

Florida-Friendly
Best Management Practices
for Protection of Water Quality by the Green Industries

INSTRUCTOR MANUAL



Florida Department of Environmental Protection
A Florida-Friendly Landscaping™ Publication

Updated 02/05/10



Foreword

Since 2002, more than 8,000 landscape and lawn care professionals have been certified in the “Green Industries Best Management Practices” training program. It has grown from a strictly voluntary education project, freely taught by almost anyone who had themselves completed the course, to a formal training recognized statewide and conducted by industry, government and university representatives. Much of its success is due to the relevance of the subject matter.

Over the last two decades thousands of acres of formerly open lands in Florida have been converted to urban areas. With this conversion and the increase of impervious surfaces, water quality protection has become a focus of local governments. In addition, the federal Clean Water Act and various state laws are also bringing additional attention to water quality issues. Within urban areas, green spaces such as pocket parks, yards, and medians have become the last bastion of “green space,” which provide water quality protection. These areas filter runoff, provide habitat, and naturally cool urban areas. It is primarily the landscape professional who is caring for these treasured green spaces that ensures the delivery of benefits associated with Florida-Friendly Landscaping™. Through proper plant selection, fertilization, irrigation, and pesticide application, it is possible to maintain an attractive landscape that protects and conserves water and ultimately improves the quality of our lives.

In 2008, the Florida Department of Environmental Protection (FDEP) Nonpoint Source Management Section released a revised version of the “Green Industries Best Management Practices” manual to update practitioners on new laws, research and products. FDEP also gave the program a new title: ***Florida-Friendly Best Management Practices for Protection of Water Quality by the Green Industries***. The Green Industries manual provides the information and framework, based on the best available science, to educate landscape professionals. The role of the landscape professional is critically important in protecting Florida’s water resources. It is the department’s hope that you as a landscape professional will take your role seriously and provide leadership to the next generation of professional landscapers.

Jerry Brooks, Director

Division of Environmental Assessment & Restoration
Florida Department of Environmental Protection

Acknowledgements

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This manual was written and produced by Alberto Chavez, Rookery Bay National Estuarine Research Reserve, Florida Department of Environmental Protection's Office of Coastal and Aquatic Managed Areas.

Dedication

This manual is dedicated to the many instructors who devote their time and talents to train landscaping professionals on water protection skills. Also to the thousands of participants who have decided to implement best management practices to make Florida-Friendly Landscaping™ the standard of success.

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Reference

Section 1: GI-BMP Program

By the end of this section you will be able to:

- Use the instructor manual effectively to organize and deliver classes
- Describe the components of the GI-BMP program
- Illustrate the history of water protection in Florida
- Explain the legal structure of water protection in Florida
- Describe the roles of the GI-BMP administrative partners

1.1 Introduction

The GI-BMP Instructor Manual is a component of the Florida-Friendly Best Management Practices for Protection of Water Quality by the Green Industries (GI-BMP) program. It has two main purposes: 1) it contains the GI-BMP program's official concepts, guidelines and standards; and 2) it provides instructors with tools and tips on how to deliver the GI-BMP training effectively. This manual should be used as a guide to assist certified instructors with organizing and delivering GI-BMP classes.

The cooperation, technical expertise and dedication of the GI-BMP instructors, are what makes this certification program possible. Therefore, instructors are instrumental in the protection of Florida's water resources by assuming the social and environmental responsibility of training professionals on how to implement these critical practices.

The quality of the instruction and materials dictate the success of all education efforts. Maintaining a high quality is especially important for the GI-BMP program, which is delivered throughout Florida by instructors from diverse backgrounds and locations representing the Florida Department of Environmental Protection (FDEP), University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS), other state agencies, organizations and local governments, and industry. To assure that trainings meet FDEP standards and the GI-BMP program objectives, instructors are required to carefully follow the methodology documented in this manual.

The GI-BMP Instructor Manual was developed by the Rookery Bay National Estuarine Research Reserve (RBNERR) Coastal Training Program (CTP) under the direction of and in collaboration with the FDEP Nonpoint Source Management Section (NPSMS).

For a copy of this manual visit: <http://www.dep.state.fl.us/water/nonpoint/pubs.htm>.

For more information about the GI-BMP program please visit:
http://fyn.ifas.ufl.edu/professionals/BMP_overview.htm.

Suggestions or comments are always welcomed, as are new instructors!

Best Management Practice

According to Section 373.4595 of the Florida Statutes (F.S.), best management practice means a practice or combination of practices determined by the coordinating agencies, based on research, field-testing, and expert review, to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality in agricultural and urban discharges.

1.2 Background

Nonpoint Source Pollution

Nonpoint source pollution (NPSP), unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPSP is caused by rainfall moving over and through the ground. As the water moves by gravity over the path of least resistance (runoff), it transports pollutants, depositing them into lakes, rivers, wetlands, coastal waters, and even into underground sources of drinking water. These pollutants include excess fertilizers, herbicides, insecticides from agricultural lands and residential areas, oil, grease, toxic chemicals, sediment from construction sites and eroding stream banks, bacteria and nutrients from livestock, pet waste and faulty septic systems, to name a few. In Florida, urban nutrient runoff and leaching are significant causes of water pollution. High levels of nitrogen and phosphorus, a common problem in Florida waters, can have devastating impacts on the coastal ecology.

Runoff

Runoff is the water flow which occurs when water from rain or other sources flows over the land. Runoff is a major cause of nonpoint source pollution.

Leaching

Leaching is the downward movement of nutrients in the soil profile caused by percolated water from the rain, irrigation or other sources. Nutrients leached below the rooting zone of the vegetation are lost and can contribute to groundwater contamination.

Hydromodification and atmospheric deposition are also sources of nonpoint source pollution. Hydromodification refers to manmade changes in the natural physical structure of a waterbody and/or its natural function through channelization, channel modification, dams, and streambank and shoreline erosion. These changes can alter the natural flow of water, increase sedimentation, raise water temperature, lower dissolved oxygen levels, degrade aquatic habitat

structure, diminish aquatic populations, and decrease water quality. Eventually this results in economic, social and health impacts on humans. Atmospheric deposition occurs when pollutants are transferred from the air to the earth's surface.

Water Quality Regulation in the United States

The first major U.S. law to address water pollution was the Federal Water Pollution Control Act of 1948. In 1972, increased public awareness and concern for controlling water pollution led to a considerable revision of this law. The resulting amendments were adopted in 1977, and since that time, this law is commonly known as the Clean Water Act (CWA), which is administered by the U.S. Environmental Protection Agency.

Highlights of the CWA include:

- Established the basic structure for regulating pollutant discharges into the waters of the United States.
- Provided water quality standards for contaminants in surface waters.
- Regulated pollutant discharges from point sources (i.e. factories, power plants, other).
- Directed funding to the construction of sewage treatment plants.
- Recognized the need to incorporate nonpoint source pollution in planning.

In 1972, EPA introduced the National Pollutant Discharge Elimination System (NPDES) to control the discharge of point sources into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system or that use a septic tank generally do not have a surface discharge, and therefore, do not need a NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. It is likely that your city or county maintains a NPDES permit.

In the same year, EPA introduced the Total Maximum Daily Load (TMDL) program. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards set by states, local governments and Indian tribes.

The CWA requires states to submit a list of impaired bodies of water that do not meet applicable water quality standards after implementation of technology-based effluent limitations and establish TMDLs for these waters. By law, EPA must approve TMDL lists established by states, local governments, and tribes. If a submission is inadequate, EPA must establish the TMDL list.

The CWA also provides the statutory basis for state water quality standards programs. The regulatory requirements governing these are published in the Code of Federal Regulations. States are responsible for reviewing, establishing, and revising water quality standards.

Water Quality Regulation in Florida

In the 1960s, environmental protection in Florida was a shared responsibility between the Board of Trustees of the Internal Improvement Trust Fund (state lands, including shores, beaches, wetlands, and water bodies), the Department of Health (sewage treatment, drinking water quality), the Department of Natural Resources (state parks and recreation areas), and the Game and Freshwater Fish Commission (hunting and fishing).

In the early 1970s, the Florida Department of Environmental Regulation was created to maintain the quality of the state's air and water, manage shorelines and wetlands, and supervise the five Water Management Districts (WMD) that were established in 1972. The first State stormwater discharge permitting rule was implemented by the FDER in 1982. This rule required a stormwater permit for all new stormwater discharges and for modifications to existing discharges if flows or pollutant loading increased. Subsequently, the stormwater rule was established as a technology-based program that relied upon the implementation of Best Management Practices designed to achieve a specific level of treatment or performance standards.

A more extensive reorganization of Florida's environmental programs took place in the mid-1990s when the Department of Environmental Regulation merged with the Department of Natural Resources, to create the current Florida Department of Environmental Protection (FDEP).

In 1999, the Florida Legislature enacted the Watershed Restoration Act (Section 403.067 F.S.), which directs the FDEP to scientifically evaluate the quality of Florida's surface waters and promote the mechanisms necessary to clean up pollution. The Act was created specifically to implement the federal TMDL program. FDEP is currently in the process of establishing the loads for the EPA approved list and continues adding Florida water bodies that require protection. This Act further provides that FDEP may develop Basin Management Action Plans to assist in the implementation of the adopted TMDLs.

In October 2000, EPA authorized the FDEP to implement the NPDES stormwater permitting program in Florida (except on sovereign Indian lands). FDEP's authority to administer the NPDES program is set forth in Section 403.0885 F.S. Florida's surface water quality standards system is published in Chapter 62-302 of the Florida Administrative Code. The components of this system include: classifications, criteria, an anti-degradation policy, and special protection of certain waters.

During the past decade, several counties and cities expressed their concerns about water quality standards, water shortages, and algae blooms, by passing ordinances to regulate urban fertilizer applications and landscaping.

The first of these ordinances was developed by St. Johns County in 2000. This ordinance banned fertilization with soluble Nitrogen from May 15 to October 31, and made possession with intent to distribute a criminal offense subject to 60 days in jail and a \$500 fine. Shortly thereafter, several lawn care companies and related organizations formed the Green Industry Alliance to

obtain an injunction against enforcement of this ordinance. The County agreed to modify the ordinance and suspended enforcement. That summer, the Alliance asked the Florida Department of Agriculture and Consumer Services (FDACS) Bureau of Entomology and Pest Control for assistance with developing BMPs for their industry. Consequently, FDACS, several members of the Alliance, FDEP and the WMDs met with UF/IFAS in Gainesville. The group committed to developing BMP manuals to cover a range of audiences, including: 1) a professional lawn/landscape manual; 2) a statewide homeowner BMP manual, derived from the FYN program; and 3) a Golf Course manual.

Subsequently, the FDEP Nonpoint Source Management Section, in partnership with UF/IFAS and representatives of the various industries involved with landscaping maintenance, completed the GI-BMP manual in 2002. FDEP also developed a model ordinance for fertilizer use on urban landscapes to assist local governments and maintain uniformity across the State.

In 2007, the Florida Fertilizer Rule became effective through the efforts of the FDACS. This rule regulates the content of labels for fertilizer sold for use on lawns or urban turf and direct professionals to use GI-BMPs. (see Appendix 4).

Also in 2007, the City of Naples passed the first fertilizer ordinance in the State that requires commercial and institutional fertilizer applicators to have the GI-BMP certificate of training.

In 2009, the legislature passed new laws requiring all commercial fertilizer applicators to have Limited Commercial Fertilizer Applicator Certificate (LCFAC), issued by FDACS. In accordance with these new laws, the GI-BMP training, or its approved equivalent, is required to apply for this FDACS certificate. These new laws also encourage county and municipal governments to adopt and enforce FDEP's model ordinance for Florida-friendly fertilizer use on urban landscapes, and requires county and municipal governments within a water body impaired for nutrients to adopt the ordinance. Additionally, these new laws provide the local governments with the opportunity to adopt more stringent provisions and exempts local governments that have fertilizer ordinances before January 1, 2009.

Florida-Friendly Landscaping™

Florida-Friendly Landscaping™ (FFL) is the University of Florida's Trade Mark that describes landscaping standards and practices, materials or choices that help to protect Florida's natural resources and protect the environment. Adherence to FFL standards and practices helps Floridians prevent nonpoint source pollution of surface and ground waters through minimizing of leaching and runoff. FFL encourages water conservation and promotes native biodiversity of species within the Florida landscape. FFL practitioners also site anecdotal benefits such as minimizing health risks from irresponsibly applied chemicals, saving money and personal satisfaction from being a good steward of the environment.

1.3 Limited Commercial Fertilizer Applicator Certificate

In 2009, the legislature passed a law requiring all commercial fertilizer applicators to have, by January 1, 2014, a Limited Commercial Fertilizer Applicator Certificate (LCFAC), issued by FDACS. The GI-BMP training certificate, or its approved equivalent, is required to apply for the FDACS license.

Individuals applying for the LCFAC certificate must provide a copy of the training certificate demonstrating successful completion of the GI-BMP class; a completed FDACS application form; and remit a \$25 fee for the cost of the certificate.

For more information contact the Bureau of Entomology and Pest Control at (850) 921-4177 or visit the web site at <http://www.flaes.org/aes-ent/index.html>.

LCFAC holders are exempt from further local testing. Additionally, private or institutional applicators are not required to have this certificate. However, an institutional applicator may be required to obtain the GI-BMP certificate of training per local ordinance.

The LCFAC provides the certificate holder the authority to apply only fertilizers in urban landscapes for commercial gain. The LCFAC does not authorize the following:

- The application of pesticides to turf or ornamental plants, including pesticide-fertilizer mixes such as “weed and feed” products.
- The operation of a pest control business.
- The application of pesticides or fertilizers by unlicensed or uncertified individuals under the supervision of a certified person.

1.4 Overview

The Florida-Friendly Best Management Practices for the Protection of Water Quality by the Green Industries program, commonly known as the “Green Industries Best Management Practices” (GI-BMP), was designed to provide landscaping professionals with knowledge, skills and tools to minimize the impacts of nonpoint sources of pollution related to their business practices. Landscaping the “Florida-friendly” way requires careful consideration of plant selection, irrigation, maintenance, fertilization and pesticide application that does not compromise Florida’s environment.

This program derived from an initiative by the Green Industries to implement alternative measures to protect the environment. Consequently, they have actively participated in the development of the GI-BMPs. “By the Green Industries” on the program’s title highlights the active involvement of the Green Industries and their leading role in training, disseminating, and implementing these practices.

Green Industries

The Green Industries are those industries involved with professional landscaping, which includes landscape maintenance, landscape design and installation, fertilization, irrigation, pesticide application and plant distribution.

GI-BMP Class

The GI-BMP class focuses on increasing environmental knowledge and developing skills to conduct landscape maintenance efficiently and effectively, to create a “culture” of landscaping practitioners immersed in best practices to protect the water resources in Florida.

In 2003, the NPSMS contracted UF/IFAS to develop a pilot GI-BMP training program. Since then, this training has undergone major changes, and a new version will be released in 2010.

The present training is delivered in a six-hour-long class, which consists of five modules (see Appendix 2 for a copy of the official agenda), and it is modeled after the American National Standards Institute (ANSI) Safety Trainer Qualifications Z490.1.

In the future, there will be other training options, including an online class.

GI-BMP Manual

FDEP released a best management practices manual and an abbreviated summary booklet in June 2002, in collaboration with UF/IFAS, FDACS, the Department of Community Affairs, the WMDs, and the Green Industries. This manual provides information and guidance on landscape design and maintenance, including pruning, mulching, fertilizers, irrigation, and pesticides.

In 2008, a new version of the manual was released by the NPSMS to update practitioners on new laws, research and products. FDEP also gave the program a new title: ***Florida Friendly Best Management Practices for Protection of Water Quality by the Green Industries***. The manual is available in both Spanish and English, and the summary booklet is no longer in print.

The manual contains the official content of the GI-BMP training. It provides information and guidance on turfgrass and landscape management practices to minimize nonpoint source pollution and conserve and protect Florida's water resources. It is designed to be an educational guide for professional service providers and other interested parties, and it is also a study tool to prepare for the class and the test.

You can download an electronic copy of the GI-BMP manual at:

<http://www.dep.state.fl.us/water/nonpoint/docs/nonpoint/grn-ind-bmp-en-12-2008.pdf>

GI-BMP Certificate of Training

Upon completion of the GI-BMP class participants need to take a test. Participants with a score of 75% or higher will receive a GI-BMP certificate of training, which will be mailed to the trainees approximately two weeks after the class. This includes a wallet card. Certificates are stamped and numbered.

According to new laws, all commercial fertilizer applicators need to obtain a FDACS Limited Commercial Fertilizer Applicator Certificate (LCFAC) by 2014 (see Appendix 19). The GI-BMP certificate of training is required to apply for this FDACS certification and it is also required by some local governments to obtain a work permit.

For issues regarding certificates contact the GI-BMP Data Manager (see Appendix 3 for a list of contacts).

GI-BMP Instructor Training Program

The RBNERR-CTP in collaboration with NPSMS developed the GI-BMP Instructor Training program. Through this training, education professionals, government employees, industry professionals and citizen volunteers can become GI-BMP certified instructors. GI-BMP certified instructors are able to train one or more sections of the GI-BMP class and have the authority to organize and deliver GI-BMP classes, and proctor tests.

To become certified instructors, candidates need to complete the GI-BMP training and the instructor training class, and co-train at least two GI-BMP classes supervised by the Regional Coordinator or designated UF/IFAS staff. Instructors will receive a GI-BMP instructor certificate of training upon completion of all of these steps. For more information on how to become a certified instructor see Section 2.

