental management. A policy statement that is hastily scribbled will provide little guidance for the farm's environmental management system. It will also do little to reassure concerned employees, neighbors, and/or members of the community that the farm will uphold environmental laws and regulations and is committed to being a good environmental steward.

A policy statement includes several components. At a minimum, it should include commitments to:

- Environmental stewardship
- Continual improvement
- Compliance with all pertinent laws and regulations

In addition, identification of the environmental stewardship principles to which the farm is committed will be required when writing the policy statement. Being a "good" environmental steward is a goal shared by many farm operators. What goes into being a good steward is not always easy to define. After selecting two or three principles most important to the farm, an operator should be able to answer the question, "What makes you a good environmental steward?"

Sample Environmental Stewardship Principles

"This livestock/poultry operation places importance on…"

- "…being a good neighbor and member of the community."
- "…compliance with all environmental regulations."
- "…regular reviews of environmental risks and identifying priority environmental issues."
- "…managing riparian areas and other buffers to surface water to protect and enhance the quality of the water."
- "…preserving soil quality by minimizing the loss of soil and maintaining soil characteristics that contribute to its productivity."
- "… preventing discharge of manure or contaminated water from animal housing, or manure handling and storage facilities from reaching surface waters."
- "…efficient management of nutrients including those that enter, leave, and are recycled within the cropping system."
- "…expansion only after environmental and neighbor impacts are carefully reviewed."
- "…minimizing impact of odor and dust emissions that create community nuisance concerns."
- "…minimizing emissions of methane, ammonia, and other gaseous emissions that may add to air pollution concerns."

Sample Environmental Policy Statements

The following are samples of different environmental policy statements (in different formats) appropriate to base an EMS on. Following these examples is a worksheet for assistance in developing an original policy.

Examples of Environmental Policy Statements

Below are examples of brief **paragraph style** policy statements. The following page shows an example of an **outline style** policy statement. A template is provided on page 8. Feel free to use either style.

Sample 1) *Our farm is committed to a cleaner healthier environment for the health of our communities and the sustainability of agriculture. Through a system planning and self-examination we seek to continually improve our management practices so we may continue to produce quality chickens, while preventing pollution, complying with all pertinent regulations, and maintaining good relationships with our neighbors. Pursuant to these goals we will maintain honest effective communication with officials, our neighbors, employees and other stakeholders.*

or

Sample 2) *Our farm aims to produce the best possible product in an environmentally responsible manner. We manage animal health to ensure the birds' well-being, and a high level of production and quality. We manage and apply manure to cropland so as to achieve optimum production while preventing pollution. We are committed to complying with all pertinent environmental regulations and to continually improving the environmental performance of our operations. By regularly reviewing our actions and our goals we sustain our farm's profitability while continually improving environmental stewardship.*

Sample 3)

Environmental Policy Statement for: Jones Family Farms

Purpose

Jones Family Farms is a diversified operation with poultry, cow/calf and alfalfa production. The farm employs its husband and wife owners on a full-time basis and two employees on a part-time basis. The families of the owners provide additional help as needed.

Environmental Issues

Jones Family Farm is located near a small housing development along a busy highway; therefore our impact on our neighbors is an important aspect of our operations. We will strive to maintain a neat and professional appearance on our farmstead. Litter applications will be made with consideration to potential impacts on neighbors.

Compliance

Jones Family Farm is committed to compliance with all pertinent environmental laws and regulations. Where laws and regulations are not sufficient to safeguard the health and safety of our families, employees, or neighbors, we will develop our own procedures and guidelines.

Stewardship Principles

Our profitability depends upon maintaining long-term productivity and minimizing waste. The principles that guide our operations are:

- To manage riparian areas in such a way that protects and even enhances the associated plant communities and quality of the water
- To preserve soil quality by minimizing erosion and maintaining soil characteristics that contribute to its productivity.

Continuous Improvement

We are committed to reviewing our environmental risks on a regular basis and identifying ways to improve our environmental performance.

