



# Prescription Treatment<sup>®</sup> brand Pest Management Bulletin

Volume 3



## Commercial Kitchens and German Cockroach Infestations

As a PMP, it's common to acquire a new account with portions of the facility infested with German cockroaches. That's exactly what happened in the following case study. The account was acquired because the former pest control company couldn't eliminate the German cockroach problem in the dishwashing area of the kitchen.

Using this case study, we will demonstrate the process of assessing and solving a pest control problem in a complex setting using the Prescription Treatment<sup>®</sup> brand Pest Management approach:

- ▶ Inspect
- ▶ Prescribe
- ▶ Treat
- ▶ Communicate
- ▶ Follow-up



First, the PMP will **inspect** the facility and then **prescribe** the appropriate action plan. The PMP will **treat** the problem according to the prescription and **communicate** with the customer about the treatment and recommendations for remediation of sanitary and maintenance problems.

Finally, the PMP will **follow-up** with an inspection a week later to determine the effectiveness of the original treatment and the status of the customer's responsibilities in the pest management program.

Following are details of our case study and how the PMP used the Prescription Treatment brand Pest Management process to solve the German cockroach infestation.

### INSPECT

**All pest management programs begin by gathering information.**

In our case study, the PMP's preliminary inspection consisted of:

- ▶ Interviewing the customer
- ▶ Flushing with PT<sup>®</sup> brand 565 Plus XLO<sup>®</sup>
- ▶ Visually inspecting with flashlight
- ▶ Placing sticky trap monitors

The inspection and customer interview revealed that the previous pest control company had serviced the account for several years. There was a history of complaints related to persistent German cockroach activity in the dishwashing area of the kitchen. Reports of the cockroach problem were inconsistent due to turnover in kitchen personnel and poor records—no logbook was maintained documenting pest sightings. Also, the dishwashing area was segregated from the rest of the kitchen and not frequented by supervisory personnel.

The location of the infestation, a dishwashing room off the main kitchen of a large hospital, contained a large stainless steel dishwasher plagued with a persistent German cockroach infestation. Some surrounding areas were also infested.





Another issue the PMP found through inspection was that the environmental conditions in the area changed dramatically. During mid-to-late afternoon and early evening it was hot and wet. However, by late evening and early morning it became cool and dry. It seemed that once dishwashing activities ceased, the HVAC system was designed to ventilate the area thoroughly which removed large amounts of water vapor and flushed the area with cool, dry air.

While the area appeared superficially clean, a closer look at the dishwasher revealed large amounts of fine particles of food debris in cracks and crevices. In addition, the inside of the dishwasher had greasy surfaces and food debris and broken floor and wall tiles around the dishwasher.

The PMP also noted some treatment restrictions that included the presence of heat, steam and moisture that presented a challenge in maintaining any type of residual insecticide activity. Because of the kitchen schedule, the only time the area could be inspected and treated was late evening after the final clean-up and prior to early morning start-up.

## PRESCRIBE

**Determine what needs to be done by analyzing the information gathered from your inspection and choose your strategies and options.**

When formulating a prescription for this problem, the PMP asked himself, “What do I want to achieve?” The short answer—get rid of the German cockroaches quickly and protect the area from re-infestation and stragglers missed during treatment. He also wanted to make sure adjacent areas were not contributing to the re-infestation of the dishwasher. To achieve this goal, he prescribed the following:

- ▶ **PT brand Micro-Injector®** – over the years, this tool has provided excellent results getting rid of German cockroaches in dishwashers and similar equipment. This device is designed for directed contact of insecticides into cracks, crevices and voids.
- ▶ **PT brand ULD® BP-300** – the product of choice in the Micro-Injector. A 3.0% dual synergized pyrethrum.

The combination of the PT brand Micro-Injector and PT brand ULD BP-300 delivered excellent flushing and directed contact kill of German cockroaches. The PT brand Micro-Injector’s extended wand enabled the PMP to get into difficult areas commonly associated with large industrial dishwashers.

- ▶ **PT brand Cy-Kick® CS Pressurized Crack and Crevice Residual** – was used in all areas containing pockets of German cockroaches revealed during the directed contact of the PT brand Micro-Injector treatment.

Since the PMP was dealing with a hot, wet and greasy environment, he felt it was best to use a *microencapsulated residual formulation* such as PT brand Cy-Kick CS Pressurized Crack and Crevice residual. The microencapsulated formulation works well on greasy or filthy surfaces and is easily picked up by cockroaches. (Note: Since the active ingredients in PT brand 221L and PT brand Cy-Kick Pressurized Crack and Crevice both have low water solubility, excellent residual activity, and are labeled for application in this area, either would be a good choice.)

There are many nooks and crannies in large dishwashers and there may also be places that are not true cracks and crevices that require treatment. PT brand Cy-Kick CS Pressurized Crack and Crevice is labeled for spot treatment if needed. The PMP used one other product:

- ▶ **PT brand Avert® Gel**—it is common for large commercial dishwashers to have pipes and supports extending into the ceiling above the unit. German cockroaches can survive in harborage areas above suspended ceilings. In this particular case, the PMP used PT brand Avert above the drop ceiling adjacent to the pipes and supports. Any areas adjacent to the dishwasher—such as cracks in walls or pipe collars around pipes penetrating walls—should be treated with PT brand Avert.