The GI-BMP Regional Coordinators are responsible for providing this training. The duration of the class is six hours, including breaks, test and evaluation, and it is divided into four sections:

- Section 1: GI-BMP Program
- Section 2: Becoming a GI-BMP Certified Instructor
- Section 3: Organizing and Delivering a GI-BMP Class
- Section 4: Understanding the Training Modules
- Test & Evaluation

For a schedule of GI-BMP Instructor Training classes please visit:
http://fyn.ifas.ufl.edu/professionals/bmp_training_schedule.htm

Instructor Supplemental Training and Updates

GI-BMP certified instructors are required to participate in refresher courses organized by the Regional Coordinators. The objective of the GI-BMP instructor refresher courses is to provide certified instructors with the program updates and training tools.

When significant new material is not being introduced, instructors will receive information through conference calls, e-mail and/or it may be placed online on the FFL educator secure login (see Section 3.2).

1.5 Program Administration

Nonpoint Source Management Section

The GI-BMP program is administered by the NPSMS. NPSMS contracts UF/IFAS to implement the GI-BMP program. The Program Manager is a staff member of the NPSMS. The main responsibilities of the Program Manager are to: 1) edit manuals; 2) edit and approve training materials, brochures, and other outreach materials; 3) oversee UF/IFAS training contract provisions and performance; 4) coordinate activities with state and local government agencies, IFAS and industry; and 5) oversee FDEP regional training staff on program matters.

Changes in the instruction, organization and content of the GI-BMP program can only be conducted with prior authorization of the FDEP.

Nonpoint Source Management Section

Under EPA Section 319(h) Nonpoint Source Management Program, grants are available for states, local governments and Indian Tribes to support a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring. Through a Section 319 grant and State funding, the FDEP Nonpoint Source Management Section (NPSMS) is responsible for the implementation of the State of Florida's nonpoint source management programs, including the GI-BMP program. They are implemented in cooperation with the UF/IFAS, WMDs, other state agencies, local governments and the public. The goal of these programs is to minimize nonpoint source pollution from new land use activities and to reduce pollution from existing activities.

University of Florida's Institute of Food and Agricultural Sciences

UF/IFAS is responsible for the implementation of the Florida-Friendly Landscaping™ program (see Appendix 4). The FFL program is operating under the Environmental Horticulture Department of UF/IFAS and it includes the coordination of the GI-BMP program. This entails the coordination of the GI-BMP training through the Extension network, managing the GI-BMP certification process, maintaining the statewide GI-BMP trainee database and developing training materials. The FFL program, is also responsible for implementing the Florida Yards and Neighborhoods (FYN) and the FYN Builder/Developer programs and it is also affiliated with the Center for Landscape Conservation and Ecology.

The GI-BMP Statewide Coordinator is part of the FFL program staff. The main responsibilities of the GI-BMP Statewide Coordinator are to: 1) act as a liaison between UF/IFAS and the county

extension agents, FDEP, FDACS, WMDs, local governments, industry stakeholders and the public; 2) assist the UF/IFAS FFL Director with management of FDEP contract; 3) evaluate needs of regional GI-BMP programs for effective implementation in coordination with the GI-BMP FDEP staff; 4) collaborate with FDEP to prepare and enhance training materials; 5) work with local governments, FDEP Project Manager and Regional Coordinators, and with extension staff to promote the GI-BMP program; 6) assist extension offices with setting up training; 7) assist IFAS faculty to train instructors; 8) evaluate GI-BMP classes and trainers for quality control; 9) prepare GI-BMP training reports, which include impact and performance measures; and 10) collaborate with FFL and GI-BMP planning efforts.

University of Florida's Institute of Food and Agricultural Sciences

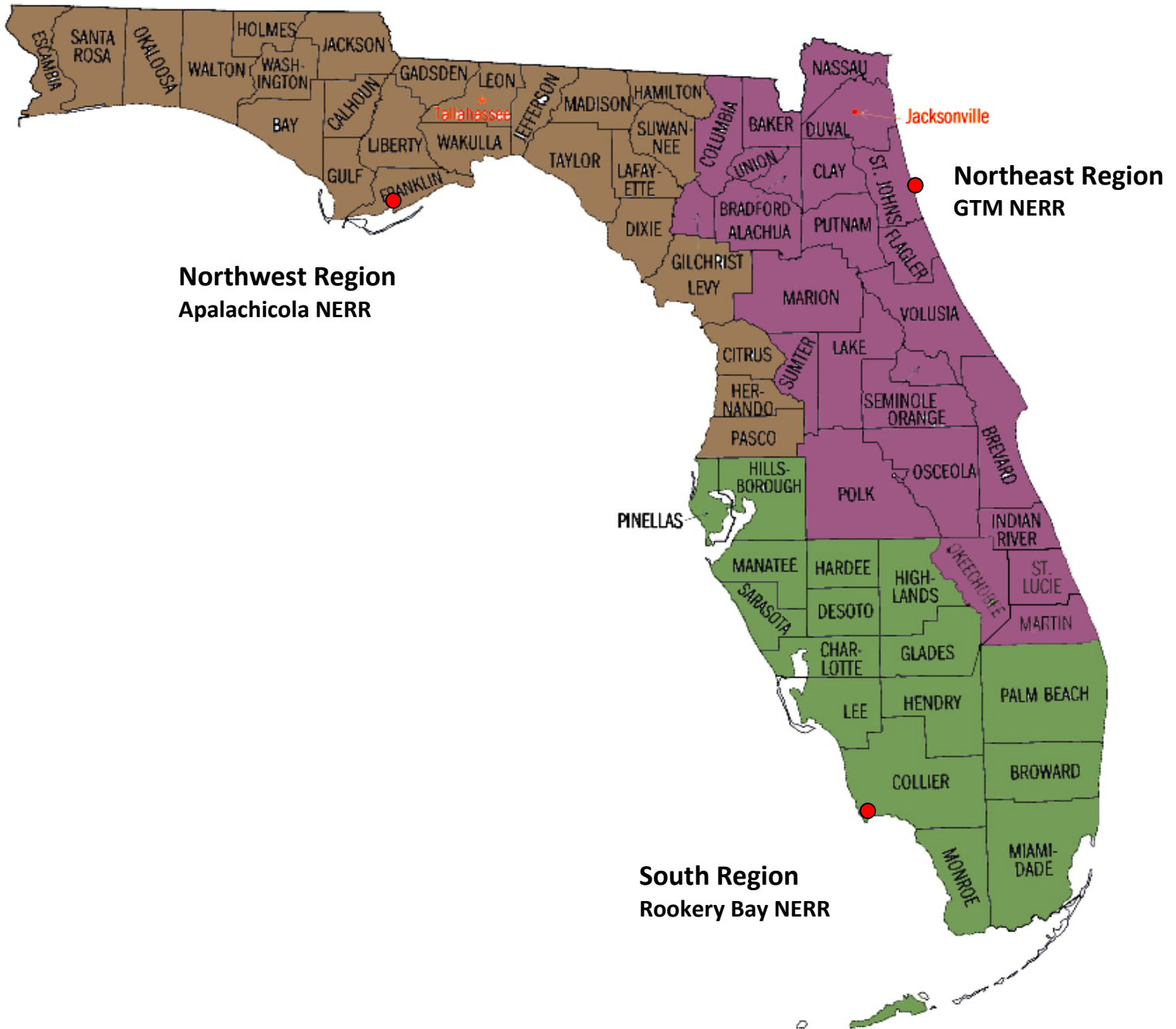
UF/IFAS is dedicated to enhancing and sustaining the quality of human life by providing knowledge in agriculture, human and natural resources, and the life sciences. UF/IFAS is a partnership between federal, state and county governments, and has Extension offices in every county.

Office of Coastal and Aquatic Managed Areas

The NPSMS and CAMA partnered to implement the GI-BMP program statewide. NPSMS funds three Regional Coordinators managed by the Florida NERRs, under the CAMA/CTP. The responsibilities of the Regional Coordinators are to:

- Train and certify instructors
- Organize and deliver GI-BMP classes
- Assist with the implementation of the GI-BMP program
- Participate and contribute actively in the statewide planning and implementation of the GI-BMP program
- Coordinate activities with partners and stakeholders
- Assist with the development of GI-BMP training materials
- Provide guidance to local governments, and other regional and state organizations, to understand and implement the required fertilizer standards
- Develop reports
- Outreach and promote NPS awareness
- Other CTP duties

Regional Coordinators' Area of Responsibility (see Appendix 3 for contact information):



Office of Coastal and Aquatic Managed Areas

The FDEP Office of Coastal and Aquatic Managed Areas (CAMA) oversees Florida's forty one aquatic preserves, three NERRs, one National Marine Sanctuary and the Coral Reef Conservation Program, comprising more than 4 million acres.

The National Estuarine Research Reserve System

The NERRS is a network of protected areas established for long-term research, education and stewardship. This partnership program between the National Oceanic and Atmospheric Administration (NOAA) and the coastal states protects more than one million acres of estuarine land and water, which provides essential habitat for wildlife, offers educational opportunities and serves as living laboratories for scientists. There are 27 NERRS throughout the United States, representing unique bio-geographic regions with the mission of promoting informed stewardship of coastal resources. Florida hosts three Reserves: Apalachicola, Guana-Tolomato Matanzas and Rookery Bay.

Coastal Training Program

The NERRS CTP main objective is to provide scientific information and professional development opportunities to professionals who are responsible for making decisions that affect coastal resources. CTP programs target a range of decision-maker audiences, including land-use planners, elected officials, regulators, land developers, environmental non-profits and coastal businesses. These training programs provide a range of opportunities for professionals to network across disciplines, and develop new collaborative relationships to solve complex environmental problems. CTP programs include seminars, hands-on skill training, participatory workshops, lectures and technology demonstrations and other facilitated interactions. CTP Coordinators work closely with federal agencies, especially within NOAA, state coastal programs, Sea Grant College, UF/IFAS Extension, education staff, and other local partners to determine priority issues and target audiences. CTPs are established at most NERRS and utilize a rigorous national framework that includes audience needs assessments, market analysis, strategy documents, advisory committees and program evaluation. This system-wide framework is the foundation that ensures the use of training and technical support to adaptively manage, using an ecosystem-wide approach, the protected lands and communities that depend on the NERRS.

Section 2: Becoming a GI-BMP Certified Instructor

By the end of this section you will be able to:

- Explain how to become a GI-BMP certified instructor and how to maintain this certification
- Describe why an instructor certification can be revoked
- Apply professional training techniques in your classes

2.1 Certified Instructors

By becoming a GI-BMP certified instructor you will have the authority to organize and deliver GI-BMP classes, and proctor tests. To become a certified instructor you must meet the eligibility requirements and follow the process described below. If you have questions about how to become a certified instructor, please contact the Regional Coordinator in your area (see map on page 15).

2.2 Eligibility

Education professionals, government employees, industry professionals and citizen volunteers can become GI-BMP certified instructors, in accordance with the FDEP criteria described below. Instructors are required to have an appropriate level of technical knowledge in the field of landscape management or environmental management of agrochemicals and horticultural practices, gained through education and/or professional experience.

Prospective Instructor	Experience	College Degree (accredited institution)
Green Industry Professional	Minimum two years in training or supervisory position, competency in subject matter and competency in training.	None required
Education Professional	Two years of experience in subject matter.	Bachelor's
Government Employee	Two years of experience in subject matter and competency in training.	Bachelor's
Citizen Volunteer	Two years of experience in subject matter, and competency in training.	Bachelor's

Being certified by a related professional association, such as the Florida Nursery, Growers & Landscape Association (FNGLA), or having a FDACS Certified Pest Control Operator License are preferred qualifications for instructors.

Eligibility Waiver

The degree or experience requirements may be waived by the Program Manager, Statewide Coordinator or the Regional Coordinators for persons with key expertise, such as foreign language skills, upon determination that the applicant meets the other requirements and fulfills a critical need.

2.3 Earning Instructor Certification

Effective January 1, 2009 instructors must earn a GI-BMP instructor certificate of training by completing the following four steps:

1. Attend a GI-BMP class and pass the test with a minimum score of 90%

Prospective instructors will not be admitted in the GI-BMP Instructor Training class without a valid GI-BMP certificate of training and a passing grade of at least 90% obtained during an officially registered GI-BMP class. Certificates of training obtained prior to 2006 are not accepted, because this program has undergone major changes since then. Certificates obtained through online classes are also not accepted, because prospective instructors are required to be familiar with the logistics of the standard classroom training (not only the subject matter) to participate in the instructor class.

2. Complete the GI-BMP Instructor Training Registration form and meet the eligibility requirements

To register in a GI-BMP Instructor Training class, participants need to submit to the respective GI-BMP Regional Coordinator a registration form (see Appendix 6) for a copy of this form along with a copy of their university degree (if required) and an updated copy of their resume, as proof that they meet the eligibility criteria.

3. Attend the GI-BMP Instructor Training and pass the test with a minimum score of 75%

Attendees who do not obtain a score of at least 75% during the instructor training need to retake this class. Classes are organized by the Regional Coordinators in different locations across the State. For a schedule of instructor training classes please visit:

http://fyn.ifas.ufl.edu/professionals/bmp_training_schedule.htm.

4. Co-train at least two classes supervised by an FDEP authorized training provider

After successfully completing the instructor training class, prospective instructors must co-train twice to obtain their instructor certificate of training. Co-training is both an evaluation period and a learning experience. It involves teaching one or more GI-BMP modules under the supervision of an experienced instructor to gain proficiency in presenting the subject matter and to become familiar with the logistics of conducting a class. This entails assisting in all aspects of delivering a class, including sign-in, distributing of materials, compiling documents, catering and proctoring tests.

Prospective instructors need to coordinate with the Regional Coordinators to identify classes where they can co-train. Some people may require more than two sessions if they have not had experience in public speaking or classroom training in the past.

Upon class completion, the authorized training provider, responsible for organizing the class, needs to record the co-training and evaluate the prospective instructor, by completing a Co-Training Instructor Evaluation Form (see Appendix 7) for each class. Completed forms need to be sent to the GI-BMP Data Manager for processing. The completed evaluation forms will be used by the Regional Coordinators to assess the prospective instructor's performance and authorize the certification of the instructor.

The Regional Coordinators need to receive at least two co-training evaluation forms as proof that prospective instructors met the co-training requirement. The last evaluation received needs to be "satisfactory" to count towards obtaining an instructor certificate. A "satisfactory" evaluation denotes that the prospective instructor meets the minimum training standards required to deliver a GI-BMP class successfully. Performance will be considered unsatisfactory if the average score is below 3.0 (54 points out of a total of 90) or if they receive less than 2 points on any of the 18 parameters. A prospective instructor who has received an unsatisfactory evaluation needs to make the necessary corrections and participate in additional co-trainings until receiving a satisfactory report (see Appendix 8 for tips on how to conduct a successful co-training).

Once a prospective instructor has completed these four steps, the respective Regional Coordinator will evaluate the application and authorize the certification of the instructor. Certified instructors can then begin organizing their own classes.

2.4 Maintaining Instructor Certification

All certified instructors need to follow these guidelines to maintain certification:

1. Instructors are required to follow the prescribed content of the GI-BMP program detailed in the GI-BMP instructor and participant manuals.
2. It is the responsibility of certified instructors to be aware of, and keep current with, all GI-BMP materials through regular communication with the Regional Coordinators and by visiting the FFL educator secure login <http://fyn.ifas.ufl.edu/gi-bmp/>.
3. Instructors are required to use only the most current versions of all materials including, the PowerPoint presentations, pre and post-tests, registration forms, survey and agenda.
4. Instructors are required to follow the length of time allotted for each session according to the official GI-BMP agenda (see Appendix 4).
5. Non-UF/IFAS instructors are required to organize and deliver at least one class per year.
6. Instructors are required to complete all GI-BMP refresher courses and participate in all program updates.
7. Instructors shall apply adult learning principles appropriate to the target audience and the learning objectives.
8. If providing FDACS or FNGLA CEUs, instructors must also be approved by these organizations and follow their requirements (see section 3.17).

When delivering the GI-BMP training you are representing the Florida Department of Environmental Protection. FDEP is committed to building public trust and confidence, and communicating effectively with the public.

2.5 Instructor Compensation

The FDEP does not permit any type of compensation for instructors, except as part of normal duties of employment. All instructors must provide their services on a free and voluntary basis, although a modest reimbursement for training expenses is permitted. If eligible, instructors may be paid overtime by their employer in accordance with wage and hour laws.

2.6 Training Evaluation

Any training event, including those on private property, may be attended by the Statewide Coordinator, the Regional Coordinators and other FDEP or FDACS staff without prior notice, to evaluate the quality and accuracy of training. These may be random, or specifically selected, at the agency's discretion.

Additionally, the Regional Coordinators will conduct training evaluations using the Training Provider Evaluation Form (see Appendix 9). Performance will be considered unsatisfactory if the

average score is below 3.0 (90 out of a total of 150 points) or if they receive less than 2 points on any of the 30 evaluation parameters. If an instructor receives an unsatisfactory evaluation and needs to improve performance, a follow up evaluation will be conducted to make sure that the necessary corrections have been made. The rights to organize GI-BMP classes will be revoked if an approved instructor receives three unsatisfactory training evaluations.

