

A FACT SHEET FOR

Restaurant Oil and Grease Rendering



Improperly managed oil and grease from restaurants has become a significant problem for wastewater collection and treatment systems. Fats, oils, and greases (FOG) coat, congeal, and accumulate in pipes, pumps, and equipment, leading to the costly and hazardous flow of waste grease into drain lines, sewer lines, lift stations, drain fields, and Publicly Owned Treatment Works (POTWs). Improper disposal can result in high biological oxygen demand (BOD) and chemical oxygen demand (COD) levels, increased operating costs, and clogged collection systems. A large percentage of the reported sewer system overflows in Georgia are caused by FOG blockage of the sewers.

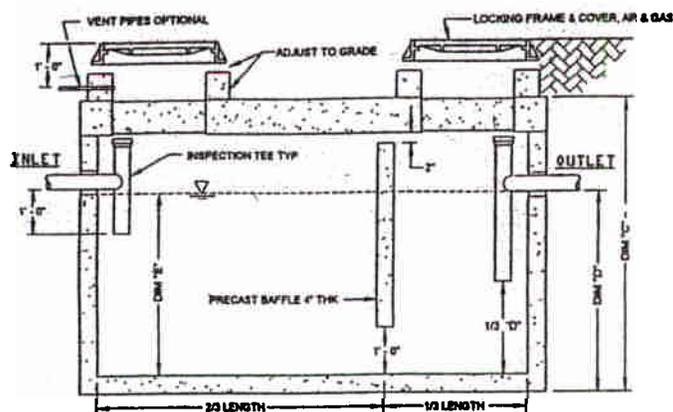
Different Types of Oils and Grease

- Recyclable grease is that used for or generated by cooking and has not been mixed with water. It is generated from pots, pans, grills, and deep fat fryers and comes from butter, lard, vegetable fats and oils, meats, nuts, and cereals. Recyclable grease should be kept out of the drains and handled separately. Rendering facilities may purchase recyclable grease and meat wastes and provide storage and collection. The market price depends upon factors such as volume, quality, and hauling distances. The rendering services will process recyclable grease by sampling it for pesticides and other chemicals and filtering and volatilizing impurities before reselling it, where prices may range from one to three cents per pound. If the volume of the wastes generated from one restaurant or cafeteria is too small for the rendering facility, businesses should explore the feasibility of setting up a cooperative collection among similar businesses.

- Restaurant kitchen waste water contains oil and grease that is collected in a grease trap. Because fats coat, congeal, and accumulate on pipes and pumps and sometimes obstruct sewer lines, food service establishments are required by most local governments to install and maintain grease traps. Specific information about trap maintenance is presented in P²AD's *Fact Sheet for Best Management Practices for Fats, Oils and Grease*. Some rendering services and local septage haulers will service or pump out these traps for a fee, and some services may reduce the pumping fee if the restaurant is a recyclable grease customer.

Where Does Grease Go When It Leaves a Restaurant?

A grease trap is designed to prevent grease, oil, solids, and other debris from entering the waste stream, where it becomes a problem by clogging sewers and disrupting the



Basic grease trap design

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water flow in the system. The grease trap captures those wastes and contains them until a waste hauler or pumper service can properly dispose them.

A grease trap should be checked and maintained to ensure it is working properly. Backups, odors, and drainage problems are signs that the grease trap is not functioning as it should. See P²AD's *Fact Sheet for Best Management Practices for Fats, Oils and Grease* for specific tips on proper maintenance of grease traps.

Grease Recycling

While pretreating wastewater through the use of grease traps, skimmers, separators, and process flow treatment systems such as carbon filtration or coagulation units can greatly reduce the problem, source reduction of oil and grease must be the first course of action. Through dry cleanup, the development of an efficient collection system and rendering program, wastewater problems can be avoided. Rendering companies or "grease recyclers" will accept oil, grease, and other animal byproducts, including deep fry fat and bones, thereby turning a nuisance waste material into a beneficial product such as animal feeds.

