

BIOLOGICAL PRODUCTS PROGRAM FOR COMMERCIAL PEST MANAGEMENT ACCOUNTS

WHY ESTABLISH A BIOLOGICAL PRODUCTS PROGRAM?

Sanitation is the primary benefit of a biological products program. Restaurants and other food service operations are constantly generating grease and food waste from cooking and food preparation. The busier the restaurant, the more meals served, and the more grease and food waste generated. The typical restaurant mops their floor each night (with a soap-based product) and wipes down their counter tops with a cleaner/disinfectant. These standard cleaning methods will not prevent grease buildup. Grease buildup is evidenced by a “greasy film” on floors and walls, dangerous slippery floor surfaces, clogged (slow) drains, and rancid-foul odors. The regular application of **BioMop™** and **DrainGel™** eliminates grease buildup. When the account is grease free, it is much easier to provide effective pest control service. This builds customer satisfaction and customer loyalty.

Another common sanitation problem caused by grease buildup is small fly infestations. Since the advent of roach baiting, fruit flies and other small flies have become the number one complaint for many food service accounts. Small fly control is a sanitation issue – they breed in the grease and organic waste that builds up over time on the floor, in drains, and under equipment. During the breeding cycle, fruit flies and other small flies can lay thousands of eggs resulting in “explosive” population growth. The use of pesticides and flytraps provides temporary control of the adult flies only. Treating floors and drains with hot water, bleach, ammonia, and detergents are ineffective – the majority of the eggs and larvae imbedded in the organic waste easily survive these treatments. Until the grease and organic waste are removed, the breeding cycle will continue. The regular use of **BioMop™** and **DrainGel™** will quickly degrade grease and organic waste.

PROBLEMS	SOLUTIONS
<ul style="list-style-type: none"> ▶ Food service accounts can be very profitable, but they can also be a nightmare. Why? Because effective pest control depends on the customer’s sanitation practices. 	<ul style="list-style-type: none"> ▶ Instead of issuing sanitation reports, provide your customers with grease-fighting products that really work!
<ul style="list-style-type: none"> ▶ Over time grease and food waste accumulates on the floor, in cracks and crevices, in the grout, in drains, and under equipment. This waste soon decays, becomes odorous, and starts attracting fruit flies, roaches, and other pests. 	<ul style="list-style-type: none"> ▶ BioMop™ and DrainGel™ contain microorganisms that quickly and safely degrade kitchen grease and other organic wastes. <i>These microorganisms actually “digest” the grease – not simply “break it up” like standard cleaning products.</i>
<ul style="list-style-type: none"> ▶ Standard cleaning products (including so-called “degreasers”) do not remove grease buildup. Significant grease buildup will “doom” even the best pest service. 	<ul style="list-style-type: none"> ▶ BioMop™ and DrainGel™ were specifically designed for the commercial pest control industry. Several application systems are also available for solving common problems encountered in real world kitchen environments.

HOW BIOLOGICAL PRODUCTS WORK

Microorganisms (bacteria) have populated the earth since time beginning. They are nature’s “primary decomposers” and are critical to the natural recycling of the earth’s basic elements. Without bacteria, organic and chemical wastes would accumulate to toxic levels with disastrous results for both plant and animal life. The vast majority (98%) of bacteria are “beneficial.” Pathogenic strains (specific organisms associated with a specific disease) comprise less than 2%. (All American Bio-Systems’ products are screened to insure they contain no pathogenic strains.) Bacteria degrade targeted compounds by producing specific enzymes (proteins) that break the compound’s molecular structure into smaller components that can be absorbed into the cell wall and further degraded or “digested.” The microorganisms contained in **BioMop™** and **DrainGel™** have been developed from naturally occurring Bacillus family isolates that have a superior ability to degrade proteins, lipids (fats, oils, and grease), and starches.

A consortium of bacteria rather than a single strain is most effective in breaking down grease and other complex wastes. A synergistic blend of selectively adapted microorganisms added to the indigenous population increases the speed and scope of degradation. **BioMop™** and **DrainGel™** contain a bacteria consortium capable of breaking down long chain fatty acids, the primary component in problem grease deposits. In addition to the bacterial component, a product’s “support” ingredients are critical to effective performance. These typically include a preservative to preserve the spore bacteria while stored, nutrients to speed germination/activation upon use, and other additives specific to the product’s purpose. **BioMop™** and **DrainGel™** contain technologically advanced support formulations that maximize product performance.

WHY SOLVENTS AND ENZYMES DO NOT WORK

Solvents, surfactants, and enzymes have been marketed for elimination of grease buildup. Solvents simply liquefy grease to allow transport “downstream.” Once the solvent is sufficiently diluted, the grease resolidifies. Products containing high concentrations of surfactants have a similar effect. Enzyme (protein) products can initiate grease breakdown, but can’t complete the process. Any beneficial effect is short-lived because enzymes cannot increase in number (like bacteria) and they are “unstable”, i.e. easily degraded by native bacteria producing protease (an enzyme that attacks and destroys proteins).