Signed_____ Date:_____

Signed_____ Date:_____

Check it Off...

Read through the following environmental policy statement template, and then use the blank Worksheet 2 in the EMS Template Pack to write your own farm's environmental policy statement. Make copies of the template or use additional pieces of paper as the policy statement may undergo several revisions before completion or use your own version.

Template Environmental Policy Statement:

_____

Purpose

The environmental policy statement should briefly describe the primary purpose of the farm, including the products and/or services produced or provided by the farm operation.

Environmental Issues

The policy statement should address the priority environmental issues identified in Step 1 and can also briefly describe the actions, in general terms, that will be taken to improve environmental performance.

Compliance

A commitment to comply with relevant environmental laws and regulations should be included in every policy statement. The regulatory status of the farm operation can be assessed with the "Regulations" section of the Georgia Poultry Environmental Assessment Tool, Cooperative Extension Specialists, Georgia Department of Agriculture or Georgia Environmental Protection Division.

A commitment to any voluntary standards to which the farm subscribes may also be included here.

Stewardship Principles

Stewardship principles, identified previously in this step as important to the farm operation, should be summarized and included in the environmental policy statement. These principles should communicate the core commitments of those involved in the farm operation toward environmental stewardship. They may or may not be similar to the environmental issues identified above.

Continuous Improvement

Continual improvement is a key component of any EMS. Inherent in this commitment is the intention to regularly review the farm's environmental issues and impacts, and to improve environmental performance as resources or technologies become available.

Some tips for writing the environmental policy statement:

- A policy statement should be revised when necessary, but avoid including statements that will cause it to become outdated quickly. A good policy statement should continue to fit the farm operation for many years.
- Include other people in the writing or review of the policy statement. Input from those who will be involved in implementing the EMS will especially be important. Consider asking family members, employees, or trusted advisors.

Avoid using words such as "never", "always", and "eliminate". These terms are very rigid and can make your policy statement commitments difficult or impossible to attain.

Table 1: Examples of written commitments that can be fulfilled versus those more difficult to fulfill are shown below.

Difficult to Fulfill	Can be Fulfilled
Our farm is committed to eliminating odor nuisances experienced by neighbors.	Our farm is committed to reducing odor emissions generated by our livestock operations.
We will never apply excess nutrients to cropland.	Our farm is committed to applying manure and fertilizer nutrients to cropland at agronomically determined rates.
Our farm will always protect surface waters from livestock manure discharges.	We are committed to minimizing grazing livestock contact with surface waters.

Summary of Environmental Policy Statements

An environmental policy statement is the cornerstone of an EMS. In addition to providing focus to the EMS, this statement is also a valuable tool for handling public relations issues. It is something that can be provided to the public, when necessary, describing the general management commitments of the farm. In the event of an accusation against a farm, the policy is readily available until other statements or actions can be made or taken. It may also be useful in marketing to an environmentally conscious public or group of consumers. Some have chosen to present an appropriate portion of their environmental policy statement on farm signs, letterhead, or websites.

Note: If you have not already done so, please complete Worksheet 2 in the EMS Template Pack at this time.

IV. Conducting Assessments

Step 3

How Do Assessments Fit Within an EMS?

It is often **not practical to immediately address** all environmental concerns being experienced by an individual farm. It is important to at least address those issues that create the greatest risk to your farm's future economic, legal, and environmental sustainability. An EMS is intended to help a producer focus their attention on their most critical environmental and regulatory compliance issues. In addition, it is not critical to implement an immediate solution for each priority issue. An EMS encourages a producer to show continual improvement in environmental performance. Assessment tools are designed to assist with measuring and documenting improved performance.

Assessment tools can play several critical roles in the implementation of an EMS. Those key roles should include:

1. Initial review of an operation's environmental strengths and weaknesses as well as its compliance with environmental regulations. This represents part of the "plan" step from page 2.
2. Reassessment of the operation after key environmental plans or practices have been implemented. This step will document improvements in environmental performance. This is part of the "check" step.