How is Waste Oil and Grease Recycled?

Waste oil and grease is tested for pesticides and other contaminants. Material is placed in a settling tank to remove solids, heated in a vacuum to volatilize impurities and is then sold to companies for use as animal feed additives, in soap production, oils, cosmetic and skin care products, and in composting.

Benefits of Rendering

- **Compliance** - Many communities have sewer use ordinances that severely limit the allowable concentrations of oil and grease in wastewater. New state policies are being enacted that will require more communities to develop sewer use ordinances and wastewater discharge limitations. Penalties may be incurred when higher concentrations are found. Rendering prevents grease from reaching the sewer

system and thereby helps restaurants maintain compliance.

- **Cost Avoidance** - The charge for pumping out a grease trap is considerably more than the service fee charged by a renderer. Furthermore, with dry cleanup and other source reduction techniques, many restaurants are reducing their water consumption and sewer use and are saving money. Rendering also helps restaurants avoid discharge penalty charges.
- **Economic Incentives** - Renderers' service fees are low and often provided at no charge. In some cases, rendering companies are willing to pay for restaurant oil and grease.
- **Environmental Savings** - Natural resources and energy are conserved through source reduction and recycling. FOG recycling keeps these materials from clogging municipal sewer lines, as well as using valuable landfill space and diverts it to a useful purpose.

Where to Find Renderers

Contact P²AD at (404) 651-5120, or (800) 685-2443 (outside of Atlanta) for a list of Georgia grease renderers. Local pretreatment coordinators, wastewater superintendents, and local health departments are also good sources of information.

Questions to Ask a Renderer

When looking for an oil and grease renderer, it is important to ask the right questions, which may include:

- 1) Do you provide collection containers?
- 2) Do you provide transportation?
- 3) Can I expect revenue for my material? If not, what is your service fee?
- 4) What are your specifications? What constitutes contamination?
- 5) If there is a problem, who should I contact?

Remember that fats, oils, and greases are commodities and should be treated as valuable resources that can and should be recycled whenever possible.



The **Grease Goblin** is the mascot for P²AD's Oil and Grease Management Program. He serves as a reminder to keep grease out of sinks and drains before it becomes a nuisance.

A FACT SHEET FOR Best Management Practices for Fats, Oils, and Grease



Grease Goblin

Residual fats, oils, and grease (FOG) are by-products that food service establishments must constantly manage. Typically, FOG enter a facility's plumbing system from ware washing, floor cleaning, and equipment sanitation. Sanitary sewer systems are neither designed nor equipped to handle the FOG that accumulates on the interior of the municipal sewer collection system pipes. A large percentage of Georgia's sanitary sewer overflows are the result of pipe blockages from FOG accumulation from residential, institutional and commercial sources. The best way to manage FOG is to keep the material out of the plumbing systems. The following are suggestions for proper FOG management.

Wet Cleanup - The Status Quo

It is common practice in the food service industry to use the water hose as a broom, and wash everything on the floor to the drain as a method of disposal. This method not only forces FOG into the wastewater stream, but also results in foods, detergents, disinfectants, waxes, insecticides and other chemicals entering the sewer system. Even worse than this mixed wastewater entering the sewer system, it is sometimes washed out the back door and into the storm drain, where it goes directly into our waterways unfiltered and untreated - the same waterways we use for recreation, fishing, and to supply our drinking water. This practice is not only harmful to the environment, but in many counties may be illegal, and result in fines or jail.

Dry Cleanup - The Better Way!

