A SPECIAL THANKS TO OUR SPONSORS
Tekko™ Pro is formulated with two active ingredients that work together to prevent listed pests. One treatment inhibits reinfestation of listed cockroaches for six months. So for listed insects; Tekko Pro may be a serial killer.

Contact your local distributor, CSI rep or visit www.controlsolutionss.com

Tekko™ Pro Insect Growth Regulator Concentrate from Control Solutions provides effective, long-term control of listed pests including cockroaches, fleas, flies, mosquitoes, gnats, crickets, litter beetles, and ants. Tekko Pro is formulated with Combination Chemistry™, which combines two active ingredients with two modes of action into one innovative product. Tekko Pro contains two insect growth regulator active ingredients: Pyriproxyfen, a juvenile hormone analog and Novaluron, a chitin synthesis inhibitor. Tekko Pro prevents listed cockroaches from developing into egg-laying adults. One treatment inhibits reinfestation of listed cockroaches for six months. So for listed insects; Tekko Pro may be a serial killer.

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Tekko™ Pro is responsible.
Pests, like humans, have taste and color preferences. 

Honey - an excellent attractant to draw out ants and see where they trail.
Kitty malt - a chocolate base thick liquid used for helping cats get rid of hair balls. It makes an excellent attractant for mice on snap traps. You can purchase it in a pet shop.
Cantaloupe - fresh and cut open draws picnic beetles from a far.
Aika Seltzer - When dropped in water gives off Carbon dioxide. This attracts fleas. Place on flat pan with soapy water. The adult fleas jump in and sink.
Dead fish - Place in the sun and watch the bottle flies come almost immediately. I then catch the flies in a net. Place them in a jar and take them to a room where a rodent died. As soon as you release the flies, they land on a surface behind which is the dead rodent. I now know where to find the rodent.
Warm chicken - When mice are living inside a walk-in freezer, they go bananas over warm protein. Use a box with several entrance holes. Place a large glue board inside the box so it fills the entire box. Insert through the cover of the box a small electric light bulb that is giving off a small amount of heat. This works for ants, cockroaches and rodents.
Tootsie Roll - Soften the length on one side (in your mouth). Then push onto a rat snap trap. It hardens and forces the rat to pull thereby catching the rat.
Vinegar - Place a few drops in a sticky trap or glue board to attract Phorid Flies. They start flying to it almost immediately. Then use it to help pinpoint breeding sites.
Slugs and Snails - Roof rats love them. They make a good food base for rat snap traps. Pup-Peroni also works well.

**DISCOVERY RETREATS**

Upcoming schedule mark your calendar!

For more than 15 years the Discovery Retreats have been run and owned by Lloyd Smigel. If you want the straight scoop from someone who has "been there, done that", this could be the opportunity to change your business for the better!

**AUGUST 18 AND 19, 2017**

Family business – making it work.
If you have friends and family working in your business it can be a nightmare. Let’s fix it!
We will also cover “Who’s going to take over when I’m gone?” Unless you plan to stay until you drop dead and don’t care what happens after that – you might want to consider coming to this one!!

**NOVEMBER 10 AND 11, 2017**

The future of pest control – are you ready?
Liability, protecting what you have built, new technology – what business will look like in the near future and you need to get ready.

Join us in Dallas for up-coming retreats. Call Pat for any questions and registration information 816-888-9146.
EXPENSE OR INVESTMENT

By Lloyd Merritt Smigel and Pat VanHooser
Care Management Consultants

Training is not an expense. It’s an investment. Yes, on the Profit and Loss Statement you will find training under expenses and it does not bring in money, but you should be looking at it as an investment.

If you don’t train properly you will have Lawsuits. Then you will wish you invested into more training as you pay out hundreds of thousands of dollars. But yes, you DID save $10,000 by not training properly.

The key here is: did we hire the right person to train? That’s a tough one. There are so many variables. People move, family problems, changes in lives, greed, stupidity, death, divorce, etc. etc. So you will NEVER eliminate turnover. Add to that there are people who should be fired but never are (another article). The point is that it is a shame to go through all of the trouble to finally hire that right person and then not want to INVEST in their training for them to advance themselves as well as the company.

Joe was a new sales rep. It probably cost the company $25,000 for unearned guarantees for him the first year. He brought in about $120,000 the first year. The second year it cost the company maybe $15,000 and he brought in over $200,000. His third year he brought in $510,000 and cost nothing - and this year, his fourth, he will cost nothing and will bring in over $400,000. Here’s the kicker. These sales (most of them) were self-created. Try to get that return on advertising. It was an investment that paid off. We have seen managers, Sales Managers and Branch Managers return a LOT less than this one sales rep.

You invest in the person who you feel has the potential to bring you back a high Return on Investment. At the same time you make sure that they are trained well and guided well. Many owners don’t maintain their people after they are hired. They just hire, train and let them do or die. Not a good strategy.