Thus, a poultry producer is encouraged to integrate an initial assessment of environmental risks into the EMS and repeat that assessment at strategic times to document improvements in performance.

What Assessment Tools Should I Use?

A variety of assessment tools and methods are recommended below. There is a set of tools developed specifically for use in developing an EMS on a Georgia poultry farm; however, you are not limited to using these. While you have already defined priority issues and may have some personal preferences, the spirit of the EMS is to take a look at the whole farm and all operations for opportunities to improve. If you choose to focus on specific concerns during the assessment step, it is still recommended to do at least a brief assessment considering as much of the operation as possible. Something very important you never thought of may be discovered. Remember each method has pro's and con's so use what you and your EMS team is most comfortable with.

Completing the Appropriate Assessment Tools

Complete an assessment using tools identified below or by using the modules provided in the Georgia Poultry Environmental Assessment binder, or tools from other sources. A variety of appropriate environmental risk assessment tools have been developed to assist producers in identifying potential environmental risks.

Located in the Georgia Poultry Environmental Assessment Tool binder you will find assessment tools addressing the following issues:

1. GA Regulatory Compliance
2. Site Management
3. Farmstead-Other Issues (e.g., fuel, pesticides, drinking water wells)
4. Poultry Litter Storage
5. Land Application of Litter
6. Pasture and Forest

If the above assessment tools do not meet a specific need, consider the following alternative or additional methods of assessments:

- Brainstorming sessions with employees, neighbors, and other knowledgeable parties such as Cooperative Extension, NRCS and consultants.
- Georgia Farm*A*Syst Materials (Contact your UGA County Extension Agent)
- Pennsylvania Poultry Environmental Assessment Tool (Tommy Bass at UGA 706.542.2735)
- Assessment tools associated with the national Livestock and Poultry Environmental Stewardship curriculum available through your local Cooperative Extension office or http://www.LPES.org.
- America's Clean Water Foundation OFAER (On-Farm Assessment and Environmental Review) Program visit http://www.acwf.org.
- Ontario's Environmental Farm Plan at http://www.gov.on.ca/OMAFRA/english/environment/efp/efp.htm
- P-Index and Leaching Index assessment tools typically available through your local Natural Resources Conservation Service office or local Soil and Water District organization.
- Private consultant initiated tools.
- Process Mapping

Check it Off...

☐ **Complete at least one assessment method for the whole farm OR choose to only assess the areas related to environmental concerns identified as important in Lesson 2 (Step1)! Remember, while it is often not practical to immediately address all environmental concerns, a comprehensive assessment to identify concerns is recommended. It is also essential that you conduct an assessment of your regulatory compliance.**

V. Identify Environmental Objectives

Step 4

The completed assessments should identify areas where improvements are needed, as well as areas where performance is already excellent. It is also hoped that the farm's management will review this assessment on a regular basis and use it to document improvements in environmental performance. Hopefully, areas now listed as weaknesses will eventually become strengths of the operation.

Before you go any further with identifying objectives, you should always include a plan to stay up to date on and in compliance with regulations. This intention should have been declared in your policy statement from Step 2. You may utilize the GA Poultry Regulatory Assessment tool, that is a companion to this guidebook, or consult with your County Agent or an Extension specialist to obtain a summary of the appropriate regulations. In addition to regulatory compliance, emergency preparation is considered a fundamental component of an EMS. The EMS concept is based on the fact that you will first and foremost comply with all relevant regulations and be prepared for emergencies, especially those with environmental consequences.

You may want to plan for fires, floods, catastrophic mortality or other acts. In addition to calling the fire or police department, consider who could help with protecting or saving birds and livestock, who may have special equipment for assistance, or who you may need to report to. If the farm is difficult to find, have local emergency response come out to verify location.

Check it Off...