Rather than resort to this method of cleaning, P2AD recommends the dry cleanup method. *The "first pass"* in

equipment and utensil cleaning should be made with scrapers, squeegees, or absorbents to prevent the bulk of food materials from going down the drain. Do not pour grease, fats or oils from cooking down the drain and do not use the sinks to dispose of food scraps. Likewise it is important to educate kitchen staff not to remove drain screens as this may allow paper or plastic cups, straws, and other utensils to enter the plumbing system during clean up. The success of dry clean up is dependent upon the behavior of the employee and availability of the tools for removal of food waste before washing. To practice dry clean up:

- Use rubber scrapers to remove fats, oils and grease from cookware, utensils, chafing dishes, and serving ware.
- Use food grade paper to soak up oil and grease under fryer baskets.
- Use paper towels to wipe down work areas. Cloth towels will accumulate grease that will eventually end up in your drains from towel washing/rinsing.
- Use kitty litter to absorb liquid spills. Sweep and dispose of the litter in the trash, as long as the spilled material is not a hazardous material.

Spill Prevention

Preventing spills reduces the amounts of waste on food preparation and serving areas that will require clean up. A dry workplace is safer for employees in avoiding slip, trips, and falls. For spill prevention:

- Empty containers before they are full to avoid spills.
- Use a cover to transport interceptor contents to rendering barrel.

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- Provide employees with the proper tools (ladles, ample containers, etc.) to transport materials without spilling.
- Keep a spill kit in food preparation areas.

Maintenance

Maintenance is key to avoiding FOG blockages. For whatever method or technology is used to collect, filter and store FOG, ensure that equipment is regularly maintained. All staff should be aware of and trained to perform correct cleaning procedures, particularly for under-sink interceptors that are prone to break down due to improper maintenance. A daily and weekly maintenance schedule is highly recommended.

- Contract with a management company to professionally clean large hood filters. Small hoods can be hand-cleaned with spray detergents and wiped down with cloths for cleaning. Hood filters can be effectively cleaned by routinely spraying with hot water with little or no detergents over the mop sink that should be connected to a grease trap. After hot water rinse (separately trapped), filter panels can go into the dishwasher. For hoods to operate properly in the removal of grease-laden vapors, the ventilation system will also need to be balanced with sufficient make-up air.
- Skim/filter fryer grease daily and change oil when necessary. Use a test kit provided by your grocery distributor rather than simply a "guess" to determine when to change oil. This extends the life of both the fryer and the oil. Build-up of carbon deposits on the bottom of the fryer act as an insulator that forces the fryer to heat longer, thus causing the oil to break down sooner.
- Collect fryer oil in an oil rendering tank for disposal or transport it to a bulk oil rendering tank instead of discharging it into a grease interceptor or waste drain.
- Cleaning intervals depend upon the type of food establishment involved. Some facilities require monthly or once every two months cleaning. Establishments that operate a large number of fryers or handle a large amount of fried foods such as chicken, along with ethnic food establishments may need at least monthly cleanings.
- Develop a rotation system if multiple fryers are in use. Designate a single fryer for products that are particularly high in deposits, and change that one more often.

Oil & Grease Collection/Recycling

FOG are commodities that if handled properly can be treated as a valuable resource. See P²AD's *Fact Sheet for Food Service Oil and Grease Rendering* for more information about rendering.

- Some rendering companies will offer services free-of-charge and others will give a rebate on the materials collected. Contact P²AD at (404) 651-5120 or (800) 685-2443 for a list of grease collectors in Georgia.
- Use 25-gallon rendering barrels with covers for onsite collection of oil and grease other than from fryers. Educate kitchen staff on the importance of keeping outside barrels covered at all times. During storms, uncovered or partially covered barrels allow storm water to enter the barrel resulting in oil running onto the ground and possibly into storm drains, and can "contaminate" an otherwise useful by-product.
- Use a 3-compartment sink for ware washing plus a hot pre-wash. Ware should then go to a scouring sink with detergent, a rinse sink, and finally a sanitizer sink.
- Make sure all drain screens are installed.
- Prior to washing and rinsing use a hot water ONLY (no detergent) prerinse that is separately trapped to remove non-emulsified oils and greases from ware washing. Wash and rinse steps should also be trapped.
- Empty grill top scrap baskets or scrap boxes and hoods into the rendering barrel.
- Easy does it! Instruct staff to be conservative about their use of fats, oils and grease in food preparation and serving.

