







onsidering the health threats posed by flies and the litigious nature of society, commercial accounts – today more than ever – require dependable fly control.

But that's easier said than done, particularly given the wide array of accounts serviced by PMPs and the numerous fly species causing problems in commercial facilities. But pest management professionals are up to the task: They have better tools than ever before to effectively and responsibly control this public health threat. In the following White Paper, some of the industry's leading technical experts share their insights about how to successfully manage flies in commercial facilities.

A Problematic Pest

Jay Bruesch, technical director of Plunkett's Pest Control in Fridley, Minn., says flies have become one of the industry's leading pests in recent years, since the demise of the cockroach as the #1 pest in commercial accounts. "I think flies are our top pest in commercial accounts, especially in food-handling and food-service accounts," said Bruesch. Among the biggest culprits are house flies, cluster flies and fruit flies.

Two major types of flies are typically a nuisance in commercial ac-

counts: filth flies, which generally breed outdoors and then enter structures, and small flies, which usually breed indoors and infest structures. But no matter which group of flies is at the root of a problem, inspection remains critical.

That's the view of Jim Sargent, director of technical support and regulatory compliance for Copesan Services, headquartered in Menomonee Falls, Wis. He says fly control starts with identification, followed by prevention. And that, he adds, involves sanitation, exclusion and drainage.

"Fly prevention is just preventing places for the flies to breed," Sargent said, "so sanitation is critical." A secondary component, he adds, is exclusion. "You could probably throw in drainage too," he says, "because most flies require some kind of moist or wet environment to grow up in."

All three are important for prevention, Sargent said. "The PMP doesn't have a lot of control over drainage or sanitation or exclusion (issues)," he said, "but the PMP is knowledgeable and can talk about or identify the problem and talk about recommendations to prevent it in the future."

Regardless of species, Sargent says the key to control can be narrowed to one main idea: "When you look at a fly problem, you're really trying to ask yourself, 'Where are the maggots?'" If the maggots, or fly larvae, are outdoors, then you're most likely looking at a filth fly problem. If they're indoors, however, it's probably one of the small fly species.

Filth Fly Control

Sargent says the larger filth flies are actually good for the environment, since they play a role as natural recycling agents outdoors. But, he notes, "When you have filth flies indoors, especially where there's food, it represents a health threat." That's because filth flies breed in and feed on decaying organic matter that carries disease-causing organisms. Then, when they land on food, the flies can potentially spread those diseases to humans.

"We have several thousand people that die every year from food-borne illness, and was it because of a fly or was it because someone didn't wash their hands?" observed Sargent. "We can't tell." Furthermore, he adds, some cases of food poisoning might also be due to flies rather than temperature controls of food.

John Moore, quality assurance manager, Royal Pest Management, New Castle, Del., says house fly control should begin outdoors with the PMP observing what's going on.



Sometimes the problem is easy to solve, like advising the client to simply keep the doors shut. That's often the case in infested restaurants, Moore said, when the kitchen's back door is left propped open, and not far

every two weeks during the warmer months. And part of those discussions should also include predictions about expected fly reproduction in the coming days, perhaps based upon weather forecasts.



"Record floods this year are going to mean record flies. If you think of a generation of flies every week, imagine the huge numbers by the end of the summer." – Jim Sargent, director of technical support and regulatory compliance, Copesan Services, Menomonee Falls, Wis.

outside is an overflowing dumpster. "Sometimes it takes two or three trips of going out there and saying, "Shut the door," he says. "Sometimes it's that simple."

But controlling problems aren't always that easy, and no two situations are ever the same. "The types of situations you can run into are as varied as the number of accounts we have," said Bruesch. "There are so many different factors affecting any particular fly problem, that you could say they are all different and they all require a different response."

Sargent says control of filth flies is for the most part a seasonal business, and one that's highly dependent upon the weather. Toward that end, he expects this year's spate of tornadoes and flooding will likely contribute to one of the worst fly seasons we've seen, particularly in the South. "Record floods this year are going to mean record flies," he said. "If you think of a generation of flies every week, imagine the huge numbers by the end of the summer."