2.7 Instructor Certification Revocation

FDEP has the authority to revoke an instructor's certificate of training for the following reasons:

- Misrepresentation of FDEP or FDEP positions as stated in the training materials.
- Misrepresentation of UF/IFAS or UF/IFAS positions as stated in the training materials.
- Promoting the missions, objectives and views of other organizations or businesses during the training or through contact information obtained through registration.
- Promoting commercial products or services during the training or through contact information obtained from registration.
- Seeking any type of personal benefit or benefit for any relative, acquaintance, organization or business from the GI-BMP training.
- Poor performance, based on training evaluation (three unsatisfactory evaluations).
- Content alteration of the GI-BMP training materials, including the GI-BMP PowerPoint presentations, the GI-BMP Manual and the GI-BMP Instructor Manual.
- Using GI-BMP materials in ways other than those for which they were intended, including charging for them.
- Failure to maintain the module time schedules according to the GI-BMP agenda.
- Failure to meet the GI-BMP training standards and guidelines as described in this manual.
- Acceptance of additional compensation for instruction outside of normal employment remuneration, or charging fees higher than the authorized by FDEP (see section 2.5).
- Inappropriate, unsafe or unacceptable behavior.

2.8 Understanding your Audience

Understanding the target audience, responding to their needs and recognizing their varying abilities, cultures and skills is an important part of being a qualified instructor.

The GI-BMP training is open to anyone who is interested in learning about the Green Industries best management practices. The majority of participants in the GI-BMP training are landscape professionals seeking to comply with licensing requirements and/or obtain CEUs. Other program participants include interested citizens, representatives of homeowner associations, local government representatives, students and the general public.

Participants are adults, ranging in age between 18 and 65 years, with varying degrees of formal education and experience in the subject matter. No formal study has been conducted to determine the demographic composition of this audience; however, it is evident that it includes a large number of native Spanish speakers. Regional variations exist and audiences may be considerably different.

Of the 750 participants from a 2007-2008 series of GI-BMP trainings at the Rookery Bay NERR, the average variation between the pre and the post-test scores was 30 points. In addition, the results of a post-training survey revealed the following:

- 93% of participants reported an increased understanding of potential impacts of landscaping practices on water quality
- 93% reported an increased understanding of landscaping practices used to protect water resources
- 88% of participants reported that they would recommend the training program to other landscaping professionals

2.9 Training Techniques

Adult training needs to be an interactive process, which entails providing education by motivating the audience through relevant and diverse experiences. To assure effectiveness of the instruction it is essential to implement appropriate adult training techniques. Understanding and implementing the following training techniques will help improve your training skills.

Body language

Human communication is approximately 60% non-verbal; therefore, your body is the most versatile communication tool. If you are using open and casual body language the audience is more likely to ask questions and be relaxed. Conversely, if your arms are crossed over your chest and you look tense, the audience will respond in kind. Use appropriate gestures, such as pointing, holding out your open palms or walking around the room to deliver information and emphasize your points.

Smiling also promotes a relaxed and friendly learning environment, which tends to promote open communication and a positive learning experience.

In general, it is important for the audience to see you while you're speaking because body language, gestures and other cues aid them in overall understanding of what you are communicating. Good presenters, however, are able to move around the room and still capture the attention of their audience. Avoid standing behind the podium for the entire presentation, instead move around the room, mostly in front of the audience, but feel free to stand next to them or among the tables. Instructor movement can better engage participants because they have to follow you with their eyes and there is increased visual stimulation from

differing backgrounds. Moving among the audience gives you the opportunity to engage participants with direct eye contact with participants sitting in different locations of the room. By minimizing podium time you are also minimizing the appearance of a formal lecture, and instead you are conveying an informal and relaxed atmosphere.

When possible, try to face the audience and avoid showing them your back. If you have to write on a flip chart or on a white board try to stand at an angle.

Voice

Your voice, both the tone and the volume, is an important tool to consider. Be sure to speak loud enough for participants to hear you effortlessly. If you are naturally soft spoken use a microphone to amplify your voice. The tone of your words is also important. Expressing yourself with confidence and enthusiasm will be reassuring for the audience. It is also important to speak slowly and clearly. Too slow, and you'll put people to sleep, too fast and they won't understand what you are saying.

Vocabulary and Language

Keep in mind that the target audience for this training has varying levels of formal education, and some participants may not understand complicated words and terminology. Teach to an eighth grade level. You can skillfully use complex words by defining them within the same sentence. For example, "Runoff, which is polluted water moving over the land into the water, can cause environmental problems."

Be conscientious about word choices by avoiding stereotypes, slang, taboo words, and culturally-specific references and sensitivities. It takes practice, but using the exact right word in the right place, you will maximize your communication skills and increase understanding among your participants.

Humor

Be judicious about your use of humor. While good humor captivates audiences, bad, or ill-timed humor can also offend, put-off or make people uncomfortable. Joking about controversial topics in a professional setting is inappropriate. Common subjects to avoid are religion, gender, sexual orientation, ethnicity, politics and religion.

Facilitation Technique

Instructors are the key providers of the GI-BMP program and are entrusted with the responsibility for organizing training classes. In this capacity, instructors are often mediators, facilitators and occasionally they are the experts. However, remember that there is considerable expertise in the audience. It is essential that you encourage and allow participants to share their knowledge and experiences. Research shows that learners of all ages remember the most about the information they are able to apply. In short, people remember what they say, not what you say. Try to pause during your presentation, so that participants can comment

and engage with the material. Listening to the same person speak, without pause is unexciting and can be monotonous. Promote class participation by asking questions and waiting patiently for the answer to fill the silence. If you wait long enough, someone will answer and it gives you the opportunity to engage the audience and help attendees memorize information. Drawing on audience knowledge enriches the instruction.

These are examples of questions you can use to engage the audience:

Content: How much fertilizer would you use in this situation?

Experience: Who has experienced this situation before? What did you do?

Participation: Who can come to the front and conduct this calculation for us?

Instructors must always be courteous, considerate, respectful, and prompt in dealing with the public. High standards of honesty, integrity, and impartiality are also essential.

Delivery Methods

People process information in different ways, which means they have varied learning styles. To make training more effective, an instructor should use a variety of methods. The following are delivery methods that can be used in this program:

- Lecture
- Questions and class participation
- Discussion
- Reading
- Audio-visual
- Drawing
- Exercises
- Demonstration (props)
- Handouts, print materials
- Hands-on-practice

Adult Retention Rates

According to Robert Kornikau and Frank McElroy, from the National Safety Council, we retain:

- 10% of what we read
- 20% of what we hear
- 30% of what we see
- 50% of what we see and hear
- 80% of what we say
- 90% of what we say as we act

According to a study by R. Benschofter:

- Telling, when used alone, results in 70% recall three hours later and 10% recall three days later.
- Showing, when used alone, results in 72% recall three hours later, and 20% recall three days later.
- Blend of telling and showing results in 85% recall three hours later and 65% recall three days later.

According to the National Training Laboratories Institute the average retention rates of an adult, based on the following teaching methods, are:

- Teach Others/Immediate Use of Learning 90%
- Practice by Doing 75%
- Discussion Groups 50%
- Demonstration 30%
- Audio-Visual 20%
- Reading 10%
- Lecture 5%

Instructors must also consider that the attention span and the retention rate of an adult decrease rapidly after **eight minutes** of uninterrupted training through a single method. To be more effective you will need to change your training method every eight minutes.

Hands-on-practice

The curriculum of the GI-BMP class does not include hands-on-practice exercises. However, if there is time available and the group is not too large (approximately twenty participants),

instructors may supplement the curriculum with appropriate outdoor exercises. Fertilizer spreader calibration and spreading technique have been used in some classes.

Manage your time

It is important to start and finish the class on time. It is difficult to both teach and keep track of time; if possible, have a time keeper who can give you, and each instructor, cues to know when to move along.

Usually trainers are eager to share their knowledge and expertise; however, the GI-BMP training has a large number of concepts to cover. Follow the course outline and rehearse your presentation to make sure you can communicate the core curriculum on time.

Sometimes a talkative audience will delay training. Be tactful and use friendly and respectful reminders to interrupt the audience interactions that are taking too long. Remind the audience that you have a tight schedule and a long agenda to cover; tell them that the more time it takes to cover the material, the less time they will have for the test; suggest that individuals with additional questions can speak with you at a break or after class.

Breaks

Read your audience. If you see that they are tired or are not paying attention give them a short break or change the delivery method. The sample agenda includes recommended break times, but it is important to be flexible in case your audience needs to rest.

Dress code

Dress professionally, because your appearance has an effect on the way you are perceived by the audience. People form their impression of other people within the first few minutes of the initial encounter. Clothing that contains slogans or messages of inappropriate content are prohibited. Slacks and a short or long-sleeved collared shirt are appropriate.

Difficult questions

It is likely that as an instructor you will be asked a question that you do not know the answer to. When that happens, just be honest, take note of the question and provide them with an answer later. You could also ask the audience, but be cautious about promoting incorrect information.

Difficult people

You may occasionally encounter a discontented, unruly or even disrespectful participant. Be courteous and listen to what they have to say; often they have a valid reason to be upset. Look for ways to assist them, alleviate their problem and calm them down.

If the person is constantly disruptive or engages in disorderly conduct, you have the authority to refuse to provide training or to request someone to leave. Instructors are responsible for

conducting trainings that protect both the physical and emotional safety of participants. Instructors must decide on a case by case action basis about the best course of action.

PowerPoint presentations

The use of PowerPoint slides is ubiquitous in the training world and many techniques exist to use this tool effectively. For example, avoid word-for-word reading of the PowerPoint slides. Participants can read the slide for themselves. Your responsibility is to teach to the objectives of the program and to understand the materials thoroughly.

The key learning points and the training objectives for each GI-BMP PowerPoint presentation are described in Section 4.

Handouts

The GI-BMP manual is the only required handout. Through registration you will have a good idea about the number of handouts required. However, keep in mind that, on average, approximately 5% of attendees will walk-in without registration. You may turn away walk-ins or have additional materials available to accommodate them. It is the instructor's responsibility to have an adequate number of handouts available.

Carefully choose the time to handout materials because doing so during a presentation can be distracting. The majority of materials can be packaged together and handed out before the workshop during sign-in and onsite registration. Presenter-specific handouts or other materials that you want to call specific attention to can be given out during the workshop. It is important that the instructors refer to the handouts with clear instructions about where the information can be found within their packets. Handouts that are not referred to during class are less likely to be used by participants later.

Name tags

Addressing people by their names makes it easier to gain and maintain their attention. It also creates rapport and it makes the instructor-attendee relation more personable. Name tags can be used for this purpose, and can be prepared before the class or you can use name tags that participants write on and stick to their shirt. To reduce paper consumption it is best if re-useable name tags are provided.

Props

The use of props helps the audience visualize and consequently memorize the GI-BMP concepts.

Useful props for this class include:

Prop	Application
A fertilizer spreader with a deflector	Demonstrate how a deflector works.
	Fertilizer calculation and application exercises. If applying directly to lawn use an inert compound to simulate fertilizer. Otherwise, apply to an impervious surface where you can sweep and collect fertilizer after use.
Fertilizer bags	Interpret different labels and conduct calculation exercises.
Weight scale	Visual demonstration of appropriate fertilizer quantities.
Soil test probe	Familiarization with soil probe.
Mulch samples	Familiarization with different types of mulch.
Personal Protection Equipment (gloves, mask, eyeglasses, etc)	Familiarization with PPE. Display and show attendees when addressing this topic.
Irrigation materials (sprinklers, water gauges, rain shut-off valve)	Familiarization with irrigation materials. Display and show attendees when addressing this topic.
Perforated bucket filled with approximately 12 inches of local soil, a retention container and a bucket with water	Demonstrate how water percolates through a foot of local soil. Pour water into the bucket with soil and observe how it filters thorough. This is effective only with sandy soils; it does not work with compact soils.
Samples of different turfgrass cultivars	Familiarization with different turfgrass species to improve identification.
Silly string *	Demonstrate adequate spraying techniques. Use a silly string can to simulate a sprayer. Show the effects of off-target and improper application (i.e. applying to ground while walking forwards).
Soap Bubbles *	Demonstrate aerial chemical movement. Buy a soap bubble container. Blow bubbles of different size simulating pesticide particles suspended in the air.

*These props were designed and implemented by Roger Jacobsen, City of Naples

Section 3: Organizing and Delivering a GI-BMP Class

By the end of this section you will be able to:

- Organize and deliver an effective GI-BMP class
- Accommodate special cases
- Explain how to use the training materials
- Sign-up to deliver CEUs
- Manage registration and sign-in
- Open a class effectively
- Proctor the GI-BMP test
- Process the training and certification documentation

3.1 Organizing Trainings

The GI-BMP program is a statewide program. Consequently, the delivery of GI-BMP classes needs to be consistent across the state with the FDEP standards described in this manual, regardless if it is by a private company or by UF Extension. The GI-BMP instructor's manual was developed to assist instructors with organizing and delivering effective GI-BMP classes, and at the same time, maintain the required uniformity, consistency and quality.

Managing a GI-BMP training program requires attention to detail and completion of a number of steps in a timely manner. This section is a step by step guide to complete this process successfully.

If further assistance is required, your Regional Coordinator can help you as a new instructor to set up a GI-BMP program.

3.2 The FFL Educators Secure Login

The FFL educators secure login contains all the resources required to organize a class. Here instructors can post program questions, register classes and download the latest version of the class materials, both in English and in Spanish.

Prospective instructors will be granted access to this site after successfully completing the GI-BMP Instructor Training class: <http://fyn.ifas.ufl.edu/gi-bmp/>.

3.3 Customer Service

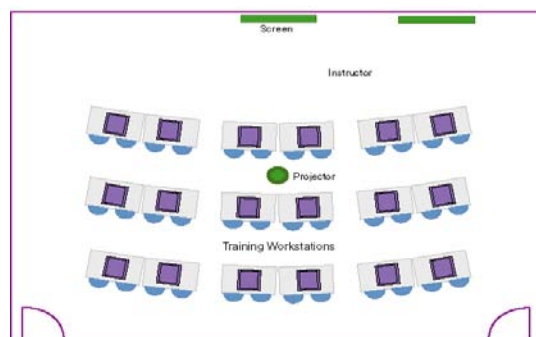
Delivering a GI-BMP program involves providing customer service before, during and after training. The staff, in contact with the public, needs to be prepared to provide information in person, over the phone and through mail and e-mail in an effective and timely manner. This information can be related to the program, the certification, the GI-BMP content, state legislation, local regulation, licensing and other associated topics, including providing contact information of key organizations (i.e., UF/IFAS Extension offices, FDEP and FDACS).

Both instructors and support staff in contact with the public should follow general customer service guidelines, including:

- Be friendly and welcoming
- Acknowledge customers by name
- Introduce yourself by name, title or role
- Wear a name tag or ID badge where it can be easily read
- Provide instructions and directions about the program and the facility in a clear and timely manner
- Have a professional appearance
- Be patient, helpful and respectful

3.4 Training Facility and Room

The training facility should be adequate for adult training. It is important to consider parking; usually attendees drive large trucks with trailers. The room where the training will take place must be quiet and free from distractions, such as noise, people and outside activity. It should be well lit, must have proper ventilation and it must be at an adequate temperature (approximately 74° F). Restrooms should be available. Each participant must have sufficient desktop space to read, write and handle materials, take notes and take the test comfortably. Tables should be laid out in a classroom format, with all participants facing the instructor. If possible setup the tables so that the participants can also see each other [half circle]; this will promote class participation and discussion. Participants need to be able to hear the instructor and see the PowerPoint presentations clearly. All GI-BMP training facilities need to comply with the American with Disabilities Act and Section 553.504 F.S..



If you need to reserve the training facility, always make reservations before announcing the training.

For more information about ADA visit > <http://www.ada.gov/stdspdf.htm>.

3.5 Additional Instructors

Ideally classes should be delivered by several instructors, with the goal of having each module taught by the instructor with more experience in the particular subject. This also makes the class less monotonous and allows the lead instructor to focus on overseeing the organization.

The Regional Coordinators can assist you with identifying additional instructors for your class.

3.6 Registering Classes

Instructors need to register all classes with UF/IFAS at least 30 days before the class takes place, to allow for posting the class information on the FFL website and to ensure training materials are up to date. To register a class, instructors need to complete an electronic form online at: http://fyn.ifas.ufl.edu/professionals/BMP_class_registration.htm.

Only certified instructors can register classes. Classes that are not officially registered and are not on the statewide training schedule will not receive training certificates.

Designated instructors may be pre-approved for short-notice classes to take advantage of inclement weather. For a “short notice” approval, contact the GI-BMP Coordinator or your Regional Coordinator.

3.7 Class Size

There is neither a minimum nor maximum class size. The minimum can be determined by how many participants it takes to justify the resources, work and time invested in organizing a GI-BMP class; twelve is the number that several instructors follow. The maximum class size depends on the capacity of the training facility and the number of the people available to assist with the logistics. An effective ratio is one instructor and one assistant for fifty participants or less; and one more assistant for every additional fifty participants. New instructors and assistants may want to test their skills with lower numbers until they feel comfortable.

3.8 Class Language

Typical GI-BMP participants include a large number of native Spanish speakers. Therefore, the GI-BMP training, and training materials are available both in English and in Spanish.

It is recommended that native Spanish speakers, who have not received formal education in English, take the training in Spanish, even if they speak English. There is less room for failure if they take the class in their native language.

3.9 Special Cases

Persons with disabilities or special needs are welcome to participate in the GI-BMP class. Trainer providers are required to make reasonable accommodations in accordance with the Americans with Disabilities Act (ADA) to the known limitations of otherwise qualified individuals with disabilities. The instructor needs to inform the public that any type of special accommodations requests must be made at least three days in advance of the class. This information can be published on your promotional materials, registration and/or website.