☐ **Complete Worksheet 3 (Parts A and B) addressing regulatory compliance and emergency action planning OR continue reading and begin a Worksheet 4 for compliance and emergency planning when you reach the next check box.**

After completing the appropriate assessments, you will use a combination of assessment results and priority issues identified in Step1 on Worksheet 1 to set your first objectives. Consider the three criteria below when deciding what issues to address, and the subsequent objectives.

- Farm activities that affect priority issue. List activities or portions of the farm operation that could potentially affect the listed priority issue. If unsure of farm activities that interact with the priority issues, consult with EMS project coordinator, Cooperative Extension, NRCS, consultants, or Soil and Water District staff.
- Assessment results show the following activities that require improvement. Summarize the results of assessments or related activity completed in Step 2 of Lesson 3. Improvements may especially be needed if the response was "high risk" or "high-moderate risk" in assessments, or if certain levels of performance are mandated by law.
- Assessment results show the following activities that require maintenance. Some areas of environmental performance may be "low risk" or otherwise rated as "good". Many of these areas require regular maintenance or attention to continue the "high" level of performance. If such an activity is identified for the farm operation, identify it on Worksheet 4.

Objectives (for this step).

Develop and write one or more environmental objectives. An objective should include a target or quantifiable level of performance or deadline where possible. Not all improvements need to be done immediately. The objectives can reflect both long and short-term goals. These objectives will be used to determine if you are successful in improving management as part of your review and check steps. This will become clear as you proceed with the guidebook.

Worksheet 4: Environmental Objective and Farm Action Plan

Use this worksheet to list objectives related to a priority issue identified in Worksheet 1, and/or issues identified in assessment results. Organize and document what will be done, including training needs and responsible persons, to address each identified environmental objective. Also use this form to check and measure progress, initiate review and identify any related communication needs.

PRIORITY ISSUE: Nutrient Management

Objective(s), based on activities related to priority issue or assessment results:

- Implement nutrient management plan.
- Balance nutrient use on all fields and move towards P based application.
- Develop plan for off-farm litter transfer.

Briefly Describe How this Objective Will be Reached (List Activities to Be Performed):

Will work with County Extension Agent to update nutrient management plan moving towards P based nutrient management balance on all fields. Will also develop a record keeping system for litter export using forms provided by Extension Service and investigate composting and other options to add value to litter for off-farm sales.

Who Is Responsible for Each Effort?	**Deadline for Completion**
Sam Smith, farm owner and certified operator will update nutrient management plan, establish record keeping system, and investigate alternatives for off-farm use. All employees will be trained in record keeping and Sally will enter data into computer system monthly. Farm management team will make final decision on any new investments for value added processing of litter.	**9/2005** NMP update and record keeping system **9/2007** P based application
TRAINING NEEDS: Is any training needed for any staff to adequately carry out his priority issue? **Briefly describe training needs and list those who will participate in the training:** Attend any training/workshop on poultry litter use options or composting. Maintain CEU's for certified operator status - 4 hours every 2 years.	**Record when training was completed:**

Worksheet 4: Environmental Objective and Farm Action Plan (Continued)

Communication Needs

Internal:

All employees must be trained in and use record keeping forms. Management team will discuss all option

External:

Will update policy statement once P based application is obtained. Will talk with integrator about training opportunities and interest in off-farm use options.

What Performance Measures Will Be Used to Determine Success? (include frequency of measure and acceptable level of performance)	Describe records to be kept, if applicable and location	Written Procedures Needed?
Annual income or expense associated with litter removal. - Goal is to create profit center Soil test P levels in land application areas (Biannual) - Maintain status in high area (Below 300 ppm) Note: Performance outside acceptable levels may trigger the need for corrective/preventive action. Document any corrective/preventive actions taken and resulting changes in the Check section below.	Land Application Record Sheet (office) Litter Export Record Sheet (office) Litter Export Agreement with each broker (Contract on file) Soil tests and litter analysis as part of NMP (on file with NMP) - All records entered into computer monthly	SOP for soil testing, litter analysis, and record keeping as part of EMS.