Understanding the impact of the fly's short life cycle also comes into play, Sargent observes. He says PMPs need to focus not only on the adult stage, but the fly's entire life cycle. Toward that end he suggests that PMPs meet with clients at least

"I should be able to think ahead what it's going to be like in another week and what things need to be done," Sargent said. "We don't have to wait for the flies to grow up and be flying around us to imagine what's going to happen one week into the future." When it comes to house flies, notes Bruesch, "since they're so ubiquitous in the environment, you have to pretty much throw everything you've got at a fly program." That means consulting with clients

on sanitation and exclusion. Then, Plunkett's might use residual insecticides applied to areas where flies rest, and the use of fly baits where needed. Scatter baits might be employed either on the ground or in bait stations outdoors.

Bruesch says the decision about which bait to use is based first on efficacy, and second on whether it's allowed at a certain site. "Ground areas where we can legally treat, we might use a scatter bait," Bruesch said. And in areas of heavy infestation, like hog barns, he said, the company might use placements of QuikStrike® Fly Abatement strips, he said, which can be attractive enough to flies to cause them to feed on the bait rather than hog manure.

Moore says in the summer, flies may also head toward buildings in search of shelter from the sun and breezes. "They like to stay in the shade and out of the breeze, so they'll exploit the outside of a building just because it has those things," said Moore. "Then when you open the

Gentrol® IGR Targets Small Flies

Zoëcon® Professional Products offers solutions for the control of small fly species such as the black-eyed fruit fly and the drain fly.

PMPs can use Gentrol® IGR Concentrate containing the active ingredient (S)-Hydroprene to stop future generations of adult flies. Gentrol® IGR Concentrate travels deep into wall cavities, as well as cracks and crevices, reaching the insect pests that other treatments miss. When developing fly larvae come in contact with Gentrol® IGR, they are prevented from becoming normal reproductive adults.

Gentrol® IGR provides up to 120 days of long-term control and is labeled for use in all areas of food-handling establishments. It can be applied as a fogging agent or general surface spray, and can be tank-mixed with residual adulticides.

John Neberz, business manager with Zoëcon Professional Products Group, said Gentrol® IGR can be applied to drains and under floor boards where spilled food and liquids could serve as fruit fly breeding sites.

Also available from Zoëcon Professional Products is Gentrol® Aerosol, which can be used as a general surface spray or spot treatment. The included extension tube allows for simple, accurate application in hard-to-reach areas

To learn more about Gentrol® IGR Concentrate and Gentrol® Aerosol, visit www.zoecon.com.





door they are sucked right inside."

To counteract this, Moore creates what he calls "kill stations" around the exterior of a structure to eliminate flies before they get inside. Moore's creation consists of a rodent bait station that's already in place on the outside. "We'll add an attractant to those bait stations that will also attract flies," he said. Therefore, he explained, the company's rodent station not only controls rodents but also serves as a kill station for flies. Moore said he's also used scatter fly bait inside of locked rodent bait stations to help control flies.

Moore described one situation involving a rail yard where animal feed was loaded and unloaded. The facility had a severe fly infestation, with plenty of food for the flies that couldn't be removed. "The houseflies were so bad you couldn't even stand there with your mouth open," Moore

a shade component to their fly baiting programs, by placing stations in areas that are covered and shaded, particularly in high-temperature conditions. Shady bait placements can also be effective near dumpsters, Moore said, by placing stations on a nearby shaded roofline, where kill is likely to be higher on hot days than if the stations were simply placed near the dumpster. "Just like us, they really can't take that high heat and that direct sun," he explained.

Small Fly Control

Small flies, unlike filth flies, can be a year-round problem in commercial accounts, observes Sargent. "Let's say flies are coming out of a drain that isn't cleaned or brushed out thoroughly," he said. "Those flies will continue to emerge and be a nuisance all year long until that drain is cleaned."

on the other hand, will exploit every little sanitation issue it can find.

Moore points out that while fruit flies require both moisture and organic content to live, it does not take much of either to produce an infestation: "Thousands can be raised on the contents of a single packet of ketchup," he said. Therefore, sanitation is again the top priority when it comes to control.

Finding the source of small flies can be challenging, notes Richard Berman, technical director of Waltham Services, Waltham, Mass. But, he adds, those who succeed will be rewarded with loyal customers. "If you can find the source you look like a miracle worker, because they've got them today, and two days from now they're gone," said Berman. For instance, such minor items as dirty rags left behind tables or brooms lost under equipment can both harbor small flies.