Before starting a class, instructors need to ask if there are any concerns or needs for special assistance.

The GI-BMP training is open to anyone who is interested in learning about the Green Industries best management practices. Passing the test is only required of those seeking certification.

3.10 Managing Attendance

Participant registration and payment collection (if applicable) for the respective GI-BMP classes is the instructor's responsibility. A formal registration system, including a form filled out by the participants with their contact information is recommended to help instructors with planning and making operations efficient.

The completion of a registration form formalizes the intention to attend the class and it creates a tangible document to validate the process. Depending on the available equipment, the registration form can be mailed, faxed or e-mailed back to the instructor.

Phone and e-mail registration are two effective ways to handle registration. However, they require a dedicated staff member to manage the process.

An online registration system can reduce the work load generated by registration. There are several companies providing online registration services and implementation is relatively easy; an online registration system can be linked to the instructor's website (if available).

Registration and payment deadline

Establishing a deadline for participants to register and pay for the class will allow you time to prepare for the class. A reasonable time frame is three days before the training takes place. In the future registration will be managed through the FFL website.

Registration confirmation and reminder

Instructors can mail and/or e-mail a registration confirmation and a reminder to registered participants. This will improve attendance.

Participant Cancellations

Instructors can require a set amount of notice for participants to cancel their registration or request to attend a future class with, usually three days. Use your best judgment when allowing refunds or rescheduling after the notification time has elapsed.

Registration Fee

If necessary, instructors can charge a modest fee to cover or partially cover the training expenses. Such expenses may include lunch and refreshments, copying and postage costs, but may not include payments to the instructor(s). Typical GI-BMP registration fees range from \$15 to \$30.

Class Cancellations

From time to time, a class needs to be cancelled. Common reasons are extreme weather, instructor availability and insufficient enrollment. Registered attendees need to be informed promptly. The most effective way to do this is by calling each participant. E-mail can be a secondary way to inform registrants; however, it should not be used alone, given that participants are often working out in the field without access to a computer.

If the class is cancelled due to poor enrollment, registered participants need to be informed at least three days in advance, to give them enough time to re-organize their work schedules. Many of the participants, especially single-man operations, will not earn income during the time devoted to training.

3.11 Preparing the Class Materials

Instructors need to have enough copies of the following materials:

- GI-BMP manuals
- Agendas
- Pre-tests (optional) and answer blanks
- Post-tests and answer blanks
- Class evaluation forms
- CEU forms

Instructors can find the latest version of all the GI-BMP class materials on the FFL educators secure login, at: <http://fyn.ifas.ufl.edu/gi-bmp/>. CEU forms can be obtained from the respective organization. To avoid confusion and to make the collection process easier, instructors can make copies using different colors of paper for each form.

A copy of the GI-BMP manual should be handed out to each trainee before the training. If trainees or the public in general request extra copies you may hand them out free of charge. To restock place requisitions with the GI-BMP Statewide Coordinator or through the FFL educators secure login: <http://fyn.ifas.ufl.edu/gi-bmp/>.

Binding the class materials will help participants with keeping them organized.

3.12 Checking for Updates

It is the instructor's responsibility to keep current by participating in all the refresher courses and updates. Instructors need to use the latest version of the training materials and should check the FFL educators secure login for updates before each class: <http://fyn.ifas.ufl.edu/gi-bmp/>.

3.13 GI-BMP PowerPoint Presentations

The GI-BMP PowerPoint presentations are the primary training tool to deliver the GI-BMP program. These presentations were developed by UF/IFAS in collaboration with the NPSMS and the CTP at Rookery Bay NERR. They were designed to match the content of the GI-BMP manual. The presentations work with Microsoft PowerPoint 97 or any later versions.

Teaching notes are provided with each presentation to assist the trainer in covering the key points of the training. Specific guidelines for each PowerPoint presentation are described in Section 4.

Only the GI-BMP Project Manager can make changes to the official training materials. Suggestions and comments should be sent to the Statewide Coordinator (see Appendix 3)

3.14 Additional Content

Instructors cannot alter the official content of the training. However, if a local governmental body has adopted regulations which differ from the content presented in the GI-BMP manual, they should be mentioned both in the Overview module, where the trainee is made aware of the local ordinance and its purpose, and in the applicable subject area section, where the discrepancy should be pointed out and carefully explained to avoid possible confusion.

Instructors need to caution trainees of possible differences between the local ordinance and the GI-BMP manual. Attendees need to be aware that the test will be on the statewide practices found in the manual.

Any additional content should be delivered after completion of the course.

3.15 IT Hardware and Software

Your computer, the projector, the audio system, the laser pointer and the PowerPoint presentations are your essential tools to deliver the GI-BMP training. At the same time, problems with IT hardware and software are very common when conducting training and it is likely that they will be first to fail.

Typical IT problems are:

Problem	Cause	Possible Solution
Computer does not start	No power.	Check power connections and outlets.
	Defective hard disk.	Replace the computer.
Projector does not work	Computer not communicating correctly with projector.	Check computer and projector settings.
	Bulb is burned.	Replace bulb. This can be lengthy and difficult, and in some cases require technical expertise.
	Defective connection.	It is common that the pins in a VGA cable get twisted. This might cause a poor color definition or other problems with the image. If possible straighten the pins, or replace the cable.
Microphone is malfunctioning	Cables improperly or not connected.	Check connections.
	If wireless: <ul style="list-style-type: none"> • Low batteries. • Wrong channel. 	Check batteries and make sure the microphone and the receiver are on the same channel.
Audio system malfunctioning	Incorrect settings.	Check settings.
	Audio system is defective.	Replace audio system.
PowerPoint presentations are not running or displaying properly	Software and/or hardware incompatibility.	Check settings and software versions.

Most of these problems can be prevented if they are caught ahead of time. Thus, it is important to test all the audio-visual systems well in advance of the class.

Always run the PowerPoint presentations on the computer and projector that you are going to use to make sure that they work properly.

In addition, trainers should focus on the core of their presentation and be prepared to handle these types of eventualities.

3.16 Promoting and Advertising Classes

Once classes are registered the GI-BMP Coordinator will announce the classes on the UF/IFAS Website: http://fyn.ifas.ufl.edu/professionals/bmp_training_schedule.htm

Additional promotion and advertising of the GI-BMP training is the responsibility of each instructor.

3.17 Signing up for Continuing Education Units

A Continuing Education Unit (CEU) is a measure used in continuing education programs, particularly those required in a certification program or a licensed profession in order to maintain the certification or the license. CEU records are widely used to provide evidence of completion of continuing education requirements mandated by certification bodies, professional societies, or governmental licensing boards. The records also provide employers with information on training pertinent to particular occupations.

The GI-BMP training is approved for the following CEUs:

Florida Department of Agriculture and Consumer Services (FDACS)

The FDACS program number for the GI-BMP program is 8982. All instructors need to be approved as FDACS co-providers of this program award CEUs to program attendees. The process can be completed electronically or with paper forms (see Appendix 20 and 21). The first step is to register with the Pesticide Certification Section as a CEU provider, by completing and submitting a request for granting continuing education units.

The GI-BMP program has FDACS approval for 2 Core CEUs and 2 additional CEUs for the following licenses:

- Private Applicator - Agriculture
- Ornamental & Turf
- Limited Lawn & Ornamental
- Limited Landscape Maintenance
- Commercial Lawn and Ornamental

Questions about FDACS CEUs should be directed to the Pesticide Certification Section at (850) 488-3314 or visit <http://www.flaes.org/complimonitoring/databasesearch/ceuprogram.html>.

Florida Nursery Growers & Landscape Association (FNGLA)

The Florida Nursery, Growers & Landscape Association (FNGLA) has approved the GI-BMP training for 4 continuing education units. To register contact the Education/Career Development Administrator at (407)295-7994. For additional information visit: <http://www.fn gla.org/certification/aboutMyCert.asp>.

3.18 Steps Towards Managing a Successful GI-BMP Class

The GI-BMP training is a comprehensive program with several steps that require attention to detail. A checklist can help providers deliver the training without forgetting any of the important steps necessary to complete the certification. You can find a step by step guide on Appendix 10.

3.19 Sign-In

Sign-in is a decisive step in the training. In most cases, it is the first personal contact that an instructor has with the participants. Trainers must keep in mind that trainees will form their impression of the facility and the trainers within the first few minutes of the initial encounter. Consequently, sign-in has to be conducted with high professionalism and the staff in charge needs to follow the general customer service guidelines described in Section 3.3.

In case of a large group, opening additional sign-in lines can expedite the process. Use a sign-in sheet (see Appendix 11) to record attendance.

Walk-Ins

Unregistered people will likely arrive to your training even if preregistration was required. Thus, instructors should be prepared to handle walk-ins. Typically, unregistered attendees account for approximately 5% of the audience.

When possible, it is more effective to try to accommodate walk-ins, opposed to turning them away. These individuals are already present and ready to attend the training. Rescheduling implies devoting another day of work for training. If there is a concern because of insufficient class materials, they can be sent to the participants later. In case food is provided during the training and there is not enough, walk-ins can have the option to take care of their own meals.

No-Shows

Occasionally registrants do not show up for training and usually want to re-schedule. To manage the program, instructors can put in place a re-scheduling policy. An effective administrative measure is to allow participants to re-schedule without an extra charge up to three days before the training takes place.

Participant Switching

Instructors need to consider that from time to time companies switch attendees without prior notice due to scheduling needs. This is particularly important if instructors are planning on producing customized materials for each registrant.

Late Arrivals

Trainees must be present during all the modules to be eligible for testing and CEU's. Attendees can be admitted in the class up to 15 minutes late. If attendees arrive later they need to re-schedule for another class.

3.20 Introducing a GI-BMP Class

Conducting a good introduction is an essential component of a training program. Conduct the opening with enthusiasm and it should be informative, creative, practical, exciting and helpful. Keep in mind that participants need to know right at the beginning what is in the program for them, and that they will develop their impression of the training in the first few minutes. Therefore, always open your class with a **PUNCH!**

Introduction Outline

Promote interest and enthusiasm

- Give attendees a warm welcoming and make them feel comfortable.
- Use your creativity to motivate your participants from the start.
- Make sure you are comfortable with the information you are going to deliver at the opening. Invest time to prepare and practice how to deliver this content effectively.

Understand participant's needs

- Make sure you understand the State and local laws that apply to the participants.
- Ask questions and implement good listening skills.

Note the ground rules and administrative needs

- If you have specific ground rules, they need to be clearly explained at the beginning, or you might regret it later (e.g. food, drinks, recycling, breaks, attendance, registration and pre-requisites).
- If pertinent post ground rules on a board where they can be seen during the training.

Clarify Expectations

- Discuss the GI-BMP Agenda (see Appendix 4) and describe each module briefly.
- Review the training objectives with the audience before starting each module.
- Ask participants if they have any additional expectations and make any necessary clarifications.

Help participants to get to know each other

- Introduce the organization(s) responsible for the training. Also introduce yourself, the other presenters and staff members who will be providing assistance during the class; include their name, credentials and business affiliation.
- If you have a small group, take a few minutes to have participants introduce themselves. This will stimulate interactions and promote networking.

3.21 Training Records

All attendees must complete and sign a GI-BMP Training Record (see Appendix 12) as proof of attendance. The information must be entered legibly, since it will be used to generate the certificates of training. In the future, the training records will be completed online through the FFL educators secure login.

3.22 Proctoring the Test

Once an instructor registers the classes, the GI-BMP Program Coordinator will mail a version of the test for that class; tests will be generated specifically for each class to avoid cheating.

Instructors need to inform the audience at the beginning of the training that there will be a written test and that the passing score is 75%. Often trainees are not aware that there is a test involved, and they might have questions or special needs.

The tests have a total of 40 questions. Most of them are multiple-choice and the remainder are true-or-false. The questions are designed to follow the key learning points of each module. Trainees need to have at least 30 questions right to receive the GI-BMP certificate of training.

For program evaluation purposes, to determine the participants' level of knowledge before the training, instructors have the option of proctoring a pre-test (see Appendix 13). The pre-test may also be used to practice for the final test. This can be particularly useful if participants have not received formal education in the United States and are not familiar with the multiple choice methodology and testing format. Additional time should be allocated before starting the class if the instructor plans to conduct a pre-test; the time to take the pre-test is 20 minutes. The pre and the post test have similar questions and follow the same format.

It is also the instructor's responsibility to establish a positive learning environment, and encourage trainees to play an active role during the class and to take notes to enhance the learning process. Instructors need to reinforce the key GI-BMP learning points through questions, repetition, exercises and reviews, and make sure that all of them are covered during the training.

It is also the instructor's responsibility to ensure an adequate testing environment. There should be no disturbances in the room so that trainees can concentrate. Trainers should also help alleviate anxiety; one way to reduce stress is by encouraging trainees to ask questions prior and during the test.

Trainees need to use the Answer Sheet (see Appendix 15) provided to write down the answers, and should not write anything on the test so that they can be reused; trainers must collect all the copies of the test to avoid cheating. When working with a Spanish audience, it is more effective to allow them to circle the answers directly onto the test, opposed to writing them on answer sheet. Using the answer sheet tends to cause unnecessary confusion and mistakes.

Before starting the tests trainers need to provide the following instructions:

1. First and last name, date and county need to be written legibly on the Answer Sheet.
2. The test has five sections with a total of 40 questions.
3. The passing score is 75% or a maximum of ten wrong answers.
4. It is a closed book test.
5. Electronic devices with e-mail, chat or texting capabilities (e.g. cellular phones) cannot be used during the test.
6. The instructors are readily available to answer questions during the test.
7. Do not write on the test, it will be reused (except during Spanish classes, where it is acceptable for the participants to write directly on to the test).
8. Trainees must return the test at the end.
9. Write the answers on the answer sheet.
10. Write only one answer (one letter) per question.
11. If a mistake is made, participants need to cross this answer out and write a new one next to it.
12. There are two types of questions:
 - a. Multiple-choice questions
 - It is important to read **all** the answers carefully, in some cases **all** are correct; consequently, the right answer is “all of the above.”
 - b. True-or-false questions
 - A “T” for True and an “F” for False need to be used for this type of questions.
13. The time to complete the test is 30 minutes.
14. The tests will be sent to UF/IFAS in Gainesville for grading and the certificates of training will be mailed to the address stated on the training record, approximately two weeks later.
15. All test sheets need to be returned to the instructor.

After the completion of the test, participants can leave quietly, making sure they have handed-in the training record and they have received the respective CEU forms (if required).

3.23 Review

There is a set of review slides at the end of each PowerPoint presentation, highlighting some of the most important concepts. Instructors need to leave enough time at the end of the modules to cover this review.

Instructors may also want to conduct a review at the end of the training before proctoring the test.

3.24 Conducting the Class Evaluation

The class evaluation is an essential tool to collect the participants' feedback. This information is necessary to make improvements and corrections in the program. Trainers need to have each participant fill out a GI-BMP evaluation (see Appendix 17), and the completed forms have to be sent to the GI-BMP Data Manager.

3.25 Delivering Continuing Education Units

The respective CEU forms need to be given to participants at the end of each class. Instructors need to follow the specific guidelines of each sponsoring organization and make copies of all the issued CEU forms to be kept as records. Participant attending the class only to obtain CEUs do not need to take the test to obtain the CEUs; however, they must attend the entire training to be entitled to the FDACS and the FNGLA CEUs.

3.26 Processing Documents

The instructor needs to send the completed class materials to the GI-BMP Data Manager along with a Completed Class Transmittal Form (see Appendix 18 for a copy of this form). The package should include:

- A copy of the pre-test and post-test questions used for the class
- Class registration and attendance list(s)
- A legible, signed training record form for each attendee
- Completed pre- and post-test answer sheets
- Completed class evaluations

The instructor needs to keep copies of the training records, answer sheets and the completed evaluations as back up.

Once received, the GI-BMP Data Manager will grade the tests, and issue and mail the certificates of training directly to each individual participant, according to the information on the training record. The average time to process the certificates of training is two weeks.

Florida-Friendly Best Management Practices for Protection of Water Quality by the Green Industries

Questions, concerns and requests regarding the certification (e.g. grades, change of address, lost certificates and additional copies) should be addressed to the GI-BMP Data Manager via e-mail at cjbain@ufl.edu, or by phone at (352) 392-1831 ext 243.

Section 4: Understanding the Training Modules

By the end of this section you will be able to:

- Explain the training objectives and their importance
- Follow the lesson plan of each module to deliver a GI-BMP class consistently and effectively

The GI-BMP class has a total duration of 6 hours, including breaks, reviews, testing, processing documents and evaluation. The class is divided into five modules. Each module has a respective PowerPoint presentation, which includes teaching notes.

Because this is a statewide program, all instructors need to deliver the GI-BMP classes uniformly. By adhering to the lesson plans presented in this section, instructors can conform to FDEP standards and maintain consistency.

4.1 Lesson Plans

A lesson plan is a description of how to instruct the individual GI-BMP modules. These plans are organized outlines that specify the subject matter to be covered, training goals, training objectives, materials and resources, additional instructions on how to deliver the modules, and the timeline for delivering each module.

4.2 Training Goals

Goals are broad, generalized statements about what is to be learned. It's very important to review the training goals with the participants before starting a module. This helps participants understand what they are expected to do after completing the class. Additionally, adults need to know right away why they are sitting in the classroom to begin processing information effectively.