Grease Traps

- For grease traps to be effective, the units must be properly sized, constructed, and installed in a location to provide an adequate retention time for settling and accumulation of the FOG. If the units are too close to the FOG discharge and do not have enough volume to allow amassing of the FOG, the emulsified oils will pass through the unit without

Table 1. Georgia FOG Treatment Facilities

Treatment Facility	Address	Telephone
Boca Industries	5076 Nifda Dr.	Smyrna 30080 (404) 650-0050
Griffin Industries	4413 Tanner Church Rd.	Ellenwood 30049 (404) 363-1320
Environmental Waste Recovery	3710 New McEver Rd.	Acworth 30101 (770) 917-0377
PSC (Allwaste)	8025 Spence Rd.	Fairburn 30213 (770) 969-7886
L.H.R. Farms, Inc.	835 Oak St.	Gainesville 30501 (770) 532-3367
North Georgia Processing	940 Oliver Rd.	Martin 30557 (770) 384-7191

being captured. For information on properly locating, constructing, and sizing grease traps, call P²AD for the contact in your county or municipality.

- Ensure all grease-bearing drains discharge to the grease trap. These may include mop sinks, woks, wash sinks, prep sinks, utility sinks, pulpers, dishwashers, prerinse sinks, can washes, and floor drains in food preparation areas such as those near a fryer or tilt/steam kettle. No toilet wastes should be plumbed to the grease trap.
- One key component to effective grease trap management is training. Train all employees on the location, purpose and function, and proper maintenance of grease trap on a frequent basis. It is also important to give employees an understanding of plumbing connections to ensure that the right materials are put down the right drains!
- If these suggested best management practices do not adequately reduce FOG levels, the operator may consider installing a second grease trap with flow-through venting. This system should help reduce grease effluent substantially.
- Food preparation facilities that discharge to a municipal sewer should contact the local wastewater treatment plant (WWTP) for any requirements concerning the need for interceptors and grease trap management. The most important management procedure for grease traps is that a *company representative be present during any cleaning, pumping, or skimming* performed by a contractor. This safeguard permits management to respond appropriately to any questions about the services performed.
- Secure all grease traps to prevent illegal dumping and other tampering.
- **Pump out schedules** should be properly established and strictly followed to prevent overflows, downstream blockage, excessive oil and grease, and BOD loading to wastewater. It is important that these pump outs are complete, i.e., the grease caps removed, the sides scraped or hosed down, and the trap refilled with water. The contractor should indicate whether the trap is refilled with clean water or water from the trap.
- A food preparation facility should *never* “hot flush” (continuously run hot water) the grease trap as the heated, liquefied grease will be flushed down the sewer. While hot flushing may divert the need for pumping, the facility is liable for any costs associated with clogs caused by the flushing.

- **Bioaugmentation**, the addition of selected microorganisms (primarily bacteria) to the trap for improved operation, should be evaluated for each case. The bioaugmentation process is basically a passive treatment system to facilitate grease digestion and control buildup of the grease cap. The effectiveness of bioaugmentation is determined by a variety of factors including retention time in the trap, temperature of the wastewater, strength of the wastewater, and contact surface area. Some information indicates that for completely effective bioaugmentation, a retention time of one to five days is needed; however, a typical grease trap is designed for only one day of hydraulic retention. Since these parameters vary with location, an evaluation of each case should be made. The local WWTP should be contacted before any additives are used.

- **Alternative grease trap designs.** Some grease trap systems are designed to periodically heat the trap to de-solidify grease so that it can be automatically skimmed and collected. The high-quality grease collected from these systems may have high reuse potential. These grease traps, which may also be smaller than standard traps, can be located under a specific device above ground (i.e., the pot sink). Your local WWTP should be contacted prior to installation of any grease trap.

