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) 605-0050
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
Disposal Solutions LLC	185 Industrial Park Circle	Lawrenceville	30350	(770) 237-9868

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.

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.

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