AMERICAN BIO-SYSTEMS BIOLOGICAL PRODUCTS LINE

BioMop™ - Bacterial Formulation for General Cleaning and Removal of Organic Material

Description: New formula **BioMop™** is a state-of-the-art floor cleaner combined with a highly concentrated biological degrader. The biological component includes **MGD™** (Microbial Grease Degrader), a patent-pending strain consortium that breaks down long chain fatty acids – the primary component of problem grease deposits. **BioMop™** replaces the customer's old mop product. **BioMop™** cleans the floor and removes organic waste – all in one step.

Application Methods: The customer applies **BioMop™** by mopping or hosing. In general, mopping is superior to hosing (and power washing) for effective cleaning. Hosing creates a moist environment that can cause a variety of pest management problems (it can also damage floors and walls). Whenever possible, the customer should be encouraged to mop their floor rather than hose. Foaming **BioMop™** is also an effective application method when organic material is located in difficult to reach areas. This application method is best performed by a pest management professional during regularly scheduled service calls.

1. Mopping **BioMop™**: The most common method of applying **BioMop™** is by mopping. Mix 2 oz. **BioMop™** to 1 gallon of water and mop floor in usual manner insuring to mop in all corners, cracks, crevices and under equipment. After mopping, pour any unused mop water into each drain in equal portions. Use a **BioMop™** dispensing pump to dispense product from the gallon size jug. The pump dispenses one ounce per plunge and helps to control product usage. Small-medium size restaurants that use 1 standard 2-gallon mop bucket each night to mop their floors will use approximately 1 gallon of **BioMop™** per month (4 oz. **BioMop™** per night). If problem areas exist that cannot be reached during mopping, pour undiluted **BioMop™** into a spray bottle and spray problem areas until wet. (Note: The dispensing pumps are free to PMP's participating in the **BioMop™** Marketing Program. Contact American Bio-Systems for more information.)

2. Mopping Larger Facilities: The **BioMop™ Mop Water Dispenser** is for larger facilities that mop their floors. This wall-mounted dispenser automatically mixes **BioMop™** with water at the proper dilution for mopping. The customer simply pushes one button and fills their mop bucket.

3. Hosing **BioMop™** – Smaller Facilities: The **BioMop™ Hose End Sprayer** is designed for small-medium size facilities that hose their floors. The sprayer attaches to the end of an ordinary garden hose and offers automatic dilution with convenient control of product usage. First hose the floor with water-only. Then attach the **BioMop™** container using an easy-to-operate quick coupler. Takes only 2 minutes to rinse 750 sq. ft. of floor area.

4. Hosing **BioMop™** – Larger Facilities: The **BioMop™ Application System** is a fully automated floor cleaning system designed for larger facilities that hose their floors. This wall-mounted system is easy to install (10 minutes without a plumber) and easy to use. First hose the floor with water-only. Then turn two valves on the front of the system and rinse the floor with the pre-set **BioMop™** dilution. Takes only 2 minutes to rinse 750 sq. ft. of floor area.

5. Foaming **BioMop™**: **BioMop™** can be foamed with excellent results into cracks and crevices, underneath and behind equipment, and in hard to reach areas. Mix 6 oz. **BioMop™**, 12 oz. water, and 3 oz. foaming agent in a standard quart foamer. Note: For treating drains, there is no evidence that foaming works as well as pouring a properly designed drain line product like **DrainGel™** into the drain.

DrainGel™ - Bacterial Formulation for Removal of Organic Material from Drain Lines and Non-Drain Areas

Description: New formula **DrainGel™** is a highly concentrated bacterial gel specifically designed to keep drain lines free of grease buildup. **DrainGel's™** proprietary formula contains over 550 billion cells per gallon and includes **MGD™**, the most effective degrader of complex grease molecules on the market today. Its heavy gel formula clings to the drain sides. It can also be sprayed into cracks and crevices and other hard to reach areas.

Application: For start-up, add four ounces of **DrainGel™** to each drain. Apply around edge of drain, attempting to coat sides of drain. Repeat dosage daily as necessary, usually for 5-7 days. For maintenance, apply four ounces per drain every one to two weeks. If drain is not regularly used, first moisten by pouring 1-2 gallons of warm water into drain. Apply **DrainGel™** at time of lowest drain use, ideally at end of day after the use of all cleaning and sanitation products has been completed.

For non-drain areas (sinks, drain grates, floors, etc.), first remove any loose and heavy surface organic matter. Spray area liberally until wet. Repeat application daily as necessary until organic material has been removed, usually for 5-7 days. For maintenance, spray area every one to two weeks, adjusting frequency based on results.