More common sources of small flies include any locations where there are accumulations of food. Broken floor tiles or grout cracks in commercial kitchens and leaks in walls are among the top locations, several PMPs said, where organic material can build up due to cleaning efforts, particularly the use of high pressure washing equipment. "The damaged grout could really be anywhere but often it's right around a drain," said Judy Black, technical director for The Steritech Group, headquartered in Charlotte, N.C. If the grout is loose or missing, Black explained, decaying organic matter can then get shoved under the tile and create a breeding site for the flies.

"You can actually get this decaying organic matter pushed into the wall void so to speak," said Black, "because people use a lot of hosing to clean up now, instead of mopping. Hosing will actually force bits of wet



"The types of situations you can run into are as varied as the number of accounts we have. There are so many different factors affecting any particular fly problem, that you could say they are all different and they all require

a different response." – Jay Bruesch, technical director, Plunkett's Pest Control, Fridley, Minn.

said. Compounding the problem were the high summer temperatures the workers had to endure.

"The one thing the flies did not have there was shade." So Moore gave them shade in the form of small barn-like structures he built out of plywood. He hung some QuikStrike® Abatement Strips inside the structures and also treated the interiors with liquid fly bait. "They would literally go in, eat and fall down dead," Moore remarked. "I've never had a fly kill work so well."

In light of this success, Moore recommends PMPs consider adding

Identification is a related factor in achieving control of small flies, notes Sargent. For instance, two main types of fruit flies are common in commercial food accounts: The small or red-eyed fruit fly, which generally comes in with or breeds on overripe fruit; and the more problematic dark-eyed or robust fruit fly, which is less selective and will breed in the organic matter in drains.

Moore says the red-eyed fruit fly is generally easy to control, and usually can be traced to one source, such as a piece of fruit that's rolled under a counter. The dark-eyed fruit fly,



Zoëcon Introduces Zenprox™ EC

The Zoëcon Professional Products division of Central Life Sciences recently introduced Zenprox™ EC, a broad-spectrum contact kill product approved for indoor use. Fast-acting Zenprox™ EC controls over 25 different insects including fleas, bed bugs, ants, flies and cockroaches with an extended residual. It is also effective in suppressing egg hatch of bed bugs and kills newly hatched bed bugs, Zoëcon reports.

"Our primary goal was to create a broad-spectrum contact kill product that works immediately and offers an extended residual, and we've done that with Zenprox™ EC," said John Neberz, business manager, Zoëcon Professional Products. "Zenprox™ EC also provides pest management professionals with an ideal tank mix partner for use with Gentrol® IGR or Precor® IGR. The combination



of a contact kill product and an IGR helps provide complete control for a variety of insects and helps prevent reinfestations."

The active ingredient in Zenprox™ EC, Etofenprox, is non-repellent. Approved for indoor use, Zenprox™ EC can be used as a broadcast, spot, or crack-and-crevice treatment to control pests in homes, hotels, schools and commercial properties.

Zenprox™ EC is available in a 16-ounce squeeze and measure bottle and comes with six bottles per case. It mixes easily with water and may be applied with most application equipment.

For more information visit www.zoecon.com.

organic matter through these gaps in the grout."

Similarly, Moore said while the floors and drains of a restaurant might be clean, they could have broken or missing floor tiles, or broken or missing grouting between tiles, which allows food and water to wash under the tile bed. "It creates a sanitation issue that really cannot be addressed with your day-to-day cleaning," Moore said.

Black says Steritech uses Gentrol® IGR concentrate for small fly problems in commercial kitchens. "Typically we use it as a foam in and around the drains where there can be breeding material for the small flies," she said. The objective is to essentially contaminate the breeding material - the decaying organic matter. "We do find that does provide us sort of an added kick to our programs for small flies," Black said. The company typically uses the IGR in combination with a proprietary cleaning product that's foamed into drains. And sometimes Steritech's technicians will foam or treat an infested wall void itself. Steritech also encourages customers to mop-clean their floors rather than high-pressure washing.

Another common breeding site is

the dishwashing area of a commercial kitchen, where constant warmth and moisture can loosen tiles, baseboards and flooring. Rarely used drains can also harbor fruit flies, Moore said. "There it's just as simple as flushing out those drains with hot water once or twice a week to keep them used."