Garbage Disposals

Businesses that use garbage disposals to dispose of food waste are simply transferring disposal from a landfill to a wastewater treatment plant. Disposal of food waste via the sewer system is more costly than landfill disposal and acts as a disincentive to reduce generation of food waste or to separate food for donations, rendering, animal feed, or composting. Many business owners assume that water from their garbage disposal flows through their grease trap before discharge to the sewer system; however, in most cases, disposals are actually plumbed directly to black water systems which bypass the grease trap.

Consumer Tip

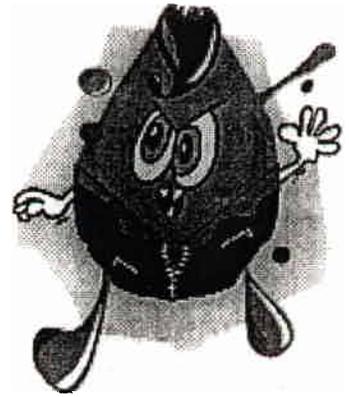
Buyer beware! When choosing a method of managing your oil and grease, ensure that it does what the vendor says it will do. Some technologies or “magic bugs” don’t eliminate the problem but result in grease accumulations further down the sewer line. “Out of sight” is not “out of mind.” Check the vendor’s references before investing in technological and biological management methods.



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A FACT SHEET FOR

Managing Food Materials



Grease Goblin

According to the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA), more than one quarter of all food produced in America every year goes to waste. That is \$31 billion in resources that goes into the nation's landfills and sewer systems. This fact sheet is provided to encourage businesses such as food service providers, processors, distributors, and merchandisers to eliminate waste and recover/recycle food materials.

Food waste can produce many environmental impacts. For example, food materials discharged to a wastewater treatment plant will dramatically increase the cost of wastewater treatment, and if released into storm drains, will significantly impact a creek or river's ability to sustain aquatic life forms. Also, food materials discarded into the solid waste stream contribute to odor and the creation of greenhouse gases at disposal facilities. EPA and USDA estimate that diverting food residuals from landfills would improve air quality as much as taking 1,000,000 cars off of American roads. Finally, food residuals in landfills serve as the catalyst for generation of leachate - the toxic soup that often drains from landfills into our drinking water aquifers.

Examples of what are considered food "residuals" include: preparation wastes, uneaten portions, grease, batter waste, dairy products, beverages containing sugar, and dressings. These food materials are excel-

lent candidates for reduction, recovery, and reuse. Reducing materials at their source, coupled with recovery, reuse, and recycling prevents pollution and reduces, and in some cases eliminates, treatment and disposal costs. A successful waste reduction program can result in cost savings and possible generation of revenues. These activities also contribute to a positive public image for the company, benefits to the community, and protection of the environment.

Reduction at the Start:

Ordering and Inventory Controls

Perhaps the most effective method for reducing waste is to prevent it in the first place. Proper control of raw goods, final products, and the waste streams associated with food preparation is an important source reduction technique. Improved ordering and inventory control significantly affect the three major sources of waste resulting from improper inventory control: excess, out-of-date, and obsolete raw goods. Below are options for reduction at the start.

- Order bulk supplies.
- Terminate useless packaging from the vendor.
- Refuse samples that will become waste.
- Work with suppliers to return shipping materials and packaging.
- Purchase reusable items.

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- Purchase only the amount of raw goods needed for a set period of time. This practice will help eliminate out-of-date and excess goods and products.
- Develop a review and approval procedure for all raw goods and products purchased. The primary purchaser can regulate the quantity of materials purchased by other personnel to reduce excess and out-of-date inventory.
- Clearly label all materials. Labels can indicate contents, storage and handling, and expiration dates.
- Rotate perishable stocks at every delivery to minimize waste from spoilage, i.e., first-in, first-out.
- Consider offering half or smaller portions as an option, to reduce amount of uneaten food.
- Develop hourly or daily production charts to minimize over-prepping and unnecessary waste.
- Store leftover hot foods from different stations in separate containers rather than consolidating them to minimize the chance of spoilage.