In summary, the PMP's prescription included three separate products:

- ▶ PT brand ULD BP-300 used with the PT brand Micro-Injector
- ▶ PT brand Cy-Kick CS Pressurized Crack and Crevice
- ▶ PT brand Avert

Application tools and techniques included directed contact treatment with the PT brand Micro-Injector, pressurized crack and crevice application and baiting. The inspection noted a sanitation problem with the dishwasher and several cracked/broken and missing floor and wall tiles. These issues were discussed with the customer and he was asked to assist in repairing and cleaning the area.

## TREAT

**Execute the treatment techniques properly.**

The PMP used the PT brand Micro-Injector at approximately 17 psi (pounds per square inch). He placed the tip of the Micro-Injector into cracks, crevices and voids, releasing a fine, concentrated mist of 3.0% pyrethrum into the targeted areas.

The amount of product applied depends on the size of the area. In many cases, a one-second application of pyrethrum is sufficient. Leaving the tip in the crack or opening after releasing the trigger allows the air stream to circulate the pyrethrum mist and increases its penetration into complex areas. It's important to inject cracks in tile floors and walls adjacent to the dishwasher and floor drains, which are difficult harborages to reach and often hidden under the unit.

The best approach to treating the dishwasher and all suspected harborages is to start at one end and methodically work your way to the other end from floor to ceiling, so you don't miss anything. Attention to detail leads to successful cockroach control.

Applications of PT brand Cy-Kick CS Pressurized Crack and Crevice were made directly with the pressurized container and injection tubes. The PMP placed the injection tube into cracks, crevices and holes and released a one-second dose. PT brand Cy-Kick CS Pressurized Crack and Crevice was used in places where cockroaches were present during the earlier treatment with the PT brand Micro-Injector. The "running method" of crack and crevice application is used with pyrethroids and involves running the injection tube tip along the crack at a rate of one foot per one second when applying. This is the clean out rate. If this was a slight infestation or maintenance service, the rate is one second per three linear feet of crack.

PT brand Avert applications can be made with the PT brand 345 applicator or directly from the piston can. You may need a ladder to reach some of the overhead areas associated with the dishwasher. In this case, the PMP inserted the tip of the applicator into cracks and crevices and applied one-fourth of a gram of PT brand Avert cockroach gel bait per injection location. (Smaller placements may be appropriate for future maintenance service.)

## COMMUNICATE

**Get cooperation, transfer value.**

The PMP determined during his prescription phase, that there was a need for improved sanitation in the dishwasher area. There was also a need for some repair and maintenance. These issues were communicated directly to the kitchen supervisor verbally and in writing.

While discussing these recommendations with the supervisor, point out why these steps are essential in improving the overall pest control program and sanitation in the kitchen. Let the supervisor know that you are available to assist in implementing all sanitary and maintenance recommendations. In some cases, the supervisor may need to take the recommendations to his supervisor and may require assistance in explaining why the recommendations need to be implemented. It is part of the PMP's job to help the supervisor in any way to get the job done. If the kitchen staff is an outside contractor, your best bet for maintenance related matters is to work directly with housekeeping, maintenance or environmental services staff.





Since service to the dishwasher room could only be done late at night, communication with the kitchen staff was difficult. It is a good idea to leave a logbook for employees to make notes of pest sightings or other pest problems.

Review with the supervisor what was done, what was found and the next steps. This shows you are a professional, have a plan and that you care.

## **FOLLOW-UP**

**Pest management is a process, not an event.**

There is no such thing as “treat and forget” in structural pest control. You should follow-up on every treatment with an inspection and evaluation.

In our case study, one week after the initial treatment the PMP made a follow-up inspection and used a pyrethrum flushing agent – PT brand 565 Plus XLO. You can also use PT brand P.I.®

In the dishwashing unit itself, the PMP flushed all the cracks and crevices where cockroaches were initially found. He also examined all floor drains associated with the dishwasher and adjacent areas where crack and crevice harborage might exist. The PMP also inspected the cracked tiles on the floor and pipe collars on plumbing penetrations through walls.

Sometimes during an initial inspection, you may overlook an area such as wall voids adjacent to the dishwasher where plumbing pipes pass through. The follow-up inspection is a great opportunity to do an additional treatment to eliminate the void as a potential cockroach harborage site. In this case, an application of PT brand Perma-Dust® or Tri-Die® with a four-way injector tip would be appropriate.

The PMP checked-in with the kitchen supervisor and asked if any cockroach activity had been spotted since his treatment. (NOTE: If staff members are not present during service, make a point to phone them.) He also asked how they were progressing on implementing the sanitation and maintenance recommendations.

At this point, the dishwashing area was placed on a regular service schedule with the rest of the kitchen and close scrutiny of this area is being maintained. If it caused a problem once, it can do so again.

Continued inspection of this area is required and should a problem be detected, the Prescription Treatment brand Pest Management approach will not only alert the PMP to the problem before it becomes severe, but will provide the tools and techniques to resolve it before it becomes a problem for the customer.

**For additional information and cockroach photos visit: [www.pt-u.com/cockroach](http://www.pt-u.com/cockroach). Also, join our cockroach “Conversation with the Experts” on January 15, 2003, from 3:00 p.m. to 4:00 p.m. (Central Standard Time) at [www.pt-u.com/library/convos.asp](http://www.pt-u.com/library/convos.asp).**

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