The training goals should be presented clearly, and instructors need to make sure they are well understood. To reinforce the understanding of these goals, instructors can use a variety of methods: 1) repeat the goals several times; 2) ask participants to write them down; and/or 3) ask questions, inviting participants to share comments.

4.3 Training Objectives

Training objectives are specific, measurable, short term, observable student behaviors. These objectives are the foundation upon which the GI-BMP training modules are built, and they will help instructors meet the training goals.

Instructors should not teach to the test questions, they need to teach to the training objectives.

At the same time, the training objectives are also helpful to determine an instructor's performance. They can be used to assess how effectively the instructor was able to bridge the gap between the participants' prior knowledge and the end objective.

4.4 Teaching Notes

The PowerPoint presentations and the respective teaching notes comprise the official content that instructors need to cover during training. This is the same content found in the GI-BMP manual.

Instructors need to print a hard copy of each presentation and use it during training as a guide and a check list, to make sure the right information is delivered.

4.5 Lesson Plan: Module 1, Overview

The Overview module begins by outlining the program’s administration and highlighting the Green Industries as the protagonists of these practices. The Overview explains the nonpoint source pollution concepts, laws, and effects on water quality; effects on business, economy, and quality of life; and best management practices as both good business and environmental benefit. When applicable, instructors need to deliver local information, including local ordinances and any differences with the content of the GI-BMP manual at the end of this module.

Duration

50 minutes (including 10 minutes local/statewide component).

Training Goals

In this module participants will learn:

- How to implement the GI-BMPs to protect water resources
- About nonpoint source pollution, and explain the associated negative impacts
- How water resources are protected in Florida
- About the role that professional landscapers have in protecting Florida’s water and environmental resources

Training Objectives

At the end of the training participants should be able to:

1. Define Florida-Friendly Landscaping™.
2. Explain the term “by the Green Industries.”
3. Define watershed, and explain the impact of nonpoint point source pollution.
4. Define nonpoint source pollution, and explain how landscape maintenance practices can contribute to it.
5. Define runoff, and explain how landscape maintenance practices can contribute to it.
6. Define leaching, and explain how landscape maintenance practices can contribute to it.
7. Describe at least two federal, state and local water protection laws in Florida.
8. Summarize the fertilizer applicator certificate of training requirements.
9. Define best management practices, and why applying them in the work place is important.

Delivery Methods

- Lecture
- Questions and class participation
- Discussion
- Reading
- Audio-visual (TAPP Duck video)

Materials and Resources

- Module 1 PowerPoint presentation file
- Computer with speakers (and sound amplification if required)
- Windows Media Player software installed on the computer

Additional Instructions

The Overview module contains one slide with a short video. You need to be sure to place the TAPPDUCK file in the same folder or directory as the Overview PowerPoint presentation file to ensure it will play correctly. The video file is in .WMV format (Windows Media Video) and you will need to have Windows Media Player installed to view the videos. Additionally, you need to make sure that the computer you are using has speakers and the sound is loud enough.

4.6 Lesson Plan: Module 2, Lawn and Landscape

The Lawn and Landscape module covers Florida's landscape plants and turfgrass species and characteristics. It also provides information on annual fertilization requirements and the effects of landscape design, mowing, pruning, irrigation, shade, wear, pest, disease, cold and heat stresses on fertilization requirements, including materials, amounts and timing, and, conversely, the effects of fertilization on these cultural aspects in addition to direct effects on water quality, including nutrient pollution, erosion and sedimentation, and water usage rates.

Duration

80 minutes (it is recommended to deliver this section with a 10 minute break in the middle).

Training Goals

In this module participants will learn:

- How to maintain turfgrass by implementing best management practices to protect water resources
- To identify 4 common turfgrasses used in Florida
- To use effective cultural practices
- How to maintain landscape plants by implementing best management practices to protect water resources
- About how mangroves are protected and should not be disturbed without proper knowledge of the laws

Training Objectives

At the end of the training participants should be able to:

1. Explain six landscaping cultural practices.
2. Evaluate how cultural practices help to develop a successful/efficient/effective Florida-friendly landscape.
3. Explain the importance of soil and tissue testing (analysis) before purchasing fertilizer.
4. Explain turf stress and the importance of identifying and managing them adequately.
5. Explain how urban stormwater systems work.
6. Describe at least four common turfgrass species and cultivars, and in what conditions they work best.
7. Identify mangroves and explain their ecological importance, and their legal protection.

Delivery Methods

- Lecture
- Questions and class participation
- Discussion
- Reading
- Props

Materials and Resources

- Different samples of grasses
- Module 2 PowerPoint Presentation file

4.7 Lesson Plan: Module 3, Irrigation

The Irrigation module describes irrigation systems and the effects of irrigation on volatilization, leaching, runoff, excessive withdrawal and water quality issues; effects of over or under irrigation on plants and fertilizer needs; effects of irrigation water quality and reclaimed water issues; diagnosis of irrigation and fertilizer problems; and importance of proper repair to maintain distribution uniformity to prevent spot leaching and runoff of fertilizers resulting in more fertilizer use and more pollution.

Duration

50 minutes.

Training Goal:

In this module participants will learn:

- About the different components of an irrigation system
- How the effects of irrigation and other cultural practices on landscapes
- How to implement irrigation best management practices to avoid nonpoint source pollution and conserve water

Training Objectives

At the end of the training participants should be able to:

1. Describe how a home irrigation system works.
2. Explain the different irrigation-water sources, and the effects on landscaping.
3. Describe a rain sensor and a backflow device, and why they are used.
4. Describe evapotranspiration and how it relates to landscaping.
5. Explain at least two irrigation control device options.
6. Describe Florida's most common soil characteristics, including their ability to retain water.
7. Explain how more or less irrigation affects plants (turfgrass).
8. Explain the 5 effects of improper watering practices.
9. Explain how irrigation has an effect over fertilization.
10. Describe the cup-method for checking irrigation efficiency.
11. Describe irrigation application amounts and the reasons they are important.
12. Explain how irrigation systems fail, and why fixing them is important.

Delivery Methods

- Lecture
- Questions and class participation
- Discussion
- Reading
- Audio-visual
- Demonstration (props)

Materials and Resources

- Sprinklers, water gauges, rain shut-off valve (props)
- Perforated bucket filled with approximately 12 inches of local soil, a retention container and a bucket with water
- Module 3 PowerPoint Presentation file

Additional Instructions

Demonstrate how water percolates through a foot of soil by using the bucket filled with soil. Pour water into the bucket and observe how it filters thorough. This is effective only with sandy soils.

4.8 Lesson Plan: Module 4, Fertilizers

The Fertilizer module includes the description, characteristics and physical and chemical properties of common fertilizers; selection criteria; soil type, pH, temperature and moisture effects on release rates; calculation of application rates; spreader calibration; and material handling and spills.

Duration

50 minutes.

Training Goals

In this module participants will learn:

- To identify the different types of common fertilizers
- How to understand and apply the information on a fertilizer label
- How to implement practices to avoid runoff and leaching of fertilizers
- How to calculate the amount of fertilizer to be applied according to the recommended rates
- About recommended rates of fertilization

Training Objectives

At the end of the training participants should be able to:

1. Provide the definition of fertilizer and why it is important to plants.
2. Explain why fertilizers are used.
3. Describe the components of fertilizer and how they are used by plants.
4. Explain soil pH and how it affects nutrient availability.
5. Explain the function of Nitrogen, Phosphorous and Potassium.
6. Define slow and quick release fertilizers and how the release mechanisms work.
7. Interpret a fertilizer label and explain how to determine if it is a slow or quick product.
8. Explain how to conduct a soil and a foliar test and why they are important to conduct before purchasing fertilizer.
9. Describe the recommended fertilization rates, who recommends them and why they are important.
10. Explain how to apply the recommended fertilization rates.
11. Explain how to safely handle and store fertilizers to keep products in good condition, to prevent nonpoint source pollution and to reduce waste.

Delivery Methods

- Lecture
- Questions and class participation
- Discussion
- Reading
- Audio-visual
- Drawing
- Exercises
- Demonstration (props)
- Handouts, print materials
- Hands-on-practice

Materials and Resources

- Spreaders, soil probe, soil sample kit, different fertilizer bags, scale, mulch samples
- Module 4 PowerPoint Presentation file

Additional Information

Demonstrate how a deflector works by displaying a spreader in the classroom.

Conduct fertilizer calculations with different products by using the scale. Load and calibrate the spreader. Conduct application exercises outdoors. If applying directly to lawn use an inert compound to simulate fertilizer. Otherwise, apply to an impervious surface where you can sweep and collect fertilizer after use.

4.9 Lesson Plan: Module 5, Pesticides

The Pesticide module covers pesticide licensing law, including fertilizer-pesticide mixtures; integrated pest management, environmental effects, and safety; effects of fertilizer application on pesticide use; and effects of some pesticides on fertilization requirements.

Duration

50 minutes.

Training Goals

In this module participants will learn:

- About pesticide licenses and laws
- About the health and environmental hazards involved with pesticide application and handling
- How to understand and implement the information on a label
- What IPM is all about
- How to select the correct personal protection equipment (PPE)
- Handle pesticides and minimize health and environmental risks

Training Objectives

At the end of the training participants should be able to:

1. Define pesticides and explain why they are used.
2. Explain how pesticides are regulated in Florida.
3. Describe the four most common landscaping pesticide licenses and how to obtain a license.
4. Define Integrated Pest Management (IPM) and explain on how to implement an IPM strategy.
5. Describe the number of different pest management options, and explain why suppression is the last resort.
6. Explain the pesticide application practices which can enhance landscaping maintenance results, reduce environmental impacts, use resources effectively and improve financial performance.
7. Explain why pesticide failure occurs, and what can be done to prevent it.
8. Explain the consequences of inadequate pesticide application.
9. Explain how to read a pesticide label.
10. Explain the most commonly used types of personal protection equipment and how to determine which protection equipment is safer.
11. Describe the properties of the human skin and how chemical exposure can be harmful.
12. Explain the best and safest way to handle and store pesticides and why it is important to keep them in good condition, to prevent nonpoint source pollution and reduce waste.

Delivery Methods

- Lecture
- Questions and class participation
- Discussion
- Reading
- Audio-visual
- Drawing
- Exercises
- Demonstration (props)
- Handouts, print materials
- Hands-on-practice

Materials and Resources

- PPE
- Silly string, soap bubbles
- Module 5 PowerPoint Presentation file

Additional Information

Display and show the PPE when addressing this topic.

Demonstrate adequate spraying techniques, by using a silly string to simulate a sprayer. Show the effects of off-target and improper application (i.e. applying to ground while walking forwards).

Demonstrate aerial chemical movement with soap bubble container. Blow bubbles of different sizes to simulate pesticide particles suspended in the air and drift.

Appendix

Acronyms

ADA	Americans with Disabilities Act
CAMA	Office of Coastal and Aquatic Managed Areas
CEU	Continuing Education Units
CTP	Coastal Training Program
CWA	Clear Water Act
FAC	Florida Administrative Code
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FFL	Florida-Friendly Landscaping™
FS	Florida Statutes
FYN	Florida Yards and Neighborhood
GI-BMP	Green Industries Best Management Practices
IFAS	Institute of Food and Agricultural Sciences
IPM	Integrated Pest Management
LCFAC	Limited Commercial Fertilizer Applicator Certificate
NERRS	National Estuarine Research Reserve
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPSP	Nonpoint Source Pollution
NPSMS	Nonpoint Source Managements Section
TMDL	Total Maximum Daily Load
UF	University of Florida
WMD	Water Management Districts



**Florida-Friendly
Best Management Practices for Protection of Water Quality
by the Green Industries**



AGENDA

- This workshop is designed to provide training in the Green Industries Best Management Practices (GI-BMP) for anyone working in the lawn, landscape, pest control, or municipal grounds areas.
- The Best Management Practices are focused on reducing non-point source pollution resulting from fertilization or pesticide application.
- At the end of this training you will be given a post-test to determine knowledge learned. If the post-test is successfully completed, you will be mailed a certificate of completion.
- Some cities & counties require this certification before you can bid on jobs or have commercial customers.
- Be sure to turn in your post-test, your evaluation, by the end of the day.
- If you also need pesticide CEUs, get your signed CEU attendance form before you leave.

8:00 am	Introduction and Pre-test
8:30	Module 1, Overview History, Background & Overview of the GI-BMP Program & Local Ordinances. Presenter name, title and organization
9:20	Break
9:30	Module 2, Lawn and Landscape BMPs for healthy lawns and landscapes, including mowing, pruning, plant tolerance. Presenter name, title and organization
10:50	Break
11:00	Module 3, Irrigation Presenter name, title and organization
11:50	Lunch
12:20	Module 4, Fertilizers BMPs for fertilizer: includes sources, comparisons and responses Presenter name, title and organization
1:20	Break
1:30	Module 5, Pesticides The use of IPM in a management program; pesticide selection, storage, handling & disposal. Presenter name, title and organization
2:20	Review
2:30	Post-Test
3:00	Evaluation, CEUs
3:30 pm	Adjourn

GI-BMP Key Contacts

FDEP GI-BMP Program Manager

Nonpoint Source Management Section
Florida Department of Environmental Protection
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The Florida-Friendly Landscaping Program February 2009

What Is Changing?

As of 2009, the Florida Department of Environmental Protection (FDEP), our primary funding agency, has asked that UF/IFAS use the term “Florida-Friendly Landscaping” in all its materials to match the language used in state legislation.

What Is *Not* Changing?

The name of the Florida Yards & Neighborhoods program (FYN) is not changing. The Florida-Friendly Landscaping Program (FFL) was created to include FYN (both the Homeowner and Builder & Developer components) and the Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries (GIBMPs), which as of July 2009 will be joining FYN under the direction of Dr. Esen Momol.

Why Was the Change Made?

Traditionally FYN has served a homeowner audience, while the GIBMPs are directed towards an audience of commercial horticulture professionals. Because FFL terminology is used in state law, both UF/IFAS and FDEP felt it appropriate to find a name for the overarching philosophy that embraces both homeowner and industry audiences. More programs may be added under the FFL umbrella as funding becomes available.

The 9 FFL Principles

It’s important to know that the FYN program and the GIBMP program promote the 9 FFL Principles, *not* the 9 FYN Principles. This is because the 9 Principles apply equally to homeowner and industry recommendations. Web sites at both the state and county level should make sure that their terminology matches this directive.

How is the Florida-Friendly Landscaping Program Structured?

There will be three components of the FFL Program under Dr. Momol on the UF Campus:

- 1) The FYN Homeowner program
- 2) The FYN Builder & Developer program
- 3) The Green Industry Best Management Practices (GIBMP) program

Each component will have its own statewide coordinator. Their contact information can be found on page 2.

Where Does the Center Fit In?

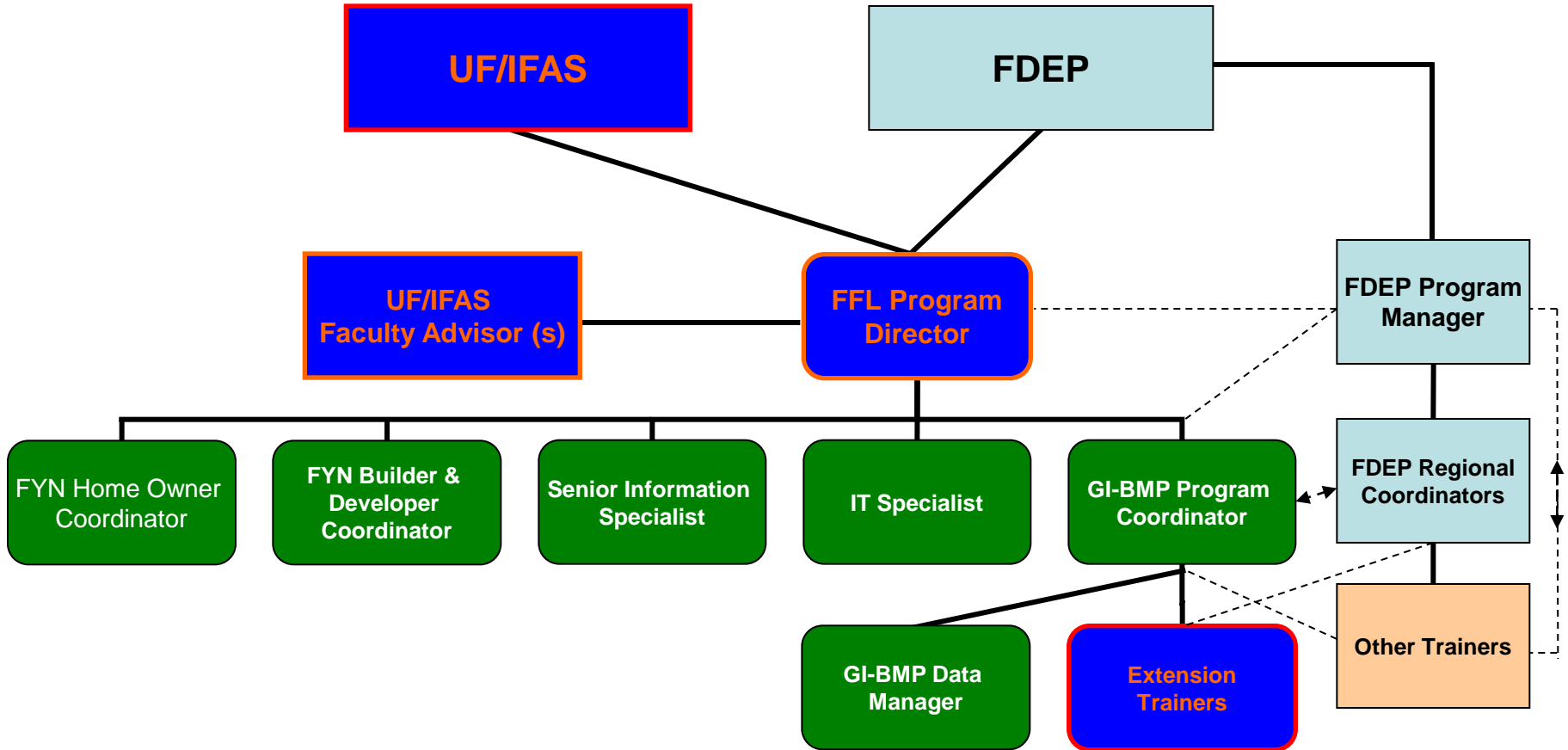
The Center for Landscape Conservation and Ecology (CLCE)—both its faculty and Information Office—also embrace the FFL philosophy but operate independently of the FFL Program. The center faculty members are spread out across the state, while the Information Office is located on the Gainesville campus. The center’s director is Dr. Terril

Nell, and the Communications Coordinator of the Information Office is Emily Eubanks. The center will continue to function as a partner of the FFL Program in preparing and distributing science-based, consumer-friendly recommendations.



