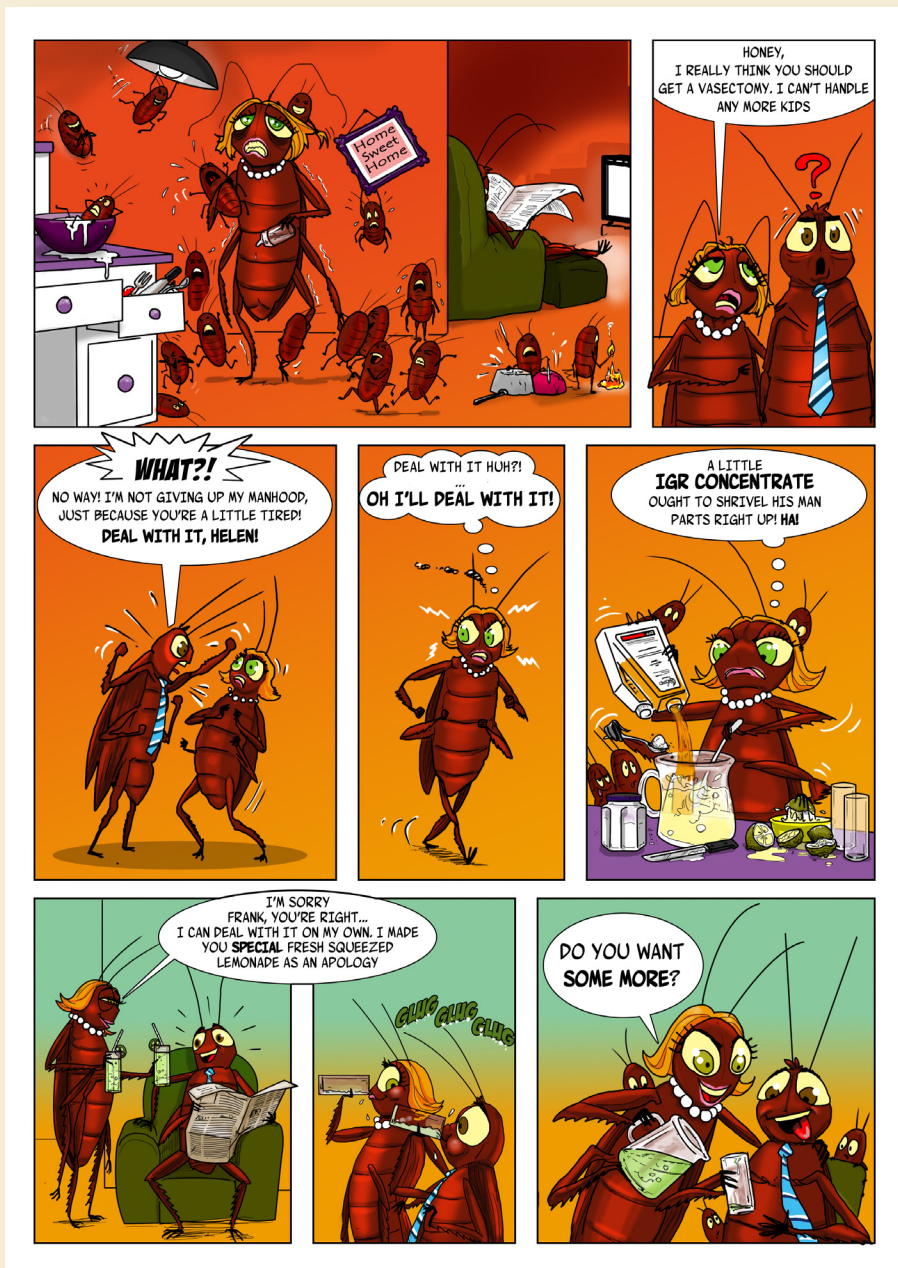


Boost Your Bait With an IGR

Cockroach baits were developed over 25 years ago and have become a popular way to control problematic infestations. There are a variety of active ingredients that can be used in baits to kill cockroaches, however using both a killing agent and an insect growth regulator (IGR) can help control the population in multiple ways:

1. **Insurance:** IGRs provide an insurance policy for your bait treatments. For example, if a cockroach gets a sublethal dose of the killing active ingredient, it will still get enough of the IGR to affect its reproduction ability. Although the cockroach may not die, they will be unable to reproduce and grow the population.
2. **Prevention:** Baits that include an IGR also help to prevent the population from rebounding over time. Cockroaches can transfer the IGR to harborage areas and affect those roaches that don't venture out far to forage, like gravid females and early instar nymphs. This ensures that even those cockroaches that did not have contact with the bait are still affected by the IGR, keeping the population down.
3. **Management:** Using cockroach baits that kill but also prevent cockroaches from reproducing can prevent passing any resistance to certain active ingredients or bait matrix ingredients to future generations. It is much harder to develop resistance to two modes of action at the same time compared to one.