Check

Date and Initials Scheduled semi-annually	Were appropriate corrective or preventive actions taken?	Were tasks completed as scheduled and by the appropriate persons?	Are records legible, findable and complete?

Management Review

Scheduled annually

Check it Off...

Complete the first two blocks of questions on Worksheet 4 of the EMS Template Pack at this time! You should complete a Worksheet 4 for each priority issue or closely related group of priority issues that you wish to set objectives for.

VI. Completing Farm Action Plans

Step 5

The assessment(s) or related activities completed as part of Step 4 have assisted in identifying and prioritizing farm environmental practices that need to be improved. They should also have assisted in identifying those areas that are environmental strengths of the farm. Both are important and should be addressed in the farm's action plan.

The plan for areas that require improvement will focus on the "who, what, how, and when" of making that improvement. Areas that are currently well managed, well controlled, or otherwise are environmental strengths of the farm should not be ignored. There should be a plan for maintaining that high level of performance. If not given proper attention, performance in these areas can suffer, resulting in an expensive and/or time-consuming problem that takes resources from other needed improvements. Also, a written plan for areas of good performance documents your high degree of environmental stewardship.

This process is not a one-time shot at improvements, nor is it set in stone. The majority of the time invested in this plan will be spent on this initial development, but it will need to be reviewed and if necessary, revised, on a regular basis.

Assigning Roles and Responsibilities

One of the benefits of developing an EMS is the opportunity to improve communication between those involved in the farm operation. Part of communication is to define roles and responsibilities clearly so that all bases are covered but that duplication of effort is avoided.

There are two levels of responsibility within the EMS. The first includes broad, overarching issues related to the planning process. The second type of responsibility includes specific duties related to an environmental objective or planned improvement. Examples of these types of responsibilities are listed below.

Who is responsible for…

- …inspecting the manure storage structure?
- …taking soil samples?
- …calibrating a piece of equipment?

These types of responsibilities will be designated on the farm action plan summary sheets initiated in Steps 4 and 5.

Note: Since many poultry farms in Georgia are one person operations, some individuals will be able to skip this step. However, if you have full- or part-time employees, this step can be beneficial in clarifying what is expected of each worker. This process will also expedite the training process of any new employee you may obtain in the future since their expected duties will be clearly outlined.

Identifying Training Needs

Similar to the two levels of responsibility in an EMS, there are also two types of training required. There are general types of training that relate to overall EMS awareness and understanding. These would include things like, communicating and understanding the farm's environmental policy statement and environmental objectives.

The second type of training is more specific and relates to the responsibilities assigned for each environmental objective. Training needs related to objectives and improvements include things like teaching the designated person(s) how to read a meter, fill out an inspection checklist or record rainfall amounts. These types of training needs will be recorded in the farm environmental action summary sheets initiated in Lesson 4.

Communication Needs

Not every priority issue and its objectives have communication needs. Read the following explanations to determine if you will identify any communication needs on the Worksheet 4's you have begun. Optional Worksheet 5 and 6 are available if you would like a more in-depth exercise on communication needs.

Internal Communication (Communicating with on-farm personnel)

Communicating with others who live and/or work on the farm is considered "internal" communication. Communications will initially focus on the EMS itself as well as each person's responsibilities. Later, communications will begin to focus on "What can we do better?" In both cases, the end product is usually better, and sense of ownership improved, if several people have input. Lines of communication that are well established and utilized frequently can also provide a comfortable atmosphere for reporting deviations or mistakes. They can also be utilized to encourage suggestions for improvement.

An EMS is not a one-time shot at improving a farm's environmental performance. It is a living, breathing process that will continue to evolve and change along with the farm operation. Communication between those involved in the EMS will be critical to ensure that the process is successful and ongoing. Optional Worksheet 5 is available if you would like a more in-depth exercise on internal communication needs.