Florida-Friendly Landscaping™ PROGRAM

UF UNIVERSITY of FLORIDA
IFAS
Environmental Horticulture



RULE 5E-1.003(2) LABELING REQUIREMENTS FOR URBAN TURF FERTILIZERS

(2) FERTILIZER LABEL REQUIREMENTS FOR URBAN TURF, SPORTS TURF OR LAWNS.

(a) Definitions

1. “Urban Turf” or “Lawns” means non agricultural land planted in closely mowed, managed grasses except golf courses, parks and athletic fields.

2. “Sports Turf” means non agricultural land planted exclusively for golf courses, parks and athletic fields.

3. “No Phosphate Fertilizer” means fertilizer products with phosphate levels below 0.5% intended for established urban turf or lawns.

4. “Low Phosphate Fertilizer” means fertilizer products intended for new or established urban turf or lawns, with phosphate levels equal to or above 0.5% or as provided in paragraph (2)(b).

5. “Starter Fertilizer” means a fertilizer formulated for a one-time application at planting or near that time to encourage root growth and enhance the initial establishment.

6. “Established Urban Turf” means urban turf older than 12 months.

7. “New Urban Turf” means urban turf established less than 12 months.

(b) Fertilizer products labeled for use on sports turf, urban turf or lawns shall be no phosphate or low phosphate and have labeling that meets the restrictions set forth in this rule for the application of nitrogen.

1. No phosphate fertilizers shall not contain more than 0.5% of available phosphate expressed as P₂O₅. The “grade” shall indicate a zero guarantee.

2. Fertilizers labeled as Low phosphate shall have use directions that do not exceed an application rate of 0.25 lbs P₂O₅/1000ft² per application and not to exceed 0.50 lbs P₂O₅/1000ft² per year. Label use directions may be included that allow higher rates if an annual soil sample representative for the site shows the need for a higher application rate.

3. Fertilizers labeled as, or formulated for use as, starter fertilizer shall have use directions that do not exceed an application rate of 1.0 lb of P₂O₅/1,000 ft² and that subsequent applications shall be made with products meeting the definition of Low or No Phosphate fertilizers. The term “Starter Fertilizer” shall be part of the brand name.

4. Fertilizers labeled as urban turf, sports turf, or lawn fertilizer shall have directions for use for nitrogen that:



**Florida-Friendly
Best Management Practices for Protection of Water Quality
by the Green Industries**



AGENDA

- This workshop is designed to provide training in the Green Industries Best Management Practices (GI-BMP) for anyone working in the lawn, landscape, pest control, or municipal grounds areas.
- The Best Management Practices are focused on reducing non-point source pollution resulting from fertilization or pesticide application.
- At the end of this training you will be given a post-test to determine knowledge learned. If the post-test is successfully completed, you will be mailed a certificate of completion.
- Some cities & counties require this certification before you can bid on jobs or have commercial customers.
- Be sure to turn in your post-test, your evaluation, by the end of the day.
- If you also need pesticide CEUs, get your signed CEU attendance form before you leave.

8:00 am	Introduction and Pre-test
8:30	Module 1, Overview History, Background & Overview of the GI-BMP Program & Local Ordinances. Presenter name, title and organization
9:20	Break
9:30	Module 2, Lawn and Landscape BMPs for healthy lawns and landscapes, including mowing, pruning, plant tolerance. Presenter name, title and organization
10:50	Break
11:00	Module 3, Irrigation Presenter name, title and organization
11:50	Lunch
12:20	Module 4, Fertilizers BMPs for fertilizer: includes sources, comparisons and responses Presenter name, title and organization
1:20	Break
1:30	Module 5, Pesticides The use of IPM in a management program; pesticide selection, storage, handling & disposal. Presenter name, title and organization
2:20	Review
2:30	Post-Test
3:00	Evaluation, CEUs
3:30 pm	Adjourn

GI-BMP Key Contacts

FDEP GI-BMP Program Manager

Nonpoint Source Management Section
Florida Department of Environmental Protection
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Phone: (850) 245-7513
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Michael.Thomas@dep.state.fl.u

GI-BMP Statewide Program Coordinator

University of Florida / IFAS Extension
Florida-Friendly Landscaping™ Program
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Naples, FL 34113
Phone: (239) 417-6310
Fax: (239) 417-6315
Alberto.Chavez@dep.state.fl.us

GI-BMP Regional Coordinator [Northeast]

Florida Department of Environmental Protection
3125 Agriculture Center Dr.
St. Augustine, FL 32092
Phone: (904) 209-0430 ext. 4778
Fax: (904) 209-0431
Claudia.Mcleroy@dep.state.fl.us

GI-BMP Regional Coordinator [Northwest]

261 Dr. Frederick S. Humphrey St.
Apalachicola, FL 32320
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Fax: (850) 653-2297
Rosalyn.Kilcollins@dep.state.fl.us

GI-BMP Data Manager

University of Florida, IFAS Extension
111 Mehrhof Hall
PO Box 110675 Gainesville FL 32611-0670
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Fax: (352) 392-1413
gi.bmp@ifas.ufl.edu

The Florida-Friendly Landscaping Program

February 2009

What Is Changing?

As of 2009, the Florida Department of Environmental Protection (FDEP), our primary funding agency, has asked that UF/IFAS use the term “Florida-Friendly Landscaping” in all its materials to match the language used in state legislation.

What Is *Not* Changing?

The name of the Florida Yards & Neighborhoods program (FYN) is not changing. The Florida-Friendly Landscaping Program (FFL) was created to include FYN (both the Homeowner and Builder & Developer components) and the Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries (GIBMPs), which as of July 2009 will be joining FYN under the direction of Dr. Esen Momol.

Why Was the Change Made?

Traditionally FYN has served a homeowner audience, while the GIBMPs are directed towards an audience of commercial horticulture professionals. Because FFL terminology is used in state law, both UF/IFAS and FDEP felt it appropriate to find a name for the overarching philosophy that embraces both homeowner and industry audiences. More programs may be added under the FFL umbrella as funding becomes available.

The 9 FFL Principles

It’s important to know that the FYN program and the GIBMP program promote the 9 FFL Principles, *not* the 9 FYN Principles. This is because the 9 Principles apply equally to homeowner and industry recommendations. Web sites at both the state and county level should make sure that their terminology matches this directive.

How is the Florida-Friendly Landscaping Program Structured?

There will be three components of the FFL Program under Dr. Momol on the UF Campus:

- 1) The FYN Homeowner program
- 2) The FYN Builder & Developer program
- 3) The Green Industry Best Management Practices (GIBMP) program

Each component will have its own statewide coordinator. Their contact information can be found on page 2.

Where Does the Center Fit In?

The Center for Landscape Conservation and Ecology (CLCE)—both its faculty and Information Office—also embrace the FFL philosophy but operate independently of the FFL Program. The center faculty members are spread out across the state, while the Information Office is located on the Gainesville campus. The center’s director is Dr. Terril

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5. "Starter Fertilizer" means a fertilizer formulated for a one-time application at planting or near that time to encourage root growth and enhance the initial establishment.

6. "Established Urban Turf" means urban turf older than 12 months.

7. "New Urban Turf" means urban turf established less than 12 months.

(b) Fertilizer products labeled for use on sports turf, urban turf or lawns shall be no phosphate or low phosphate and have labeling that meets the restrictions set forth in this rule for the application of nitrogen.

1. No phosphate fertilizers shall not contain more than 0.5% of available phosphate expressed as P₂O₅. The "grade" shall indicate a zero guarantee.

2. Fertilizers labeled as Low phosphate shall have use directions that do not exceed an application rate of 0.25 lbs P₂O₅/1000ft² per application and not to exceed 0.50 lbs P₂O₅/1000ft² per year. Label use directions may be included that allow higher rates if an annual soil sample representative for the site shows the need for a higher application rate.

3. Fertilizers labeled as, or formulated for use as, starter fertilizer shall have use directions that do not exceed an application rate of 1.0 lb of P₂O₅/1,000 ft² and that subsequent applications shall be made with products meeting the definition of Low or No Phosphate fertilizers. The term "Starter Fertilizer" shall be part of the brand name.

4. Fertilizers labeled as urban turf, sports turf, or lawn fertilizer shall have directions for use for nitrogen that:

a. Are consistent with the recommendations in the following table:

Fertilization Guidelines for Established Turfgrass Lawns in Three Regions of Florida

Species	Nitrogen recommendations (lbs N / 1000 ft ² / year)*		
	North	Central	South
Bahia grass	2-3	2-4	2-4
Bermuda grass	3-5	4-6	5-7
Centipede grass	1-2	2-3	2-3
St. Augustine grass	2-4	2-5	4-6
Zoysiagrass	3-5	3-6	4-6

North Florida is north of Ocala. Central Florida is defined as south of Ocala to a line extending from Vero Beach to Tampa. South Florida includes the remaining southern portion of the state.

b. Nitrogen shall not be applied at an application rate greater than 0.7 lbs of readily available nitrogen per 1000 ft² at any one time based on the soluble fraction of formulated fertilizer, with no more than 1 lb total N per 1000 ft² to be applied at any one time and not to exceed the annual nitrogen recommendations in the Fertilization Guidelines for Established Turfgrass Lawns in Three Regions of Florida, set forth herein. Use directions for nitrogen may be included that allow higher rates if an annual tissue sample representative of the site shows the need for a higher application rate.

5. The following language shall appear conspicuously on bags of fertilizer sold at retail: "Do not apply near water, storm drains or drainage ditches. Do not apply if heavy rain is expected. Apply this product only to your lawn/garden, and sweep any product that lands on the driveway, sidewalk, or street, back onto your lawn/garden."

(c) Specialty fertilizers labeled for urban turf or lawns shall have directions for use that include:

1. Application rates for phosphorous shall not exceed 0.25 lbs. P₂O₅/1000 ft² per application and not exceed 0.50 lbs. P₂O₅/1000 ft² per year. Label use directions may be included that allow higher rates if an annual soil sample representative for the site shows the need for a higher application rate.

2. Application rates for nitrogen shall not exceed 0.7 lbs of readily available nitrogen per 1000 ft² at any one time based on the soluble fraction of formulated fertilizer, with no more than 1 lb total N per 1000 ft² to be applied at any one time and not to exceed the annual nitrogen recommendations in the Fertilization Guidelines for Established Turfgrass Lawns in Three Regions of Florida. Use directions for nitrogen may be included that allow higher rates if an annual tissue sample representative of the site shows the need for a higher application rate.

3. Rates shall be expressed in units of weight or volume per unit of area coverage (where application rates are given in volume, the label shall provide sufficient information to calculate the application rates by weight).

4. Rates shall be expressed per 1000 square feet.

5. Maximum coverage area per container or bag shall be displayed prominently on the front of the container or bag. (i.e. This product covers 5000 square feet; This bag feeds 4000 square feet).

(d) Fertilizers labeled for sports turf at golf courses, parks and athletic fields shall:

1. Have directions for use not to exceed rates recommended in the document titled SL191 “Recommendations for N, P, K and Mg for Golf Course and Athletic Field Fertilization Based on Mehlich I Extractant”, dated March 2007, which is hereby adopted and incorporated by reference into this rule. Copies may be obtained from the Soil and Water Science Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611 or the following website: <http://edis.ifas.ufl.edu/SS404>.

2. Have directions for use in accordance with the recommendations in “BMP’s for the Enhancement of Environmental Quality on Florida Golf Courses”, published by the Florida Department of Environmental Protection, dated January 2007. Copies may be downloaded from <http://www.dep.state.fl.us/water/nonpoint/pubs.htm>.

(e) Fertilizers other than specialty fertilizers labeled for urban turf shall:

1. Have directions for use not to exceed rates recommended in the document titled Best Management Practices for Protection of Water Resources in Florida, June 2002, Florida Green Industries., which is hereby adopted and incorporated by reference into this rule. Copies may be obtained from http://www.dep.state.fl.us/water/nonpoint/docs/nonpoint/BMP_Book.

(f) Existing Stock – Licensees are permitted to sell or distribute products that do not meet the label requirements of the rule for one and one-half years after the effective date of the rule. Products at the retail level on or after the effective date of the rule are permitted to be offered for sale.



GI-BMP Instructor Training

Registration Form



To register in a GI-BMP Instructor Program you must meet the eligibility requirements on the back of this form.

If you meet the requirements, please complete and submit this form to your GI-BMP Regional Coordinator, along with a copy of your diploma (if required) and an updated copy of your resume. See below for Regional Coordinators' contact information.

<p>For Official Use Only GI-BMP Grade _____ Academia <input type="checkbox"/> Training Experience <input type="checkbox"/> Subject Matter Knowledge <input type="checkbox"/></p>

1. Prospective Instructor Information

Date _____

First Name	Middle Name	Last Name
Company/Organization Name		Title/Position
Street Address		
City	State	Zip
Phone	FAX	Email

2. Professional Affiliation

- Green Industry Professional
 Education Professional
 Government Employee
 Citizen Volunteer

3. Education

- | | | | |
|--------------------------------------|-------------------------|--|------------------------|
| <input type="checkbox"/> High School | Diploma Received: _____ | <input type="checkbox"/> Master | Degree Received: _____ |
| <input type="checkbox"/> Associate | Degree Received: _____ | <input type="checkbox"/> Post Graduate | Degree Received: _____ |
| <input type="checkbox"/> Bachelor | Degree Received: _____ | <input type="checkbox"/> Other _____ | Degree Received: _____ |

4. GI-BMP Training Certificate Number _____

5. Other Related Licenses and Certificates: _____

6. Language Fluency: English Spanish Other _____

7. Related Professional Experience

Current Position	Duration Years/Months
Position 2	Duration Years/Months
Position 3	Duration Years Months

8. Please explain briefly why you want to become a GI-BMP certified instructor: _____

9. Which Instructor Training Class [location and date] are you planning to attend? _____

Please submit the completed form to the respective GI-BMP Regional Coordinator:		
<p>Regional Coordinator - South 300 Tower Road Naples, FL 34113 Phone: (239) 417-6310 – ext. 222 Fax: (239) 417-6315</p>	<p>Regional Coordinator – Northeast 3125 Agriculture Center Dr. St. Augustine, FL 32092 (904) 209-0430 - ext. 4778 Fax (904) 209-0431</p>	<p>Regional Coordinator – Northwest 261 Dr. Frederick S. Humphrey St. Apalachicola, FL 32320 Phone: (850) 653-8063 Fax: (850) 653-2297</p>

See Reverse for Eligibility Criteria

Becoming a GI-BMP Certified Instructor

By becoming a GI-BMP certified instructor you will be able to train one or more sections of the GI-BMP training and have the authority to organize and deliver GI-BMP trainings, and proctor tests. You must meet the eligibility requirements below prior to attending the GI-BMP Instructor Training class. If you are unsure of your eligibility or have questions, please contact the Regional Coordinator in your area.

Eligibility

Education professionals, government employees, industry professionals and citizen volunteers can become GI-BMP certified instructors, in accordance with the FDEP criteria described below. Instructors are required to have an appropriate level of technical knowledge in the field of landscape management or environmental management of agrochemicals and horticultural practices, gained through education and/or professional experience.

Prospective Instructor	Experience	College Degree (accredited institution)
Green Industry Professional	Minimum two years in training or supervisory position, competency in subject matter and competency in training.	None required
Education Professional	Two years of experience in subject matter.	Bachelor's
Government Employee	Two years of experience in subject matter and competency in training.	Bachelor's
Citizen Volunteer	Two years of experience in subject matter, and competency in training.	Bachelor's

Being certified by a related professional association, such as the Florida Nursery, Growers & Landscape Association (FNGLA), or having a FDACS Certified Pest Control Operator License are preferred qualifications for instructors.

Eligibility Waiver

The degree or experience requirements may be waived by the Program Manager or the Regional Coordinators for persons with key expertise, such as foreign language skills, upon determination that the applicant meets the other requirements and fulfills a critical need.

