

Best Management Practices for Chemical Use

- Pesticides are applied by a trained, licensed applicator.
- Maintain a current Material Safety Data Sheet (MSDS) for each chemical at the facility.
- Follow label directions when using chemical products.
- Apply pesticides only when and where they are needed.
- Treat problems at the proper time and under the proper weather conditions to maximize effectiveness and minimize environmental impacts.
- Use products that reduce the potential for contamination of ground and surface water.
- Eliminate chemical runoff by avoiding applications during high winds or prior to heavy rains.
- Establish “no spray zones” and buffer areas, particularly around water features and other environmentally sensitive areas.



Maintenance Facility and Equipment

- Chemical storage structure should be secure and well ventilated.
- Organize maintenance facility for proper storage of equipment and supplies.
- Properly calibrate all equipment used to apply materials.
- Prevent gasoline, motor oil, brake and transmission fluid, solvents, and other chemicals from contaminating soils, surface waters, or ground water.
- Clean and maintain equipment in ways that prevent wash water from draining directly into surface waters.
- Pesticides and fertilizers should be stored on plastic or metal shelving to keep them off the floor.
- Store liquid products below dry materials.
- Handle all pesticides over an impermeable surface.
- Keep a spill containment kit readily available and follow spill containment procedures.



The Florida Department of Environmental Protection (FDEP) has developed a best management practices (BMPs) manual for golf courses. The manual can be found

here:

<https://floridadep.gov/sites/default/files/glfbmp07.pdf>

For more information from Charlotte County:

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The Audubon Cooperative Sanctuary Program for Golf **Audubon International** is an award winning education and certification program that helps golf courses protect our environment and preserve the natural heritage of the game of golf. Audubon International has developed Standard Environmental Management Practices that are generally applicable to all golf courses. The program manual can be found here:

<https://auduboninternational.org/acsp-for-golf/>



GOLF COURSE BEST MANAGEMENT PRACTICES

By their very nature, golf courses provide significant natural areas that benefit people and wildlife. On the other hand, golf courses can be an expanse of water hungry turf sustained through the use various chemicals. Fortunately, through awareness and education, golf course managers have become more environmentally responsible through time. Utilizing best management practices (BMPs), golf courses can meet the challenge of reducing negative impacts and provide a suitable habitat for wildlife and plant life.



Benefits of Improved Environmental Practices

- **Image and Reputation:** Good environmental performance can help you differentiate your course from others and attract new golfers and club members.
- **Customer Satisfaction:** The nature of your course can enrich golfers' experience of the game.
- **Financial Performance:** An effective environmental management program can result in reduced costs for energy, water, fuel, pesticides, or fertilizers.
- **Worker Safety and Reduced Liability:** Best practices for chemical management reduce exposure and liability risks from storing, handling, and applying chemicals.
- **Improved Efficiency:** Sound environmental management cuts down on waste and promotes efficient operations.



or

Potential Environmental Impacts

- Ground and surface water pollution from pesticides, fertilizers, and other contaminants
- Eroding shorelines
- Excessive use of water for irrigation
- Impacts to natural areas
- chemical handling health hazards through application
- Unintentional chemical impacts on wildlife
- Improper management of turf

Cost to Maintain a Sustainable Golf Course?



Golf courses require a great deal of maintenance. The use of all these resources is costly. Water and chemicals are not cheap. They must constantly

be applied to maintain conditions appropriate with the needs of the golf course. However, through the use of BMPs, courses can provide enjoyable places for recreation while protecting drinking water, improving water quality, and nurture a variety of plants and wildlife.

Golf Course Development Impacts

- Negative impacts on existing wildlife habitats
- Changes to natural drainage patterns and damage to wetlands
- Changes from natural plant life to managed landscapes and introduction of non-native plants
- Impacts to existing wildlife



Chemical Use Reduction and Safety

- Meet applicable state and federal regulations for chemical storage, handling, application, and disposal.
- Train maintenance staff in the basic tenets of integrated pest management.
- Educate maintenance staff about the risks to human health and the environment associated with chemical use, storage, and disposal.

Environmental Planning for use of Best Management Practices (BMPs)

- Assess the golf course to understand its current condition and management practices.
- Develop map of the course to show water resources, wildlife habitats, natural areas, turf surfaces, and special regions such as greens, berms and sand traps.
- Identify any issues and seek solutions to resolve environmental problems utilizing BMPs
- Develop a plan for each area on the course identified through the evaluation and mapping.
- Set goals and priorities for each section to make necessary changes
- Train employees regarding the on best management practices and specific techniques for ensuring a healthy environment
- Communicate regularly to employees, customers, and community members about environmental goals, issues, project implementation, and progress.
- Evaluate progress toward goals and objectives at least once per year.
- Document environmental activities and results for additional planning and tracking progress.