External Communication (Communicating with off-farm personnel)

Livestock and poultry farms are receiving increased scrutiny from neighbors, local communities, consumers and regulators. This scrutiny means that even relatively small farm operation needs to be prepared to explain and sometimes defend their management practices. Educating the general public about your farm's environmental management efforts is a responsibility that every farm operation should take seriously, regardless if they feel that they are viewed negatively or positively by neighbors or other stakeholders. An outcome of developing and following an EMS is the ability to defend the actions and operation of the farm.

Communication is achieved in a variety of ways. The appearance of the farm communicates a positive or negative impression to those who drive by. A simple farm sign can be an effective communication tool, especially if you include a slogan or summarizing line from your policy statement. In addition, you may wish to take a proactive stance by sending a letter to your neighbors outlining the contents of your environmental policy statement. This type of contact will make your neighbors realize just what emphasis you place on the environment. You should strive to answer any replies or complaints in a timely manner to show that you do value your neighbors' opinions, even if you don't agree with them. Some permitted farms are required to submit an annual report, this is technically a form of communication. Optional Worksheet 6 is available if you would like a more in-depth exercise on external communication needs. The EMS documents should help show how well you are doing.

Check it Off...

Complete the squares up to *Check* and *Management Review* on all of your Worksheet 4's from the EMS Template Pack at this time! You will finish this form after reading the next step.

VII. Checking and Correcting

Step 6

At this point, your plan for environmental improvement should be largely committed to paper. It is time to start doing the things written on the action summaries. As the actions are carried out, it is inevitable that mistakes are found, corrective actions need to be made, or that better options become available for improvement. These are expected and adjustments can be made without pitching all of the hard work previously done.

The purpose of this step is to assist in documenting improvements, corrective actions and maintenance so that you can demonstrate environmental improvements to others. As you review the information in this step, complete the suggested sections on the second page of Worksheet 4.

Establish Performance Measures

A performance measure can be a very simple observation, or it can be a series of measurements. They should allow a farmer to assess whether or not things are improving.

Some example situations and the related performance measures include the following:

- leachate from a stackhouse could seep into ground water and contaminate your well. A performance measure could be a monthly visual assessment of the stackhouse made at regular intervals and recorded stackhouse inspection checklist.
- repeated manure applications have caused elevated soil phosphorus (P) levels in a field near a feedlot. A soil-sampling program is begun to carefully monitor nutrient application to the field. The performance measure of interest would be the soil P levels and whether they increase, decrease or remain constant over time.
- a poultry producer must move 1,000 tons of manure to off-farm users to comply with their state regulatory permit. The performance measure is to record the load weights of all manure transferred to off-farm users.

Environmental assessment tools, introduced in Step 3, provide another excellent performance measure tool. Comparing the number of “low risk” and “high risk” responses from the assessment tools over time can be an excellent measure of performance. Maintain a copy of any original assessments completed as you implement an EMS in an additional issue area. Plan to repeat that assessment at regular future intervals and compare results.

Good performance measures will:

- Be quantifiable, often numerically (e.g., Soil P level)
- Be regularly calibrated (e.g., Manure spreader application rates checked annually)
- Include a permanent record, easily accessed (e.g., Manure storage inspection checklist)
- Will be repeated regularly (e.g., Monthly inspection of manure storage)
- Are periodically checked against objectives and regulations (e.g., Farm owner reviews records every 3 months)

Use EMS Template Worksheet 4 to record the performance measure that will be utilized as well as the frequency of measurement. Some measurements may be taken daily, monthly, annually or as needed.