Earning Instructor Certification

Effective January 1, 2009 instructors must earn a GI-BMP Instructor Certificate by completing the following four steps:

1. Attend a GI-BMP training and pass the test with a minimum score of 90%

Prospective instructors will not be admitted in the GI-BMP Instructor Training class without a valid GI-BMP certificate of training and a passing grade of at least 90% obtained during an officially registered GI-BMP class. Certificates of training obtained prior to 2006 are not accepted, because this program has undergone major changes since then. Certificates obtained through online classes are also not accepted, because prospective instructors are required to be familiar with the logistics of the standard classroom training (not only the subject matter) to participate in the instructor class.

2. Complete this form and meet the eligibility requirements

To register in a GI-BMP Instructor Training class, participants need to submit to the respective GI-BMP Regional Coordinator a registration form along with a copy of the university degree (if required) and an updated copy of resume, as proof that they meet the eligibility criteria.

3. Attend the GI-BMP Instructor Training class and pass the test with a minimum score of 75%

After successfully completing the instructor training class (passing score of 75% or higher), prospective instructors must complete two co-trainings to obtain their instructor certificate. Attendees who did not obtain a score of at least 75% during the instructor training will be notified that they need to retake this class. These classes are organized by the GI-BMP Regional Coordinators in different locations across the State. For a schedule of GI-BMP Instructor Training classes please visit:

http://fyn.ifas.ufl.edu/professionals/bmp_training_schedule.htm.

4. Co-train at least two classes supervised by an FDEP authorized training provider

Co-training involves teaching one or more GI-BMP modules under the supervision of an experienced instructor to gain proficiency in presentation of the subject matter and to become familiar with the logistics of conducting a class. This includes assisting with sign-in, distributing of materials, compiling documents, catering and proctoring tests. Prospective instructors need to coordinate with the GI-BMP Regional Coordinators to identify classes where they can co-train. Co-training is both an evaluation period and a learning experience. Some people may require more than two sessions if they have not had experience in public speaking or classroom training in the past. Evaluations will be reviewed by the Regional Coordinators prior to approval as an instructor.



**Florida-Friendly Best Management Practices
for Protection of Water Quality by the Green Industries**



Co-Training Instructor Evaluation Form

Instructor: _____

Evaluator: _____

GI-BMP Class Date: _____

Location: _____

Sections covered:

- | | |
|---|-------------------------------------|
| <input type="checkbox"/> Introduction | <input type="checkbox"/> Irrigation |
| <input type="checkbox"/> Overview | <input type="checkbox"/> Fertilizer |
| <input type="checkbox"/> Lawn and Landscape | <input type="checkbox"/> Pesticide |

Instructors must meet all the following conditions without exception:

- Instructor has completed a GI-BMP Instructor Training
- Represented FDEP appropriately
- Followed the official content of the program according to the GI-BMP Manual
- Used the most current version of GI-BMP PowerPoint presentations

Scale: 1=unsatisfactory; 2=needs improvement; 3=satisfactory; 4=strong; 5=outstanding; N/A=Not Applicable

Assign a score (from 1 to 5) to each one of the evaluation parameters

	Rating	Comments
Instruction		
Use of adult training techniques	1 2 3 4 5	
Level of instruction	1 2 3 4 5	
Body language	1 2 3 4 5	
Voice	1 2 3 4 5	
Class participation management	1 2 3 4 5	
Use of training materials	1 2 3 4 5	
Use of training tools and aids	1 2 3 4 5	
Time management	1 2 3 4 5	
Class control	1 2 3 4 5	

Content

Met training objectives	1 2 3 4 5	
Proficiency in subject matter	1 2 3 4 5	
Delivery technique of GI-BMP concepts	1 2 3 4 5	
Accuracy of delivery	1 2 3 4 5	
Motivation and interest stimulation	1 2 3 4 5	
Emphasis on topic importance	1 2 3 4 5	

Personal characteristics

Preparedness	1 2 3 4 5	
Cooperativeness and flexibility	1 2 3 4 5	
Professional appearance	1 2 3 4 5	

Total Score		
--------------------	--	--

See Reverse

Please answer the following questions:

What are the instructor's areas of strength?

In what areas does the instructor need to improve and what steps should be taken to improve performance?

Additional comments:

Would you recommend this candidate to become a GI-BMP instructor? Yes No

Evaluator's Signature

Date

Please submit the completed form to CJ Bain, GI-BMP Data Manager:

University of Florida, IFAS
111 Mehrhof Hall, P.O. Box 110675
Gainesville, FL 32611-0670
Fax: (352) 392-1413 Email: cjbain@ufl.edu

How to Conduct a Successful Co-training

Co-training is the final step to becoming a GI-BMP Certified Instructor. It is both an evaluation period and a learning experience. It involves teaching one or more GI-BMP modules under the supervision of an experienced instructor to gain proficiency in presenting the subject matter and to become familiar with the logistics of conducting a class. This entails assisting in all aspects of delivering a class, including sign-in, distributing of materials, compiling documents, catering and proctoring tests. Please follow these guidelines to complete this final step successfully:

1. After successfully completing the instructor training (passing score of 75% or higher), you must co-train at least twice to obtain the instructor certificate. To sign-up for co-training you need to coordinate with the GI-BMP Regional Coordinators in your area.

TIP: Use the Florida Map at the end of this form to determine which Regional Coordinator you should contact.

2. Some people may require more than two co-training sessions to develop the skills required to deliver a GI-BMP class.

TIP: You can co-train as many times as you deem necessary, until you feel comfortable with training on your own.

3. Co-Training is not just teaching one or more modules. It is also assisting with logistics to learn how to run the class. Therefore, prospective instructors need to be present from the beginning, before participants arrive, to assist with the set-up, all the way to the end, to assist with closing the class.

TIP: Plan for a full day when scheduling a co-training.

4. The lead instructor, in charge of the GI-BMP class, is responsible for evaluating your performance by completing and submitting a "Co-Training Instructor Evaluation Form." The completed evaluation forms will be used by the Regional Coordinators to authorize your certification.

TIP: Check with the lead instructor to make sure he or she is prepared to conduct this evaluation.

5. You will be evaluated on the following 18 parameters:

Instruction	Content	Personal characteristics
<ul style="list-style-type: none"> • Use of adult training techniques • Level of instruction • Body language • Voice • Class participation management • Use of training materials • Use of training tools and aids • Time management • Class control 	<ul style="list-style-type: none"> • Met training objectives • Proficiency in subject matter • Delivery technique of GI-BMP concepts • Accuracy of delivery • Motivation and interest stimulation • Emphasis on topic importance 	<ul style="list-style-type: none"> • Preparedness • Cooperativeness and flexibility • Professional appearance

TIP: Rehearse your delivery based on these parameters prior to co-training. You can find useful information on how to train effectively in your GI-BMP Instructor Manual.

- 6. The Regional Coordinators need to receive at least two of these co-training evaluation forms as proof that you have completed the required number of co-trainings. Additionally, the last evaluation needs to be “satisfactory” to count towards obtaining an instructor certificate. A “satisfactory” evaluation denotes that you meet the minimum training standards required to deliver a GI-BMP class successfully. You will receive a score from 1 to 5 (being 5 the highest) for each parameter. Performance will be considered unsatisfactory if your average score is below 3.0 (54 points out of a total of 90) or if you receive less than 2 points on any of the 18 parameters.

TIP: Make sure that the lead instructor completes the evaluation form and submits it according to the instructions.

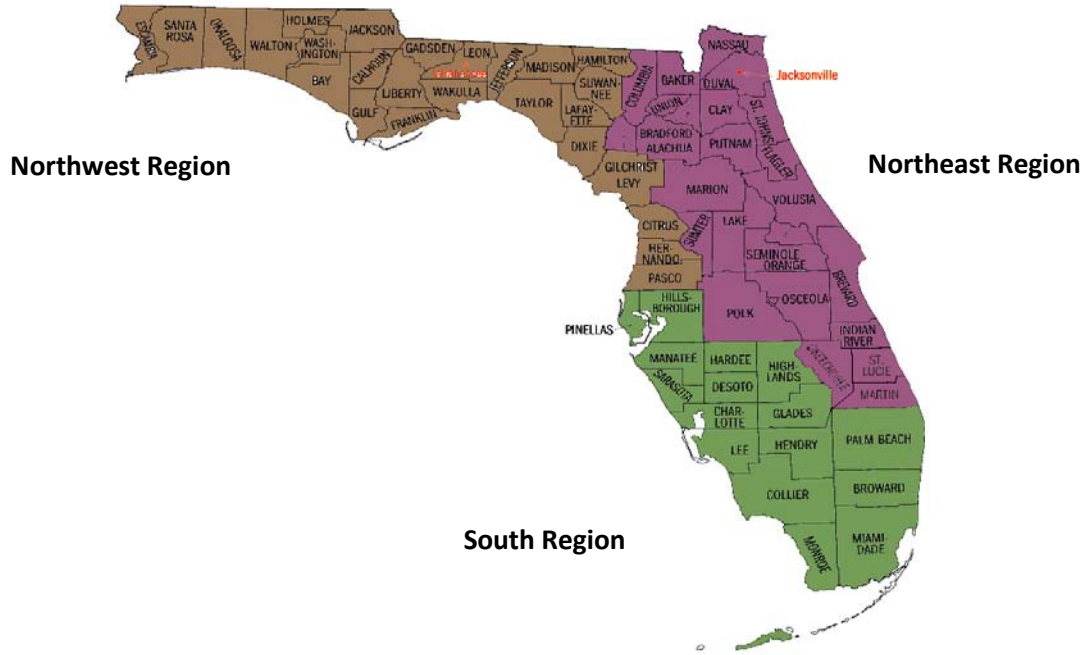
TIP: If you receive an unsatisfactory evaluation, you need to make the necessary corrections and participate in additional co-trainings until receiving a satisfactory report.

- 7. Keep in mind that, once you start organizing your own classes, FDEP will evaluate the quality and accuracy of the training.

TIP: Use of your co-training experiences to learn as much as you can about how to deliver a GI-BMP class.

TIP: Contact your Regional Coordinator if you have questions about co-training.

Regional Coordinators Contact Information



Regional Coordinator - South
 300 Tower Road
 Naples, FL 34113
 Phone: (239) 417-6310 – ext. 222
 Fax: (239) 417-6315
 Alberto.Chavez@dep.state.fl.us

Regional Coordinator – Northeast
 3125 Agriculture Center Dr.
 St. Augustine, FL 32092
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 Phone: (850) 653-8063
 Fax: (850) 653-2297



**Florida-Friendly Best Management Practices
for Protection of Water Quality by the Green Industries**



Training Provider Evaluation Form

Training Provider: _____ Evaluator: _____

Date of GI-BMP class: _____ Location: _____

Instructors:

Introduction	
Overview	
Lawn and Landscape	
Irrigation	
Fertilizer	
Pesticide	

Training Provider met all the following conditions without exception:

- All instructors have a valid instructor certificate
- Represented FDEP appropriately
- Followed the official content of the program according to the GI-BMP manual
- Used the most current version of GI-BMP PowerPoint presentations
- Delivered a copy of the GI-BMP manual to each trainee
- Followed timings according to the official agenda

Scale: 1=unsatisfactory; 2=needs improvement; 3=satisfactory; 4=strong; 5=outstanding; N/A=Not Applicable

Assign a score (from 1 to 5) to each one of the evaluation parameters	RATING	COMMENTS
Content Met training objectives to proficiently implement the GI-BMPs: <ul style="list-style-type: none"> • Overview • Lawn and Landscape • Irrigation • Fertilizer • Pesticide Additional content Additional materials	 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5	
Proctoring tests Review Instructions Instructor availability for questions Time to take the test Rigor and discipline	 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5	
Subtotal		

See Reverse

EVALUATION AREA	RATING	COMMENTS
Logistics		
Customer Service	1 2 3 4 5	
Registration	1 2 3 4 5	
Sign-in	1 2 3 4 5	
Record processing	1 2 3 4 5	
Breaks	1 2 3 4 5	
Lunch	1 2 3 4 5	
CEUs	1 2 3 4 5	
Evaluation	1 2 3 4 5	
Time management	1 2 3 4 5	
Class control	1 2 3 4 5	
Staffing	1 2 3 4 5	
Facility		
Class room layout	1 2 3 4 5	
PowerPoint Projection	1 2 3 4 5	
Temperature	1 2 3 4 5	
Light	1 2 3 4 5	
Sound	1 2 3 4 5	
ADA compliance	1 2 3 4 5	
Restrooms	1 2 3 4 5	
Total		

What are the training provider's areas of strength?

In what areas does the training provider need to improve performance and what steps should be taken to improve performance?

Additional comments:

Evaluator's Signature

Date

Please submit the completed form to CJ Bain, GI-BMP Data Manager:

University of Florida, IFAS
111 Mehrhof Hall, P.O. Box 110675
Gainesville, FL 32611-0670
Fax: (352) 392-1413 Email: cjbain@ufl.edu

Steps Towards Managing a Successful Green Industry – Best Management Practices Class

Managing a new GI-BMP program requires attention to detail and completion of a number of steps in a timely manner. These guidelines define the overall recommended schedule for participating Agents to better organize the class and paperwork.

Pre-Training Day Preparation Steps		
Time Line	Task	Additional Information
30 - 60 days	<ul style="list-style-type: none"> Register Event Prepare flyers and agenda note: location, trainers, and special accommodations notification and required Federal EEO Guidelines Apply for CEUs Order GI-BMP Manuals 	<ul style="list-style-type: none"> FFL/GIB Web site: www.fyn.ifas.ufl.edu/gi-bmp Input information to schedule and receive approval for class. CJ Bain, Data Manager, Green Industries Best Management Practices Florida-Friendly Landscaping™ Program, University of Florida, IFAS Extension, 111 Mehrhof Hall, PO Box 110675 Gainesville FL 32611-0670. (352) 392-1831 ext 243 Fax (352) 392-1413. FDACS Secure Login; enter class info using 2009 Green Industry Program Number #8289 (renews Feb. 2010) Contact FFL/GIBMP State Coordinator's Office with # of manuals needed. CJ Bain (352) 392-1831 x243 gi.bmp@ifas.ufl.edu
30 days	<ul style="list-style-type: none"> Hire Caterer (if applicable) 	<ul style="list-style-type: none"> Schedule their assistance; decide on menu and delivery time
7 days	<ul style="list-style-type: none"> Event Decision time / Go or No Go Event Decision / Go 	<ul style="list-style-type: none"> Cancel if less than 10 registrants (minimum 3 day notice for cancellation). Mandatory verbal message to registrants. Cancel event at the FFL/GI-BMP website: complete the same form that is used to register training; change the registration status to "Cancelled"; other registration status options include: "Corrections" and "Rescheduled Date". Notify Kurt Rowe (941) 232-8420 email

	<ul style="list-style-type: none"> • Print Handouts • Download and Print CEUs 	<ul style="list-style-type: none"> • Close registration and refer people to next scheduled event. • Call caterer with count. • Documents in different colors; helps with collecting and organizing paperwork. • Sign each CEU (Record of Attendance)
3 days	<ul style="list-style-type: none"> • Prepare Registration Spreadsheet 	<ul style="list-style-type: none"> • Number each registrant on spreadsheet with same number on their training record. Easier to use numbers than names to hand out and collect the training records.

Training Day Preparation Steps:

Time Line	Task	Additional Information
Morning	<ul style="list-style-type: none"> • Light Breakfast • Packets on Table • Register Participants • Housekeeping • Collection of Materials 	<ul style="list-style-type: none"> • Caterer set up. • Include book, survey/evaluation, pencil, tablet, etc. • Check off name, take registration fee, hand out training record, pre-quiz questions, and answer sheet. • Participants sign training record and verify all info on record is correct. • Location of restrooms; smoking area, cell phone usage. • Collect training record, pre-quiz questions, and answer sheet before starting class.
Mid-morning	<ul style="list-style-type: none"> • Receipts • Training Record 	<ul style="list-style-type: none"> • Make out registrant's fee receipts and have ready at lunch time. Place receipts on table for access and viewing. • Check all training records are accounted for and signed.
Lunch Time	<ul style="list-style-type: none"> • Lunch • Registration Fee Receipts 	<ul style="list-style-type: none"> • Caterer set up luncheon. • Receipts ready to be picked up.
Afternoon	<ul style="list-style-type: none"> • Pass out Post-Test • Collect Test and Evaluation/Survey 	<ul style="list-style-type: none"> • Pass out post-test question and answer sheets. • Collect post test question and answer sheets and evaluation/survey.

	<ul style="list-style-type: none"> • Pass out CEUs (Record of Attendance) • Registration Fees 	<ul style="list-style-type: none"> • Pass out CEUs (Record of Attendance). • Secure registration fees for deposit to bank.
Post-Training Day Steps		
Day After	<ul style="list-style-type: none"> • Fill Out Completed Class Transmittal Form • FedEx or Express Mail required information to CJ Baines • Deposit money and checks into bank account 	<ul style="list-style-type: none"> • Form located in the GI-BMP Educator Login • Completed Class Transmittal Form, Registration spreadsheet, pre- and post-quiz answer sheets; evaluation/survey, copy of post quiz question sheet.

Acknowledgements: Jody Williams, (Sarasota County Extension), Don Rainey, Kurt Rowe, CJ Bain and Alberto Chavez (FFL/GI-BMP Team)
Version 01.10



Florida Green Industry Best Management Practices Program GI-BMP Training Record

Class Date	Training Provider (County Ext or Org.)	Instructor	Class ID

THIS TRAINING RECORD MUST BE COMPLETED AND SIGNED TO RECEIVE A TRAINING CERTIFICATE.

Please mail my training certificate to:

Work Address Home Address

I do not want a training certificate – do not mail.

Do you want CEU's for this training?

Yes No

CEU's will be handed out at the end of class.