Donation of Food Material

Currently do you have excess edible food? Think of how that food could be used to help someone in need. In 1998, 36 million Americans lived in households that suffered from hunger or food insecurity. Food donation programs such as the Atlanta's Table project of the Atlanta Community Food Bank make donating simple. Both the federal and state Good Samaritan food law protects food donors from liability. More than 200 restaurants, caterers, cafeterias, corporate dining rooms, hotels, convention centers, and other food service providers who currently donate roughly 400,000 pounds of food materials each year to this program. By donating food it helps achieve a winning menu of opportunity, having a program where your staff can feel proud of being part of helping a neighbor in need, reduce food waste cost (recycling), and being good community partners. To find out more

information or to join this worthy effort call Jane Hayden at (404) 892-FEED, extension 233. Table 1 lists Georgia food bank/food donor programs.

Segregate Food Wastes for Beneficial Uses

To increase their recyclable potential, food materials should be clean and free of trash such as paper, glass, and plastic. Also, depending upon the requirements of recyclers, solid food wastes should be separated from liquid food wastes to enhance their recyclability.

Rendering

Free grease is grease that has not been mixed with water. It is largely generated from pots, pans, grills, and deep fat fryers and comes from butter, lard, vegetable fats and oils, meats, nuts, and cereals. If kept out of the drains and handled separately, free grease may be rendered. Rendering facilities may purchase free grease and provide storage and collection. The market price depends upon factors such as volume, quality, and hauling distances. See P²AD's fact sheets for Restaurant Oil and Grease Rendering and Best Management Practices for Fats, Oils and Grease for further detail about management of grease.

Composting Food Wastes

"A rind is a terrible thing to waste!" Composting is an excellent way to turn a costly disposal problem into a source of soil nutrient and potential income, reduce air and water pollution, and save landfill space. The use of compost in gardening and agriculture reduces soil runoff and reduces the need for using chemical fertilizers, which protect Georgia's water ways.

Businesses interested in diverting wastes to composting could open their own compost facility or investigate the possibility of using local government or private compost facilities already in operation. Contact P²AD at (404) 651-5120 or (800) 685-2443 to explore your composting options.

Table 1. Georgia Food Bank and Food Donor Programs			
Location	Organization Name	Contact	Telephone
Atlanta	Atlanta's Table	Jane Hayden	(404) 892-FEED x233
Savannah	Second Servings	Pauline Knight	(912) 236-6750
Macon	Unto Others	Ron Raleigh	(912) 743-4580
Athens	Full Plate	Jim Valente	(706) 546-8293

Facility Waste Reduction Program

Management Commitment. The most critical step to successful waste reduction is commitment by the owner(s)/managers of a facility to a waste management plan. A detailed waste reduction program should be developed that outlines policies and procedures for dealing with waste and assigns individual responsibilities for all waste related activities.

Employees will be aware of the degree of commitment by management and will rise or fall to the level that is expected or allowed. It is, therefore, important to have realistic goals that can be achieved, recognized, and rewarded.

Employee training is a significant component of a waste reduction program, and all employees from managers to the clean-up crew should be included. The training sessions, which should be repeated on a regular basis, should teach waste awareness, the impact of various food wastes on the wastewater stream, proper waste handling methods, and the importance of keeping non-food garbage out of food waste containers. Contact the Pollution

Prevention Assistance Division at (404) 651-5120 for assistance with setting up training programs.

An Employee Suggestion/Awards Program should be established to maintain employee motivation. Employees can be rewarded for proper waste handling practices. Current incentive programs ("employee of the month") can also incorporate employee waste handling practices as evaluation criteria. An employee awareness program should be highly visible, and managers and supervisors must strongly support these programs.