Record Keeping and Document Control

Farmers often say that record keeping is one of their least-favorite tasks. Like it or not, record keeping is an important part of any business. The key question to ask is, **"Will this help me track performance and profitability, or is the information necessary for someone else to evaluate the farm's progress?"**

There are several records that will be necessary to include as part of a functional EMS. They are:

1. Field records of actual measurements (pesticide application records for restricted use pesticides), observations (manure storage inspection checklist), or maintenance (watering system repairs).
2. Critical field records to maintain include those that:
    - Are required by law. Many regulatory agencies also specify the length of time that record must be retained. This retention requirement should also be written down.
    - Assist in key management decisions.
    - Check environmental performance measures.
3. Other critical documents to maintain in an easily accessibly manner include:
    - Permits
    - Best management practices (BMP's) and standard operating procedures (SOP's) currently used as well as those that are developed or adopted as part of the EMS.
    - Environmental plans, such as nutrient management plans or emergency plans.

If a document will most likely not be used, don't bother creating it, or consider ways to make each document as useful as possible.

Document Control

Record keeping and document control are two related, but separate activities. Document control is about making sure your records and documented procedures (especially those listed above) are as useful as possible and can be located. Documents need to be reviewed, revised as necessary, and dated before they are used. If it is important enough to write down, it is important enough to ensure that current documents are available at all the locations that the document is needed. For a functional EMS, it is recommended that every document include the following:

- Where current copies of the document are filed and posted
- Signature of responsible party
- Date
- Version of document (revision #)

EMS Template Worksheet 4 can be used to list records that will be kept as part of the improvements and objectives listed on each of the worksheets. In addition, this guidebook binder has been designed so that you can keep many important documents related to your permit or other environmental programs or records within the folder. This process should allow for any inspections to be expedited since all documents will be centrally located and readily available.

Standard Operating Procedures (SOPs)

Many plans require certain repetative tasks that are essential and need to be done in a consistent manner. For these tasks, you should consider developing a SOP to save time and reduce chances of mistake. SOP's are generally needed if:

- A procedure is not common knowledge (something that everyone knows how to do) (e.g., How to take a poultry litter sample).
- More than one person does it and it should be done the same way each time (e.g., Standard procedure for monitoring house and collecting mortality).

- Serious environmental consequences could result from doing it improperly (e.g., Procedure for disposing of excess pesticide).
- In your absence, someone else will have to do it (e.g., Monitoring and ordering feed).

Written SOPs will help you in training new employees and allowing existing managers and employees to gain flexibility in work scheduling. Often new SOP do not need to be developed but can be taken from existing resources such as manuals and extension publications. For example, procedures for soil and litter sampling, calibration, and record keeping are readily available from your County Extension Agent. If SOP's are developed, these should be listed in Worksheet 4.

Check

On a regular basis, it is important to review the procedures and records to be sure they are adequate and that any identified changes actually were made. This "check" can take place on a scheduled basis (quarterly, annually, etc.) and can also be triggered by the need for corrective/preventive actions.

Often the individual checking the EMS is someone internal to the farm operation such as a family member, or can be someone outside of the farm. Either type of person should be able to objectively review the records, and environmental performance and suggest improvements where needed. The basic questions that should be asked when reviewing records include the following:

- Are records complete? (Can the records be found?, Are they readable?, Did the appropriate action get done?, When did it get done and by whom?)
- Is SOP something you can do/understandable? (Is it missing a step?, Is it posted where it is needed?, Should it be translated into another language?, Are new employees aware of the SOP?)
- Did the plan, SOP's and records lead to appropriate actions? (Did a preventable problem occur?, Did the responsible person(s) act appropriately?, Were changes made to procedures and records to prevent reoccurrence?)

Check it Off...

At this point, Worksheet 4 of the EMS Template Pack should be completed down to the *Management Review* section.

VIII. Review

Step 7

On a regular basis (at least annually), it is important for the farm's management to review the EMS and evaluate whether the planned objectives are being met. The review should cover the entire system, but not all portions need to be reviewed at the same time. For example, it may make sense to review cropping system-related objectives during the winter season, but livestock-related objectives may need to be reviewed on a different schedule.

Has the farm changed?