Many owners don’t maintain their people after they are hired. They just hire, train and let them do or die. Not a good strategy.

We have also seen where companies don’t want to invest in Safety Equipment or training in that area. Then, once an accident occurs they learn what negligence means from their insurance company as they are not backed by them.

Yes, training is an expense – but is it?

Tandem insecticide has one of the broadest labels available today. You can apply it from cupboard to curb in places like food-handling establishments, building perimeters or even lawns. Plus it’s formulated with two modes of action and iCAP technology,™ which means it can knock down over 90 pest species quickly and deliver residual control that can last up to 4 months. So you can apply in more places, control more effectively and get customers’ lives back to normal in a hurry.

Many owners don’t maintain their people after they are hired. They just hire, train and let them do or die. Not a good strategy.
THE ABC’S OF GREEN TECHNIQUES

By Dr. Stuart Mitchell
PostWest USA

The question, “What is “Green?” has been posed many times within the pest management industry. There are many answers to this question resulting in various interpretations.

Certainly the answer is not: a green color or pigment; resembling the color of growing grass or the color between blue and yellow in the color spectrum; similar to the color of “green paint;” or an area of closely cropped grass surrounding a hole on a golf course or even looking pale and unhealthy. Or is it? “Green” endeavors to practice responsible pest management, stimulate consumer demand for green services, and increase environmental awareness and accountability. Many types of Green treatment techniques stimulate both awareness and discussion. The ABC’s of Green techniques includes the following and many more to come.

A’s
- A complete swab dipped in alcohol can be used to kill mealybugs. Alcohol dissolves the wax around the insects and egg masses, killing them.
- Allelopathy is a phenomenon where some plants inhibit the growth of competing vegetation (allelochemicals).
- Almond oil containing benzaldehyde has been shown to have carpenter bee repellent qualities.
- Ammonia can be used against bed bug infestations.
- Anhydrous calcium carbonate is available in small packages to absorb free moisture from wood and other surfaces in small areas of a structure.

B’s
- Bacillus thuringiensis and subspecies produce a spore and protein called endotoxin (ingested stomach poison) for control of mosquitoes and other insect pests.
- Three commercially available predators, Green Lacewing, Convergent Lady Beetle, and Gall Midge can biologically control aphids on indoor plants.
- Camphor for use against clothes moths can be broken into small pieces about 1/2 inch-square and scattered throughout a garment, tapestry container, or display.
- Cockroach infested items can be sealed in 6 mil plastic bags and the air sucked out of each bag by a vacuum then CO2 is released to fill the bag and taped.
- Citrus peel extracts are d-limonene (a citrus oil) and linalool (an alcohol), which are either terpenes or hydrocarbons with insecticidal and repellent properties.

F’s
- Flexinet electric fencing gets respect from all animals and even from the predators. This visible fence comes in 165-foot lengths with all the posts built within. Customized fence is available for horses, goats, sheep, hogs, and poultry. The 20-inch Flexinet keeps rabbits and rodents out.
- Flaming eliminates herbicide use by scorching weeds (up to 2,000°F). An easy to operate torch kit allows the operator to use the torch with one hand and move the dolly simultaneously.
- Garlic oil, Allium sativum a member of the Lily family, has been used for aliments from toothache to HBP. Modern studies confirm antibacterial, antifungal, amebicidal, and insecticidal properties. Contains allylcysteinesulfate as di and trisulfides as actives.

H’s
- Heating a structure’s interior between 135º and 150º degrees exterminates insects, including those in tiny crevices and heat sinks.
- Dehumidifiers remove moisture from warm, humid air, working like an air conditioner, moving cooler air past two coils. The water drips into a reservoir or through a hose to a drain. The other coil warms the air, which is blown into the structure or room. A dehumidifier does not function well under 65 degrees.
- Mosquito fish, Gambusia affinis, are used for mosquito control in man-made bodies of water. A 1-foot piece of clay pipe can be used to protect them.
- A natural enemy to regulate pest populations is accomplished through discovery and introduction of new natural enemies, by conservation of existing natural enemy populations, and by periodic large population releases of mass-reared natural enemies.

C’s
- Camphor for use against clothes moths can be broken into small pieces about 1/2 inch-square and scattered throughout a garment, tapestry container, or display.
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G’s
- Garbage or waste should be handled correctly along sanitation lines. Containers need to have tight-fitting lids, routinely cleaned, and emptied on a schedule.
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Continued on page 20

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Continued on page 20
WHAT HAS NVPMA BEEN DOING FOR YOU?