BIOMOP™ OR DRAINDEL™ – WHICH PRODUCT TO USE?

BioMop™ and **DrainGel™** are both state-of-the-art cleaning products that contain MGD, the most effective degrader of complex grease molecules (kitchen grease) on the market today. Their applications though are significantly different. **BioMop™** is applied daily (via mopping or hosing) and cleans the entire kitchen (both floors and drains). **DrainGel™** is applied 5-7 consecutive days for startup then “as needed” for drain line maintenance. **DrainGel™** is similarly applied to non-drain sites to degrade grease and organic waste.

Which product to use? **BioMop's™** application is more frequent and broader than **DrainGel's™** and should be recommended for all food service accounts. With **BioMop™**, your customer is mopping millions of hungry grease-eating microorganisms onto the floor and into the drains each night. While some get killed off overnight, millions more are mopped on the next night. (In the world of bioremediation, repetitive application is the ultimate.) As a result, the regular use of **BioMop™** cleans the entire kitchen. With **BioMop™**, the customer no longer needs to purchase other cleaning products including drain cleaners, “degreasers”, bleach, or other caustic cleaning chemicals (most of which are ineffective against grease anyway). If the customer is only concerned with drain line maintenance, then **DrainGel™** should be recommended.

BIOMOP™ AND DRAINDEL™ APPLICATION GUIDELINES

While using **BioMop™** or **DrainGel™**, the customer must stop using all bleach, degreasers, and other cleaning products on the floor and in the drains (these products kill beneficial bacteria and do not remove grease anyway). The customer can continue to use a disinfectant or cleaner (including bleach) on their counter tops only.

For accounts using **BioMop™**, instruct the customer that **BioMop™** replaces their old mop product. After mopping, the customer should pour any unused mop water into each of the drains.

HOW TO ESTABLISH A BIOLOGICAL PRODUCTS PROGRAM

American Bio-Systems has developed a number of treatment programs incorporating **BioMop™** and **DrainGel™** to effectively rid your food service accounts of grease buildup. The easiest way to start is to sign-up for the **BioMop™ Marketing Program**. As a participant, American Bio-Systems will provide you with free training CD's, marketing materials, dispensing pumps, and a listing of your company on American Bio-Systems' web site as a participating pest control operator. Contact American Bio-Systems' Customer Support for complete details toll free at (888) 371-3353 or via email at CustomerSupport@bio-systems.com. You may also sign-up on the internet at www.bio-systems.com

BIOMOP™ SALES STRATEGIES

BioMop™ can be sold to food service accounts in two ways – as part of a monthly sanitation service or as a sell-through product. As explained below, selling **BioMop™** as part of a monthly service has many advantages.

BioMop™ is the perfect tool for food service accounts. Whether applied by mopping or hosing, the powerful biological component in **BioMop™** actually “digests” problem grease deposits that build up over time. And clean premises (less grease and grime) mean less attractants for other pests making pest control service easier.

The components of monthly **BioMop™** service are monthly inspections of the floors and drains, identification of non-drain sites for treatment, monitoring **BioMop™** usage, customer training/education, and delivering **BioMop™** product.* When sold as a “service”, the customer associates all the benefits of using **BioMop™** with your company, not just the product. (This is similar to pest control – you're selling “service” not chemicals.) During the contract some **DrainGel™** work may also be required, especially during the start up phase.

For small-medium size accounts, PMP's are charging \$35 - \$55 per month on a 6 to 12 month contract for this value-added service (includes 1 gallon **BioMop™**).* Since you are visiting the account anyway, this service will increase your profitability while taking very little additional time .

Whether sold as part of a monthly service or as a sell-through product, **BioMop™** will clean up the toughest accounts while building customer loyalty and increasing your revenues.

*Most small-medium size accounts use one 2-gallon mop bucket each night to mop their floors. For these accounts, 1 gallon of **BioMop™** is sufficient for 1 month's mopping (32 applications at 4 oz. of **BioMop™** per night). For accounts that use more than 1 mop bucket each night, more than 1 gallon of **BioMop™** will be required each month and the monthly service fee must be adjusted accordingly.

DRAINDEL™ SALES STRATEGIES

DrainGel™ is best sold as a “preventive maintenance” monthly drain line service. Benefits include free flowing drains and the elimination of foul odors. For most accounts, monthly **DrainGel™** application is sufficient and can be performed during your monthly service. For accounts requiring more frequent application, **DrainGel™** can be left with the customer between your visits with application instructions (found on the label). **DrainGel™** drain line service will help prevent backups and costly plumbing bills.