Also, **employees should be solicited** for ideas/suggestions for conducting efficient dry cleanups, segregating food wastes, or recycling other solid waste products. Employees also may have ideas about methods to generate less food waste or more effectively manage inventory. The most effective waste reduction programs make use of a team concept in which employees at all levels make contributions.

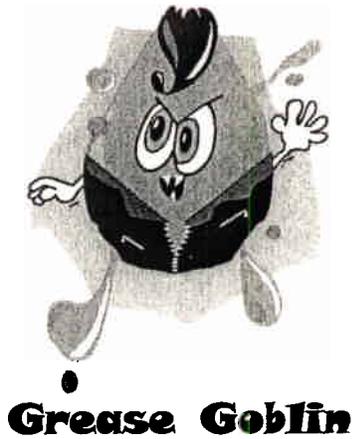


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A FACT SHEET FOR Food Service Waste Reduction



Today's food service providers are constantly looking for ways to improve productivity and trim costs. Waste in any operation is generated as a result of inefficiencies, and therefore, reducing waste creates a more efficient operation. Solid waste disposal, energy consumption, and waste water make up the majority of environmental challenges that restaurants must address as part of their business operations. This fact sheet is intended to provide tips on how food service providers can reduce, reuse, and recycle these wastes. Please see P²AD's *Fact Sheet for Managing Food Materials* and *Fact Sheet for Best Management Practices for Fats, Oils, and Grease* for tips relating to these distinct waste streams of the food service industry.

Benefits of Waste Reduction Programs

- **Good Business.** Generally, waste reduction leads to increased operating efficiency and cost savings. Decreased solid waste generation reduces collection and disposal costs just as reducing electricity and water reduces utility bills. Waste minimization also may reduce purchasing costs.
- **Good Stewardship.** Georgia is challenged with maintaining its clean waters, air, and land. All Georgians have a responsibility to themselves, fellow citizens, and future generations to maintain a clean environment.
- **Customer Satisfaction.** Surveys show that Americans are very concerned about the environment. They appreciate restaurants and other businesses that make efforts to be more environmentally aware – at the table and the way business is conducted.

After you implement waste reduction measures, give yourself credit! Your efforts will not only attract customers, they will encourage other businesses to follow your example.

Implementing a Waste Reduction Program

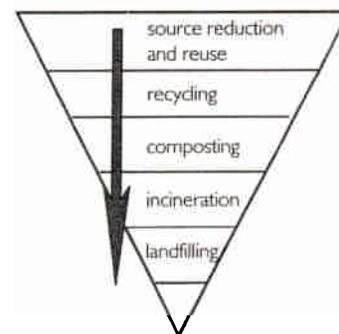
Once a restaurant has made a commitment to reduce waste, the manager or waste reduction team should assess all operations, such

as food preparation, food service, purchasing, and janitorial activities to identify opportunities to reduce waste and conserve water and electricity. Ideas for protecting the environment and realizing the cost benefits of waste reduction should be responsibilities of all employees in all job functions. Once waste reduction opportunities are identified, employees should be trained so they are comfortable with implementing the changes. Training should be repeated periodically to ensure that new employees are included. An employee suggestion and awards program can be established to maintain enthusiasm for the program. The remainder of this fact sheet lists specific activities that restaurants can undertake to reduce waste.

Reduction and Reuse

- ✓ Avoid overpackaging for take-out orders.
- ✓ Place health department approved rubber mats around bus and dish washing stations to reduce china and glass breakage.
- ✓ Work with suppliers to take back and reuse corrugated cardboard boxes, five-gallon buckets, and other packaging - if they won't take them back, donate buckets to customers,

The Waste Reduction Hierarchy lists waste management options in order of preference