IGRs do so much more than control the juvenile stages of pests. Including a bait with an IGR in your cockroach control program can help you gain long-term control of the population, inhibiting potential resurgence and resistance in the population you may see without an IGR.



 By Christy Jones, BCE,
Technical Data Support Specialist

Decoding Roach Resistance

Insecticide resistance is a major issue in German cockroach control. Two main resistance mechanisms for bait resistance to active ingredients (AI) in cockroaches are target site resistance and metabolic resistance. While both mechanisms have underlying genetic origins, how they confer resistance is different.

Insecticide resistance is a major issue in German cockroach control. Two main resistance mechanisms for bait resistance to active ingredients (AI) in cockroaches are target site resistance and metabolic resistance. While both mechanisms have underlying genetic origins, how they confer resistance is different.

Target site resistance for most AIs occurs when the proteins responsible for proper nervous system function are mutated. The change allows for normal channel function while decreasing the ability of a pesticide to bind to the target site. Without pesticides, these mutations only exist in a small number of roaches. The mutated roaches may not reproduce as effectively as those without the mutation. However, when a pesticide is applied and kills all the normal roaches, the mutant strain becomes the norm rather than the exception.

Metabolic resistance occurs when enzymes that detoxify the insecticides are produced at a higher-than-normal rate. If a cockroach is producing large amounts of these enzymes, it can metabolize and expel the insecticide quicker than the insecticide can kill it. Remember, there is no way to know what kind of resistance you're dealing with in the field without collecting and testing the roaches. **If resistance testing is something your company is interested in, please contact your MGK representative, and we will be happy to discuss resistance screening with you.**

Given the widespread resistance of field roach populations, we are left asking, "Now what?" If you're dealing with target site resistance, change the AI. It's a good idea to rotate AIs throughout the year. Whether it's 2, 3 or 4 times a year, switch it up. You can go from the abamectin family to fipronil, indoxacarb, and neonicotinoids if they are different IRAC groups. Another way to combat resistance is to include an insect growth regulator (IGR) in your bait. If you have an IGR in your bait, even if roaches are resistant to the adulticide, they won't be able to reproduce. Think of it as your insurance policy when trying to take on a resistant roach population.

There are ways to break through the resistance barrier. Rotating AIs and using baits that contain IGRs will help you gain the control you and your customers want, even in the face of insecticide resistance.

 **By Thomas Powell, Technical Field Representative**

Best Practices for Bait Rotation

Bait aversion has been a concern since its discovery in the 1990s. Food matrix rotation to combat bait aversion has been the primary reason PMPs rotate bait. More recently, resistance to active ingredients in bait products has been found in German roach populations.

In a recent industry survey, almost 90% of pest management professionals said they rotate cockroach baits. And when talking with PMPs, a frequent question is how often I should rotate. There are no scientific studies that we can use to answer that question. The answer is different for each company. A quarterly rotation is most common, but for some PMPs, logistics are a barrier, and every six months or even annually are better options. The key is to have a rotation plan.

When developing a bait rotation plan, you need to make an assumption that each manufacturer has a unique food matrix because manufacturers are unwilling, or sometimes legally unable, to share their exact food matrix formula with you. Most manufacturers have a rotational food matrix in their cockroach bait portfolio, so if you like a particular cockroach bait, you can rotate the food matrix within that brand.

The best way to implement a rotation plan that fits your organization is through purchasing and storage behaviors. Only purchase the product you want technicians to use. Bait rotation programs have failed when multiple bait product choices are in the chemical storage facility.

 **By Dr. Ryan Neff, Technical Field Representative**



Importance of Documentation

By J.B. Howell, Technical Field Representative



Documentation isn't a glamorous subject, but its importance becomes evident when you need it. When training technicians, it is vital they understand documentation is not only to satisfy state requirements, but it also protects them and the company from false accusations or misunderstandings. Most PMPs, at some point, have been accused of killing plants and fish, staining siding, or destroying the finish on a prized piece of furniture.