BIOMOP™ AND DRAINTEL™ TECHNICAL INFORMATION

Composition Detail: Both **BioMop™** and **DrainGel™** contain two categories of ingredients – viable cultures and chemical ingredients – in a water base medium. The viable cultures are endospore-forming Bacillaceae bacteria strains. These strains are classified as non-pathogenic, naturally occurring environmental isolates, and were isolated for their ability to degrade proteins, lipids (fats, oils, grease), and starches. These strains are not of animal origin and are not genetically engineered. The identity of the Bacillus sub-strains in each product and the specific chemical formulas are proprietary.

EPA Exempt: **BioMop™** and **DrainGel™** contain no poisons or pesticides. **BioMop™** and **DrainGel™** are not subject to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); are exempt from EPA regulation; and do not have EPA product registration numbers.

BioMop™ Floor Slip Index: Slip and fall accidents are the most common types of accidents in food service operations. Routine mopping is not sufficient to remove fats and greases from restaurant floors and rather serves to redistribute them over floor surfaces. Tile pores and surfaces rapidly become coated with a patina of grease that resists mopping, increases floor slipperiness, and significantly reduces pedestrian slip resistance. Replacement of standard commercial floor cleaners with **BioMop™** resulted in significant increases in floor slip index (ASTM standard) in restaurants tested under both wet and dry conditions. The magnitude of change was greatest in the kitchen where grease exposure is highest. The positive effect of **BioMop™** was established by the 3rd week of use and was readily apparent both visually and by “feel” (increased traction).

Safety Of Microbe Introduction: Many native bacteria strains exist on the floors and in the drains of all food service operations. This includes not only commercial kitchens, but kitchens in homes as well. Some of these native strains likely belong to the Bacillus family of bacteria. While the strains in **BioMop™** and **DrainGel™** also belong to the Bacillus family, they are specially selected sub-strains that are far more “hungry” than the native strains, i.e. they biodegrade the target substance (kitchen grease) more quickly and are less likely to become anaerobic and odor-causing. The more aggressive **BioMop™** and **DrainGel™** strains “out compete” the native strains for the food source causing the native strains to starve and die.

To determine the effect on bacteria counts, testing was done at a family style restaurant over a 2-month period before and after the use of **BioMop™**. Prior to the initiation of **BioMop™** use, swab testing detected a background presence of bacteria on the floor surfaces of 10³ to 10⁴ CFU/in². During the use of **BioMop™** no significant impact on total microbial levels was observed, however, the types of microbes changed significantly with **BioMop™** strains predominating. This suggests that the native bacteria had been competitively displaced and may provide benefits in the suppression of undesirable native microbes.

From a regulatory point of view, the most important aspect of American Bio-Systems' bacterial products is that there are no genetically engineered organisms in any product. All of the strains are classified as non-pathogenic, naturally occurring environmental isolates. **BioMop™** and **DrainGel™** cultures are developed from isolates chosen for their specific capability to degrade lipids (fats, oils, and grease), proteins, and starch. A process of selective adaptation then enhances this capability.

From a safety/health hazard point of view, the most important aspect is that American Bio-Systems produces no organisms that are classified as pathogens, i.e. specific organisms associated with a specific disease. The bacteria strains in **BioMop™** and **DrainGel™** pose less of a health risk to humans than the native bacteria in kitchens because, unlike the native bacteria, the strains in **BioMop™** and **DrainGel™** are screened and tested to insure there are no pathogenic organisms. **BioMop™** and **DrainGel™** are both commonly used in many USDA regulated operations for which products must be tested for the presence of pathogens including Salmonella & Shigella.

In regard to human health risks, any organism that can grow at body temperature on organic substrate could potentially infect an open wound. An open wound must be protected against these organisms just as it must be protected against contact with dirt. Before any strain is put into production, American Bio-Systems runs drug sensitization studies to insure that all strains in American Bio-Systems' products are susceptible to commonly used antibiotics. **BioMop™** and **DrainGel™** are floor and drain cleaning products applied directly to floors and drains. When applied according to their label instructions, contact with food preparation areas (and workers) should be minimal. If such contact occurs, the health risk to humans is minimal as evidenced by the products' respective MSDS's.

Safety Comparison With Other Cleaning Products: **BioMop™** and **DrainGel™** are non-toxic, non-hazardous, non-pathogenic, and non-caustic. Restaurants commonly use bleach (5.0% to 5.25% sodium hypochlorite solutions) as a disinfectant, floor cleaner, and drain cleaner. Based on a comparison of MSDS hazard ratings/data, **BioMop™** and **DrainGel™** are significantly less hazardous to humans than bleach. The **BioMop™** and **DrainGel™** Hazardous Materials Identification System (HMIS) safety rating is 1 - defined as “slight hazard” (irritation or minor reversible injury possible). Bleach's HMIS rating is 2 - defined as “moderate hazard” (temporary or minor injury may occur).

American Bio-Systems