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- local schools or churches. Do not reuse for contact with food.
- ✓ Use approved refillable condiment bottles (only after being rewashed and sanitized) instead of single-use packages. Refill them from bulk containers.
- ✓ Use reusable dishes instead of styrofoam or other disposable ware to save on long-term purchasing costs.
- ✓ Use reusable take-home trays for regular customers.
- ✓ For take-out orders, offer condiments and straws upon request instead of self-serve.
- ✓ For dining room customers, use bulk straw dispensers instead of individually wrapped straws, and place napkin dispensers on tables rather than in a central part of the dining room - people will generally take 1/3 as many napkins then!
- ✓ Reduce menu printing costs wherever possible, for example, by reusing menus, eliminating paper inserts, and using boards to post daily specials.
- ✓ Use unbleached recycled paper bags for take-out orders.
- ✓ Ask your carbonated beverage supplier to provide you with reusable syrup cannisters rather than the bag in the box type of containers.
- ✓ Use roll-type paper towels (unbleached are usually cheapest) in restrooms instead of using pre-cut paper towels.
- ✓ Train employees on proper use of cleaning chemicals - most people use far more cleaner than is needed for the job.
- ✓ Read directions carefully when mixing cleaning agents from concentrate, and test for proper concentration. Most people use significantly more concentrate than is required to do the job!

Recycling

- ✓ Establish glass, plastic, and cardboard recycling with a local collector.
- ✓ Share the cost of a cardboard baler for recycling with a neighboring business.
- ✓ Make sure that staff are flattening tin and aluminum cans to reduce volume before placing in recycling bins.

Purchasing

- ✓ Choose environmentally friendly cleaning products, and try to purchase cleaning agents in concentrate.
- ✓ Ask for and purchase products such as paper towels, toilet tissue, menus, order pads, cash register tapes, plastic bags, dish trays, rubber mats, brooms, and benches made from recycled materials. Call P²AD for more information.

Electricity Conservation

- ✓ Develop and implement a cleaning and maintenance pro-

- gram for all equipment. This program should include calibrating ovens and checking pipes for leaks.
- ✓ Use energy-conserving fluorescent lights instead of incandescent bulbs.
- ✓ Use low-wattage bulbs in exit signs instead of the more common high-wattage bulbs.
- ✓ Clean refrigerator coils and change air conditioning filters regularly to help these appliances run more efficiently.
- ✓ Use energy-efficient and water-conserving appliances, e.g., dishwasher, refrigerator, freezer.
- ✓ Install motion or timer lights in restrooms, pantries, and freezer units. Lights can be set to go off after three to five minutes of inactivity.
- ✓ Set thermostats at reasonable levels.

Water Conservation

- ✓ Clean spills with a squeegee, broom, or vacuum.
- ✓ Install low-flow faucet adapters, and/or automatic turn-off faucets, and low-flow toilets in restrooms. Of the total water used in restaurants, restroom water usage ranges from 50 percent in full-service restaurants to 80 percent in fast food restaurants.
- ✓ *Never* hose materials down the drain. This practice not only wastes water, but it contributes to organic loading at the wastewater treatment plant.
- ✓ Provide drinking water to customers only upon request.
- ✓ Replace rubber faucet gaskets with brass gaskets and automatic shut off nozzles to save thousands of gallons/year.

Food and Grease Waste Management

- ✓ The National Restaurant Association estimates that 20 percent of all food prepared commercially in the United States goes to waste, and grease is responsible for a large percentage of all sewer overflows in the U.S. See P²AD's *Fact Sheet for Food Material Management* and *Fact Sheet for Best Management Practices for Fats, Oils, and Grease* for more details regarding reduction of these large waste streams.

Waste reduction offers cost savings that benefit both small and large operations. Once your waste reduction program is underway, track your waste reduction and cost savings and get the word out! You don't have to do it all at once - choose actions that are doable, document your success, and then move on to the harder projects. To learn more about any of these suggestions or to discuss your waste reduction concerns, contact P²AD.



The **Grease Goblin** is the mascot for P²AD's Oil and Grease Management Program. He serves as a reminder to keep grease out of sinks and drains before it becomes a nuisance.