The first thing to consider with documentation is state regulations. Each state has its own documentation requirements. Understanding your state requirements is essential to proper documentation. This becomes even more critical for companies conducting business across multiple states. Understanding the label and state requirements will make documentation much smoother and more effective.

The thoroughness of your documentation can play an important role when customers file complaints or make accusations. One PMP received allegations of killing a small dog after it consumed rodenticide. The customer stated the dog had found the bait station in the hallway and managed to remove and eat the bait. Luckily, the

technician's documentation showed all placements of bait stations. None were in the hallway. The customer had removed the station from underneath a sink and moved the station into the hallway. Documentation proved the rodenticide was placed correctly, within a bait station, and in an inaccessible location. Proper documentation protected the company from liability for the customer's loss.

Another situation many technicians have experienced are complaints of injuring dogs or killing fish after a backyard treatment. In several cases there had been no applications to the backyard or only servicing of bait stations in the yard. Due to the presence of pets or ornamental ponds, all chemical treatments were interior or front yard only. Without specified treatment areas in your documentation, proving your company and technicians' innocence becomes much more difficult.

After a long day of treating customer accounts, it may seem enticing to record minimal information. Making it a habit to record your treatments properly regardless of how tired, hot or stressed you are, can pay huge dividends in the future.

TIPS & TRICKS

Online Marketing 101



By Stacy Emond, Digital Marketing Communications Manager

For pest control companies, digital marketing can be crucial for growth and visibility, but we know many struggle with limited time and budget. Here are the top three free strategies that can have a big impact:

1 Optimize Your Google My Business Profile

If you haven't already, claim and verify your Google My Business listing. This is important as it helps your business show up in local searches. Make sure your profile information, including business hours, contact details, and a brief description of your services are all accurate – and review regularly to keep them up to date.

2 Leverage Positive Reviews

Positive reviews can boost your credibility and attract more customers. You can acquire more reviews by

actively requesting feedback from satisfied customers and/or offering incentives to leave a review. Make the most of your good reviews by showcasing them online and in marketing materials.

3 Become Social Savvy

Establish a presence on social media platforms that are relevant to your target customers like Facebook or Instagram. Regularly share engaging content, such as behind-the-scenes glimpses, insect intellect and industry-related news.

Don't let the amount of content needed for social media hold you back. Generative AI engines can do much of the work for you now. (I actually used ChatGPT to help me write this article!) Make sure to always review the content generated and fact-check any suspect information.



Stories From the Field



Coming in HOT!

As a PMP, you often hear that if you come home clean after a day on the job, you didn't do the job right. At one site, you're on your hands and knees in a greasy kitchen, then climbing up into a dusty attic. And of course, there's the bugs. A common question I get is something along the lines of "Aren't you or your wife worried about bugs being brought home?"

We've all had those days where roaches are falling from the ceiling onto your face. A bed bug or flea infestation so gnarly you can't help but feel itchy after your

treatment. Those are the days I come home and just strip everything off at the back door. If my wife and kids hear me yell "Coming in hot!," they know to take shelter in their rooms for a couple minutes lest they see me streaking through the house on my way to the shower. Once I've showered off, I'll go get my clothes from the back door and toss them in the washer. Overkill? Maybe. But I've never brought anything home with me. Just another day!

 **By Josh Walden, PMP**

Special Delivery

Eliminating a roach population means finding the source. A food court provides a unique challenge as several connected restaurants offer more harborage areas and more opportunities for roaches to spread. I was proud to say that I haven't had any roaches at this location in years. Finding a roach on a monitor at one of the restaurants immediately got my attention. I searched the usual places in the kitchen to find the harborage but couldn't find any more. When I went next door, I noticed two roaches there, and another roach at the next restaurant over, but still no obvious source. I knew I had to start thinking outside the box.

Eventually, I made my way to the utility closet to investigate the industrial ride-on floor scrubber. Sure enough, inside the battery compartment under the seat, there were several hundred cockroaches. Warmth from the scrubber's batteries combined with spilled soda and food crumbs made for a perfect harborage area. Turns out, roaches were being delivered right to the doors of these restaurants as the scrubber was driven to clean the hallways. I might be overconfident, but I'm pretty sure it's over for those guys now!

 **By Mike R., PMP**

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