Greg Miller, technical director at Myers Pest & Termite Services, Bedford, Texas, has often found fruit flies breeding in the long rubber mats commonly used to pad the floor in bar areas, where they tend to trap water. Unless the mats are cleaned regularly reproduction of fruit flies can occur rapidly. He has solved that problem with applications of Gentrol® IGR. "IGRs like Gentrol® work really well on fruit flies," he said.

"You can come along with an IGR, you can kick those mats up and you can spray the IGR under them, and then that really gives you an extra little benefit of control," said Miller. Miller said Myers also uses IGRs outdoors in dumpsters and garbage cans. "That's a place to use IGRs," he said. The IGR is typically applied to drains and other areas pinpointed as harborages, such as around doorways and under garbage can liners and in dumpsters. "We're not the clean-up people," says Miller, "but it becomes effective. The IGR affects the growth of those insects and it does get you some control."

Bruesch said Plunkett's also incorporates IGRs for the control of small flies. "In some situations where we have trouble getting the client's cooperation in cleaning up the source of the flies, we might apply a liquid insecticide with an IGR mixed in," he said. "That might be applied on a spot basis to areas where fly breeding material is accumulating around drains and beneath food-handling equipment in areas that are very difficult for the client to clean or where the client just refuses to clean."

But ultimately, long-term control can remain elusive until the breeding source is uncovered. "Until sanitation and structural issues are addressed, complete control is not really possible," Moore adds. Berman agrees: "No matter how much we spray and no matter how much we do, if they don't fix the underlying cause, the problem is going to persist, or it might disappear briefly and then come right back."

Toward that end, Moore notes, flies can be a problem even in apparently clean and well-maintained facilities. For instance, when Royal



finds fruit flies in other types of accounts, such as office buildings, it doesn't change the fact that sanitation is still the likely problem. "Nine out of 10 times it is recycling containers," notes Moore.

Moore recalled one situation with a hospital where fruit flies were randomly showing up on five different floors. Moore repeatedly told the client there had to be a sanitation issue somewhere, which he couldn't immediately find but the management emphatically denied.

Finally Moore made another walkthrough and found a small, locked closet door. Inside was a small trash can construction workers had used to dispose of their uneaten lunches. No one had ever emptied the can, and unfortunately, the wall behind the can was open. "One trash can with a couple of half-eaten sandwiches in it was infesting five floors of a hospital," recalled Moore. After removing the trash can, Moore said, the problem vanished within five days. "All it took was finding what was missed," he said, "and it took several trips and five or six people to finally narrow it down."

Untapped Potential

Because of the varied nature of fly control work, many companies choose to view it as an add-on service that complements their regular general pest control regimen. For example, Myers offers its fly program as an add-on service for commercial customers, visiting most restaurants on a weekly basis.

Miller says the company encourages its restaurant customers to purchase a separate fly control program because it incorporates so many customized variables including consulting services, drain cleaning, the use of air curtains and lighting.

Royal's Moore also sells fly control

as an add-on for existing accounts, promoting it to such businesses as small restaurants, food grade warehouses, nursing homes and office buildings. He explains that by offering an effective fly control service to existing customers as an add-on, companies can increase their revenue with no significant increase in direct cost. "You can offer them a fantastic fly program that actually gets results for the amount of time that the technician is already there servicing the account," said Moore. "The time it takes is negligible, but now he's being paid more for the add-on service of fly control."

However, not all companies believe fly control should be sold as a separate service. Waltham's Richard Berman says fly control services are included as part of the company's regular pest control program. "Our customers don't look at it as a separate entity," he explains.

Regardless of how it's sold, though, PMPs around the country agree, fly control represents a relatively untapped market. Bruesch says fly control provides a notable avenue for attracting new customers. "It's certainly one of the questions we ask a prospective customer," he said. "We ask, 'how much of a problem have flies been,' because we know that we have an effective integrated fly management program to offer them." And Bruesch points out, flies have the potential to make or break the average establishment. "In the case of food service, people don't like to eat in a restaurant or drink in a bar that has a lot of flies around, so flies will chase business away," says Bruesch. And, he adds, "Not having flies will bring business to you."