Have you attended GI-BMP training before? Yes No

If yes: **GI-BMP Trainee ID#** - OR - **When and where did you attend GI-BMP training?**
(From wallet card or letter)

First Name	Middle Name	Last Name	Suffix
Home Mailing Address		Home or Cell Phone ()	
Home County	Home Email	Date of Birth	
Employer / Company Name		Job Title / Position	
Work Mailing Address		Work Phone ()	
Work County	Work Email	Pesticide License No.	

Check the information above carefully and make any changes needed before signing.
Please print clearly and legibly.

Trainee Signature



Florida Green Industry Best Management Practices Pre-Quiz

May 2009



Overview Section

1. By following the guidelines in the manual, members of Florida's Green Industries are expected to do what when delivering landscape services?
 - A. Reduce the possibility of nonpoint source pollution
 - B. Maintain landscapes without using chemicals
 - C. Keep grass green all the time
 - D. Make everyone happy

2. Nonpoint source pollution most generally comes from:

A. Agricultural operations	C. Diverse sources
B. Leaky plumbing	D. Fertilizer

3. The term BMP is an abbreviation for what?

A. Beat Marine Pollution	C. Best Management Protocols
B. Best Management Practices	D. Best Management Points

4. A recent piece of legislature passed in 1999 which sets maximum limits for certain nutrients and pollutants in Florida waters is called what?

A. The Clean Water Act	C. Xeriscape Law
B. Watershed Restoration Act	

5. What nutrients commonly found in fertilizers can contribute to nonpoint source pollution?

A. Potassium	C. Phosphorus
B. Nitrogen	D. Nitrogen and Phosphorus

6. One way for pollutants to get in to surface waters as non-point source pollution is:

A. Runoff through the storm drains	C. Discharge from a fertilizer plant
B. Fertilizers leaching through sandy soil	D. Either A or B

7. BMPs are about sound horticultural practices and environmental impact of lawn and landscape maintenance.

TRUE	FALSE
------	-------

8. What are the objectives of the manual?
 - A. Reduce offsite runoff
 - B. Proper plant selection for the site
 - C. Use appropriate rates and methods when fertilizing & irrigating
 - D. Use IPM
 - E. All of the above

Irrigation Section

1. On the average, Florida receives approximately how many inches of rainfall per year?
 - A. 25
 - B. 50-60
 - C. 75
 - D. 100
2. Visual indicators that a grass needs water include all but the following except for which one?
 - A. Dull bluish color
 - B. Symptoms of root rot fungus
 - C. Leaf blades fold in half
 - D. Foot tracks remain in the grass
3. Over-irrigation results in all of the following except
 - A. Pollution
 - B. Water conservation
 - C. Leaching
 - D. Runoff
4. Rain shut-off devices are required by law to be installed on all new irrigation systems.
TRUE FALSE
5. The most efficient and effective watering method in use is
 - A. Rotary
 - B. Solar
 - C. Impact
 - D. Microirrigation
6. Once an irrigation timer is set, it never needs to be adjusted again.
TRUE FALSE
7. Proper irrigation management must account for all of the following except for which one?
 - A. Rainfall
 - B. Temperature
 - C. Soil moisture
 - D. Recent pesticide application
8. What is the best management practice to prevent runoff of irrigation water in the landscape?
 - A. Irrigate only when water restrictions allow.
 - B. Irrigate early in the morning
 - C. Irrigation application rate should not exceed the soil's ability to absorb and retain the water.
 - D. Plant only drought tolerant plants.

Fertilizer Section

1. Established turfgrass will take up virtually all of the nitrogen applied to it as long as the fertilizer is applied at the UF recommended rates and there is not excessive rainfall.
TRUE FALSE

2. What nitrogen sources are potentially subject to volatilization?
 - A. Methylene urea and Ureaformaldehyde
 - B. Urea and ammonium nitrate
 - C. IBDU and ammonium sulfate
 - D. Polymer and resin coated urea

3. How much quick release nitrogen can be applied at any one time according to the BMP manual?
 - A. 2 lb. N per 1,000 ft²
 - B. 0.5 lb. N per 1,000 ft²
 - C. 0.7 lb. N per 1,000 ft²
 - D. 1 lb. N per 1,000 ft²

4. Calculate the amount of fertilizer (in lbs.) needed to apply N at 1 lb. per 1,000 ft² with a 10-0-10 fertilizer source.

5. What are two advantages of slow release N sources?
 - A. Inexpensive and long lasting
 - B. Less growth surge and long lasting
 - C. Immediate response and less pest pressure
 - D. Less fertilizer needed and less expensive

6. What nitrogen source would be optimal for use in a high pH soil?
 - A. Urea
 - B. Calcium nitrate
 - C. Ammonium sulfate
 - D. IBDU

7. It is important to know the square footage of the area to be fertilized.
TRUE FALSE

8. Fertilizer should only be applied to grass that is established and actively growing.
TRUE FALSE



UNIVERSITY OF
FLORIDA
IFAS EXTENSION

Pre Quiz Answer Sheet

County: _____

Date: _____

Name: _____

Overview Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Irrigation Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Turfgrass & Landscape

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Pesticide Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Fertilizer Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____



UNIVERSITY OF
FLORIDA
IFAS EXTENSION

Post Quiz Answer Sheet

County: _____

Date: _____

Name: _____

Overview Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Irrigation Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Turfgrass & Landscape

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Pesticide Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Fertilizer Section

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____



Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries

Location:

Date:

Training Provider:

Check List

#	Date	Time Start	Time End	Task	Responsible	Location	Observations/Comments
				Register class			30 days in advance
				Promote class			
				Confirm trainers			
				Produce and distribute flyer			
				Print/photocopy tests, agendas, tracking record, evaluations, CEUs. Other			
				Process registration			
				Print Sign-in sheet			Two copies
				Check training materials: Number of GI-BMP manuals Name tags Permanent markers White board markers			
				Check auditorium prior to setup			
				Order lunch			
				Check catering supplies: Ice [ask Bob] Coffee Creamer, Half/Half Cups [non Styrofoam] Stirrers Plates Sugar and Splenda or alike			
				Set up sign-in area • Sign in sheet [with names] • Name Tags • GI-BMP Binder			
				Auditorium set up: • Small Table next to podium to place materials • White board and markers • Easel + flip charts and markers • Additional food tables			
				Set up AV: • Computer [load power points] • LCD projector [check bulb's life] • Remote control [check batteries] • Microphones [wireless, check batteries] • Laser pointer [check batteries] • Digital camera			
				Place signs inside and outside			
				Set up refreshments and coffee			
				Collect all training records, tests, evaluations and copies of CEUS			



Florida Green Industry Best Management Practices Survey



Date: _____

County: _____

Please indicate your response with a check mark or circle.

1. Which of the following best describes the company you work for:
 Pest Control Operation Lawn Care Company Mowing Service
 Irrigation Company Landscape Design Municipality
 Golf /Sports Turf Sod Farm Other

2. My knowledge of the Green Industries BMPs and how they will affect the lawn care industry has increased because of this program.
 Yes No

3. I will use the recommended fertilization rates and methods of application as presented in the BMP manual.
 I will I will not Not sure Already do

4. I will inform my clients of the recommendations contained in the BMP manual that apply to their situation.
 I will I will not Not sure Already do

Please rate the topics covered today for content and presentation.

Topic	Excellent	Good	Fair	Poor
Overview				
Lawn & Landscape Management				
Irrigation				
Fertilizer Management				
Pesticide				

Any additional comments on the program?



Florida-Friendly Landscaping™ Program
Green Industries Best Management Practices



Completed Class Transmittal Form

- This form should be submitted with completed GI-BMP class materials for processing. The package should also include:
- A copy of the pre-quiz and post-quiz questions used for the class
- Class registration and attendance list(s)
- A legible, signed Training Record form for each attendee
- Completed pre- and post-quiz answer sheets
- Completed class evaluation forms, if used

Please direct materials for processing to:

CJ Bain, GI-BMP Data Manager
University of Florida, IFAS
111 Mehrhof Hall, P.O. Box 110675
Gainesville, FL 32611-0670

Questions?

Email: cjbain@ufl.edu
Phone: (352) 392-1831 ext 243

PART I - CLASS INFORMATION

Class Date: _____ Category: ___ UF/IFAS Extension ___ Industry ___ Other

County or Organization: _____

Instructor: _____ GI-BMP ID# _____

Class Location: _____

Language: ___ English ___ Spanish Number of trainees: # registered: ___ # attended: ___

Contact for questions or problems regarding class materials or processing (instructor or designee)

Name/Title: _____

Phone: _____ Email: _____

PART II - REPORTING INFORMATION

Send records and statistics for this class to:

___ Primary Instructor - Email: _____

Table with 2 columns: Name, Email. Includes rows for 'Other' instructors.

Notes / Questions / Other:

Large empty box for notes, questions, or other information.

PART III - CO-TRAINER VERIFICATION

This section should be completed and signed by the authorized instructor if this class was co-trained as part of the certification requirements for new GI-BMP Instructors.

Table with 3 columns: Co-Trainer Name, County/Organization, GI-BMP ID#. Includes four rows for co-trainer information.

Instructor Signature: _____ Date: _____

LIMITED CERTIFICATION FOR URBAN LANDSCAPE COMMERCIAL FERTILIZER APPLICATION**(Section 482.1562 F.S.)**

- (1) To provide a means of documenting and ensuring compliance with best management practices for commercial fertilizer application to urban landscapes, the department shall establish a limited certification for urban landscape commercial fertilizer application.
- (2) Beginning January 1, 2014, any person applying commercial fertilizer to an urban landscape must be certified under this section.
- (3) To obtain a limited certification for urban landscape commercial fertilizer application, an applicant must submit to the department:
 - (a) A copy of the training certificate issued pursuant to s. 403.9338.
 - (b) A certification fee set by the department in an amount of at least \$25 but not more than \$75. Until the fee is set by rule, the fee for certification is \$25.
- (4) A limited certification for urban landscape commercial fertilizer application issued under this section expires 4 years after the date of issuance. Before applying for recertification under subsection (5), the applicant must complete 4 classroom hours of acceptable continuing education, of which at least 2 hours address fertilizer best management practices.
- (5) An application for recertification must be made at least 90 days before the expiration of the current certificate and be accompanied by:
 - (a) Proof of having completed the 4 classroom hours of acceptable continuing education required under subsection (4).
 - (b) A recertification fee set by the department in an amount of at least \$25 but not more than \$75. Until the fee is set by rule, the fee for certification is \$25.
- (6) A late renewal charge of \$50 per month shall be assessed 30 days after the date the application for recertification is due and must be paid in addition to the renewal fee. Unless timely recertified, a certificate automatically expires 90 days after the recertification date. Upon expiration, a certificate may be issued only upon reapplying in accordance with subsection (3).
- (7) Certification under this section does not authorize:
 - (a) The application of pesticides to turf or ornamentals, including pesticide fertilizer mixtures;
 - (b) The operation of a pest control business; or
 - (c) The application of pesticides or fertilizers by unlicensed or uncertified personnel under the supervision of the certified person.

(8) The department may provide information concerning the certification status of persons certified under this section to other local and state governmental agencies. The department is encouraged to create an online database that lists all persons certified under this section.

(9) Yard workers who apply fertilizer only to individual residential properties using fertilizer and equipment provided by the residential property owner or resident are exempt from the requirements of this section.

(10) The department may adopt rules to administer this section.



Florida Department of Agriculture and Consumer Services
 Division of Agricultural Environmental Services

Program ID (FDACS USE)

CHARLES H. BRONSON
 COMMISSIONER

**REQUEST FOR GRANTING CONTINUING EDUCATION UNITS (CEUs) FOR
 RENEWAL OF PESTICIDE APPLICATOR LICENSES AND CERTIFICATES**

Chapters 487.049(2), 482.111(10), 482.155(1)(b),
 482.156(2)(a), and 482.156(3), F.S. and 5E-9, F.A.C.

Pesticide Certification Section - Telephone: (850) 488-3314 FAX (850) 922-6961

Form must be completely filled out and necessary documentation attached. Please see Terms for Approval and Address for Submission on back of this form.

Sponsoring Organization: _____

Title of Program: _____

Location: Building or Address: _____

City _____ State _____ County _____ Zip Code _____

Date / / to / / (if applicable). Please list additional dates and locations (including addresses) on separate sheet.

Estimated number of attendees (# of attendance forms needed) _____

# CEUs Requested	# CEUs Approved		# CEUs Requested	# CEUs Approved		# CEUs Requested	# CEUs Approved	
_____	_____	Genl Stds/Core	_____	_____	Natural Areas	_____	_____	Comm L&O
_____	_____	Private Appl Ag	_____	_____	Ornamental & Turf	_____	_____	Comm GHP
_____	_____	Aerial	_____	_____	Raw Ag Comm Fum	_____	_____	Comm Termite
_____	_____	Ag Animal	_____	_____	Regulatory Pest Ctrl	_____	_____	Comm Structural Fumigation
_____	_____	Ag Row Crop	_____	_____	Reg Insp/Samp	_____	_____	Limited L&O
_____	_____	Ag Tree Crop	_____	_____	Right-of-Way	_____	_____	Limited Structural
_____	_____	Anti-Fouling Paints	_____	_____	Seed Treatment	_____	_____	Ltd Landscape Maint
_____	_____	Aquatic	_____	_____	Sewer Root Control	_____	_____	Public Health
_____	_____	Chlorine Gas	_____	_____	Soil/Ghse Fumigation	_____	_____	Public Health Aerial
_____	_____	Demo/Research	_____	_____	Wood Treatment	_____	_____	
_____	_____	Forestry				_____	_____	TOTAL CEUs

Provider Name _____ Affiliation _____

Mailing Address _____ Phone Number of Contact Person _____

City _____ State _____ Zip Code _____ Signature of Provider _____ Date _____

Email Address: _____

TERMS FOR APPROVAL

In making this request, the organization listed on the front agrees to comply with the following criteria:

1. The subject matter to be presented for CEU credit must relate directly to the certification standards.
2. The trainers or presenters must possess the expertise required to impart the specified information to the attendees.
3. The Record of Attendance (DACS-13325) must show the name, address, applicator license number, date, and sign-in and sign-out times for each attendee desiring CEU credit. All information on the record must be legible.
4. The attendee (applicator) will receive the original copy of the Record of Attendance form following the program attended. **It is the responsibility of the applicator to keep these records of CEUs earned until license renewal time!** The Provider may also keep a copy of the form for future reference. Record of Attendance forms will not be forwarded to FDACS by the Provider. The applicator must send a copy of the form to FDACS along with their renewal notice and license renewal fee.
5. For each session for which approval is requested, the sponsor will specify the duration (time) and request the number of CEUs to be allowed. This is normally 1 CEU for each 50 minutes of instruction time, or 0.5 CEU for each 50 minutes of demonstration time (for Bureau of Compliance Monitoring only), for applicable sections of the program.
6. The sponsor must submit each of the following for verification of program content, applicability, and assignment of CEU credits:
 - Program agenda including a list of the contact hours of instruction time
 - Brief description of the specific program contents as noted on the agenda
 - Documentation that attests the expertise of each trainer or presenter (brief resume)
The individual's title is not sufficient
7. **Forms and information should be submitted at least 2 weeks before the program. All programs must be approved before the presentation in order to receive CEU credits.**
8. Authorized Department agents may attend any approved CEU session unannounced and without paying any associated registration fee. If these agents desire to earn CEU credits while monitoring approved training programs, they must follow the same protocol as other attendees for registering and paying fees, if applicable.

For assistance, please call the Pesticide Certification Section at (850) 488-3314.

ADDRESS FOR SUBMISSION:

Send this form with appropriate documentation (#6 above) to:

**Pesticide Certification Section
3125 Conner Blvd. Bldg. 8 (L-29)
Tallahassee, FL 32399-1650
Fax (850) 922-6961**



CHARLES H. BRONSON
COMMISSIONER

Florida Department of Agriculture & Consumer Services
Division of Agricultural Environmental Services

**REQUEST FOR USERNAME AND PASSWORD TO SUBMIT
ELECTRONIC CEU PROGRAM REQUESTS**
Section 487.049(2), F.S. and Rule 5E-9.029, F.A.C.
Telephone: (850) 488-3314; FAX (850) 922-6961

Please fax or mail to:

Florida Department of Agriculture
and Consumer Services
Pesticide Certification Section
Attn: CEU Coordinator
3125 Conner Blvd., Bldg. 8 (L29)
Tallahassee, FL 32399-1650

As an education provider, I request a Username and Password to use the electronic process to submit pesticide training programs for approval to grant Continuing Education Units (CEUs) to licensed pesticide applicators for recertification and license renewal.

Provider Information:

Name: _____
Last
First
Middle
Suffix

Business Name: _____

Business Address: _____

Street

City

State

Zip Code

County

Business Phone: _____ Fax: _____
(area code) + number
(area code) + number

Business E-mail: _____

Default Values (Optional): If provided, this information will auto fill on your requests, but can be edited.

Sponsoring Organization: _____

Class Location: _____

Bldg. Name/Room #

Street Address

City

State

Zip Code

County

Provider Signature: _____ Date: _____

***** MUST BE SIGNED AND DATED *****

FOR DACS USE ONLY Username: _____ Password: _____

Date Sent: _____ Method: Mail Fax E-mail By: _____

References

1. Kornikau & McElroy. Communications for the safety professional. Chicago. National Safety Council. 1975.
2. Pike, R.. Creative training techniques handbook. Lakewood, MN: Lakeside Publications. 1992.