Changes to the farm such as expansion, contraction, change in business structure, change in production methods (switch to organic, or switch to confinement operation), new buildings or other structures, or change in personnel might impact the objectives, policy and other EMS components.

If these or other significant changes have occurred, all following steps should be evaluated against these changes. You have probably learned a great deal about your management and environmental issues.

Review priority issues

In Step 1, a list of priority issues was presented and the importance of these concerns to various stakeholders was evaluated. These concerns can change from year to year. An issue that was not a priority in the past may have become a hot topic for one reason or another. Likewise, previously controversial issues may have been resolved to the satisfaction of those involved.

Review the environmental policy statement

The environmental policy statement is the foundation of the EMS. It provides the framework for setting goals and objectives. A good policy statement is written so that it provides a broad, general framework for objectives and targets. It should not become obsolete when small changes are made to the farm operation. Significant changes to the farm may require revision of the policy. When satisfied with the policy statement, it will be used to help set objectives.

Assessing performance and reviewing objectives

In Step 3, a review of the farm's environmental performance was conducted through the use of assessment tools or related activities. Repeating the same assessment or activity should provide a valuable performance measure for the farm operation. Completion of a different activity/assessment or completing a more comprehensive assessment than previously done could provide information on areas of environmental performance not previously assessed.

After reviewing environmental performance, determine if new objectives are needed. Changes in the farm operation may necessitate new objectives. Perhaps, you are ready to set more ambitious objectives than before. New awareness about how the farm interacts with the environment may also demonstrate the need for new objectives. A copy of Worksheet 4 should be used to record any new objectives.

Note: Each new objective will need to be processed through the original planning process. Begin at Step 4 and develop each objective into an action summary.

Review the farm action plan

Review the environmental policy statement and all Worksheet 4's that represent the farm's action plan and objectives. The answers to the following questions should be included in the "management review" section of Worksheet 7.

Is the plan you put together working? Are communications working? Are appropriate records being kept?

1. Based on the performance measures selected, is the objective being met?
2. Based on a reassessment of performance (using assessment tools listed in Step 3 or other methods), are we improving, environmentally speaking? This assessment should include a review of regulatory compliance.
3. Do checks show the need for any further changes?
4. Is the objective and plan outlined on the worksheet still suitable based on the environmental policy statement and most recent conditions and information (including the concerns of stakeholders)?

If an objective has been met, it may need revision to reflect necessary ongoing maintenance or to specify acceptable levels of continued performance. For example, if an objective was "to reduce the use of diesel fuel by 15%" then the management review would need to evaluate whether or not that actually occurred. If it did, is the objective still appropriate as written? Can the farm operation reduce diesel fuel use by another 15% or has an acceptable level of use been reached? In some instances the objective may not need to remain part of the action plan after it has been met.

If an objective has not been met, ask why? Was it too ambitious? Did unforeseeable circumstances interfere with plans (such as a drought, loss of a key employee, or changing priorities)? If the objective is still appropriate for the action plan, it may need only slight revisions to the timeline or designation of responsibilities. Revise each action summary sheet as needed to update or complete a new worksheet if revisions are extensive.

Check it Off...

On a regular basis, continue to repeat the questions outlined in Step 7.

This continued review and revision is the process that allows for continual improvement to environmental performance. The planning process will become easier each time this cycle is repeated and much of the process will become second nature. Just like any other business management system, spending a small amount of time on a regular basis will keep the workload from piling up and reaching overwhelming proportions. Your plan should also suit your management style and the contents of this guidebook can be adapted as needed. Remember, this is a farm operation and your plan. You are the one who has to live with and carry out the things committed to paper. An EMS is tremendous tool for environmental and economic improvement—but only as long as you continue to use it. Worksheet 7 is an optional tool to perform a more in-depth and systematic management review.

Notes

Georgia EMS Template Pack

Worksheets 1-7

One copy of each worksheet is provided. We encourage you to make multiple copies of each so that you will always have new forms if changes need to be made. You can also download these templates at http://www.agp2.org.

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