Moore also sees fly control as a major opportunity, yet he says it's overlooked by some pest control firms. "Generally people aren't aware of how easy fly control can be, and it's also the easiest thing to add on, or to up-sell to existing customers," said Moore. "All it takes is a little bit of training and to be able to stand back and observe what's going on."

Moore said many potential clients don't yet consider fly problems to require professional help. "If we could get the message out there, like we do about bed bugs and other issues, I think we'd see a great increase in the amount of fly work done," said Moore. "I think it's an underexploited market. I think there's a fortune to be made in fly control." *



To view an electronic version of our catalog which includes recently created videos for the fly control products, visit: http://epaperflip.com/aglaia/viewer.aspx?docid=eeb95d5e e0df4b0ba00760b83552aba5



The videos can be viewed by PCOs on the Zoëcon YouTube channel: www.youtube.com/ ZoeconCentralLS.



FLY CONTROL from Zoëcon Professional Products

Company offers a wide array of insecticidal and non-insecticidal solutions for PMPs.

oëcon Professional Products offers Fly Control, the broadest range of fly control products in the pest management industry. The company's line of fly control products targets both large and small flies in a wide variety of commercial and residential settings.

"We have more fly products and traps than anyone else in the industry," says Doug VanGundy, director of specialty product development for Zoëcon Professional Products. What follows is a brief review of the company's product offerings.

Insecticidal Solutions

Zoëcon Professional Products offers two scatter baits that can be used alternately in rotation strategies, VanGundy says.

The company's flagship fly control product, Golden Malrin® Fly Bait, is a sugar-based coarse granule bait for use against nuisance house flies and has been a trusted standard in fly baits for more than 30 years. Golden Malrin® contains the active ingredient methomyl and can be applied to the ground in enclosed dumpster areas at restaurants or in livestock production areas. It also can be used in bait stations where flies are actively foraging. Golden Malrin® Fly Bait also contains a fly sex pheromone to bring flies to the bait. An economical product, Golden Malrin® starts killing flies immediately after they feed on the bait. It can be used daily where flies are a problem.

QuikStrike® Fly Scatter Bait contains a fast-acting adulticide developed to control nuisance house flies, including those resistant to organophosphate and carbamate insecticides. QuikStrike® Fly Scatter Bait kills flies quickly and can be applied directly from the container or placed into a bait station such as the Fly Bait Station. The homogenous formulation contains the active ingredient Dinotefuran, and tests show QuikStrike® bait kills seven times more house flies than carbamate-based products. It can be used daily where house flies are a problem.

Zoëcon's Fly Bait Station is

ideal for use with either QuikStrike® Fly Scatter Bait or Golden Malrin® Fly Bait and is an effective tool for helping to reduce the associated mess and exposure concerns of spreading bait over the open ground. The station holds 1 ounce of scatter baits and collects flies as they die.

The QuikStrike® Fly
Abatement Strip is a
bait station designed to
control nuisance house
flies. Its unique active ingredient, Nithiazine, is one of the fastest acting fly insecticides on the

market, killing flies in seconds after they begin to feed. QuikStrike® Fly Abatement Strip contains a tripleaction attractant that draws flies to sugar-based active ingredient coating. The station also features a curved design that's attractive to flies and can be hung in discreet locations. It is ideal for use around dumpsters, garbage chutes, loading docks, grease pits, outdoor dairy barns, around commercial food-handling facilities, restaurants, bars, grocery stores and other locations where flies are a problem. One station treats up to 300 square feet and can last up to eight weeks.

Non-Insecticidal Solutions

Zoëcon Professional Products also offers a full array of non-insecticidal fly control products to control a variety of fly problems in numerous applications: from stables and ken-

nels to homes and gardens.

These noninsecticidal solutions were added to Zoëcon's prod-



Zoecon's QuikStrike® product line offers a range of solutions for PMPs servicing commercial accounts.

Fly Control_



uct line following its parent company's acquisition of Farnam Companies in 2006, which dramatically expanded the company's product offerings for fly control (see related story at right).

Zoëcon's fly traps attract several fly species

and come in different sizes to fit a wide variety of applications. They also serve as green solutions for to-day's more environmentally sensitive customers, helping to provide effective control in areas where baits and insecticides are not an option.

Fly Terminator® Pro is a reusable, durable plastic gallon jug that's designed for use with Zoëcon's exclusive Terminator Fly Attractant. The attractant, which can be used with any jug fly trap, contains three feeding stimulants plus a fly pheromone for more attraction power.

Fly Terminator® Pro traps up to 35,000 flies and offers a no-rust plastic top and a sturdy handle that makes the trap easy to hang.

FlyRelief™Disposable Fly Trap is an insecticide-free disposable bag fly trap that offers a built-in attractant. Recommended for perimeter use, the trap is easy and convenient to use and holds thousands of flies. Common use sites include barns, stables, outdoor kennels, warehouses, feedlots, outdoor trash areas, grease bins and scrap heaps.

Musca-Doom® Disposable Fly Trap is a plastic fly trap that holds more than 10,000 flies and is simply thrown away when full. This insecticide-free trap contains an attractant that combines three feeding stimulants plus a fly sex pheromone that flies can't resist. Attractive to most major filth fly species, Musca-



The reusable Captivator® Fly Trap features an exclusive pheromone attractant.

Doom® is safe for use around pets and live-stock and can be moved easily. Just set the trap on a flat surface or hang where flies are most bothersome.

Musca-Stik[™] and Musca-Stik[™] Jr. are discreet, insecticide-free, odor-free indoor/outdoor

sticky fly traps that attract flies two ways: Musca-Glo™ orange colored paper attracts flies visually while the powerful fly sex pheromone Muscalure doubles the attraction power. In a side-by-side efficacy test, Musca-Stik™ attracted four times more flies than a major competitor. The traps are avail-

able in 12-inch and 24-inch sizes.

EZ Trap® is an insecticide-free compact sticky trap that offers a large trapping surface along with a compact design. This odor-free trap features a long-lasting rainproof adhesive and can be used both indoors and out. It is ideal for use in stables, kennels, gardens and homes.

Captivator® Fly Trap is a heavy-duty, reusable, economical and insecticide-free fly trap that comes with an exclusive pheromone attractant. The economically priced Captivator® is easy to use: just add the attractant and water. Its one-way entry system keeps flies in the trap. The Captivator® is durable enough to last season after season. For additional information, visit www.zoecon.com. 👗

Zoëcon Acquisition of Farnam Leads to Comprehensive Fly Control Product Offerings

In 2007, Zoëcon Professional Products augmented its existing fly control products QuikStrike® and Golden Malrin® Scatter Baits with an array of Starbar Fly Control Products previously sold by Farnam Companies. The product additions were the result of an acquisition made by Zoëcon's parent company, Central Garden & Pet Company, in 2006.

The company purchased Famam Companies, the manufacturer of a number of non-insecticidal fly control products, as well as animal health care products. After the acquisition, Central Garden & Pet's pest control subsidiary, then known as Wellmark International — of which Zoëcon Professional Products was a division — was merged with Famam Companies, forming Central Life Sciences in 2006. Today, Zoëcon Professional Products remains the professional pest control division of Central Life Sciences, and handles the corporation's fly control products.

The Farnam acquisition allowed Zoëcon to broaden its product offerings dramatically from insecticidal fly control into non-insecticidal.

"Our company has always had insecticidal fly baits," explained John Neberz, business manager with Zoëcon Professional Products Group, referring to scatter baits Golden Malrin® and QuikStrike® Fly Abatement Strips. In recent years the company also added QuikStrike® Scatter Bait to its product line.

But, Neberz added, the Farnam acquisition allowed Zoëcon to broaden its fly control offerings to include non-insecticidal fly traps. "So we feel we've got a pretty complete lineup of products, both insecticidal and non-insecticidal," Neberz said. "We've got a device or an active ingredient or a formulation to meet all of the PMPs' needs."

For additional information about any of Zoëcon's insecticide and non-insecticide fly solutions, visit www.zoecon.com, request a "Total Fly Control" catalog from your Zoëcon sales representative or visit your local distributor.

Always read and follow label directions. Gentrol, Golden Malrin, Precor, Quikstrike, Zoecon and the Zoecon logo are registered trademarks of Wellmark International. FlyRelief, Musca-glo, Musca-Stik and Musca-Stik Jr. are trademarks and Captivator, EZ Trap, Fly Terminator and Musca-Doom are registered trademarks of Farnam Companies, Inc. ©2011 Wellmark International.