Shaping Local Legislation
The Officers, Board of Directors and Committee Members of the Nevada Pest Management Association (NVPMA) have been diligently working with the Nevada Department of Agriculture (NDA) in order to shape and craft changes to the NRS and NAC. Recently the NDA agreed to remove the requirement to label all application devices. While this is not in effect currently, these changes will go into effect after the Board of Agriculture has had a chance to review the changes and approve the amendments. The NVPMA and NDA will announce when the change is to take effect, please check your email for details outlining this decision soon. Note: To edit your email address or add additional recipients please email your request to membership@nevadapma.org

NPMA Legislative Day 2017
For the second year running the NVPMA had proudly represented Nevada’s pest management industry at the National Pest Management Association’s Legislative Day. This afforded our President and Secretary/Treasurer a great opportunity to meet with our Senators and Congressmen to pass along the NVPMA’s views on current national issues that would directly affect our local industry. We are also excited to announce our partnership with the NPMA which will assist in crafting local legislation that the NVPMA feels will benefit the pest management industry in Nevada. For example, state supremacy when writing pest management legislation and drafting clear guidelines on who would be responsible for bed bug treatment costs in a landlord/tenant relationship. Direct personal communication with your senators and congressmen is key to our legislative process and every voice counts. The NVPMA would like to encourage each of you who has the means to attend NPMA’s Legislative Day next year. Remember your input and suggestions are vital in guiding the direction NVPMA, your association, takes when tackling each of the issues we face. You can help strengthen our industry by joining the NVPMA Legislative committee today. For more information or to join please email membership@nevadapma.org.

WELCOME DON DARILEK
The NVPMA would like to welcome Don Darilek, General Manager of Home Team Pest Defense and Associate Certified Entomologist who will be joining the current team of officers and will be taking over duties as Secretary. Congratulations Don! We look forward to working with you.

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PEST PATHS: TEN COMMON WAYS PESTS GAIN ACCESS TO YOUR BUILDING

By Patricia Hottel
Technical Director
McCloud Services

Pes can run, crawl, fly and hitch-hike their way into a facility. Some paths are obvious like a door which is left open or poorly sealed, and some not so obvious. Here is a list of the ways pests can enter a building and the methods for preventing entry:

1 - Dumpster Compactors
Not only can dumpster compactor chutes provide entry points through poorly sealed chute designs, but the dumpsters themselves can attract and serve as breeding sites for pests. In fact, the dumpster box can be transporting pests to and from the waste disposal site depending on how the box is handled. If the garbage is merely emptied and not cleaned, fly maggots and other insects can continue to thrive inside the box. If the old dumpster is dropped at the waste disposal site and a new box delivered, it can bring pests with the recycled dumpster. This is one of the reasons that monitoring this area is so important to make sure that rodents or insect pests are not being transported to the site. Food facilities should have a program in place for cleaning dumpsters, and dumpster pads, especially during the warm weather months, and sealing around dumpster compactor chutes to prevent pest entry.

2 - Trailers and Totes Held for Animal Feed and Farms
Although a great way to reduce the amount of food waste going to landfills, holding food for animal feed can potentially provide a path for pests. Traditionally, feed trailers are not routinely cleaned, which means that residues inside the trailer after dumping can support pests. If the food waste is dry, it could provide an area for stored product pests to develop. If the food waste is moist, fly larvae can breed in the moist organic residues. These trailers may be transported to sites which are less sensitive to pests and have poorer on-site sanitation. We have traced more than one rodent infestation in a food plant to the handler of feed totes. In one case, mice were brought into the facility on the tote. In another, rats were introduced to the site via trailers returning the totes.

3 - Employees
Several urban pests are excellent at hitch-hiking. These include the German cockroach and the common bed bug. We routinely find that when these pests inhabit workplaces, they arrive on the belongings of employees. Having a separate area for employees to store their belongings, including lunches, is critical. Monitoring these areas for pest activity is also important with regularly scheduled employee locker clean-outs as a part of the monitoring and inspection process. Facilities should have a policy in place to deal with employees who have been found to be the sources of pests such as bed bugs. These policies should be established prior to the first incident since it will require the involvement of multiple departments including human resources. A timely response means having the action plan in place prior to the first incident.

4 - Trailers used for Pallet and Cardboard Storage
It is not uncommon for facilities to use a trailer to store pallets or other items as a way to increase warehouse storage space. However, it is often difficult to completely seal around the warehouse door frame/ trailer door juncture to exclude pests. Often these doors are left open to allow forklifts easy access to the stored items. Unfortunately, it also provides easy access for pests. These gaps, particularly along the base of the trailer, can be six or more inches wide. Most food facilities would not allow a 6-inch wide gap in a warehouse wall, yet they allow these imperfect seals around storage trailers. These trailers are an extension of the warehouse when used for routine storage. The use of trailers with roll up doors tends to provide a slightly better seal against the dock than trailers with double doors that swing open. The double doors on the trailer create additional space between the dock and trailer and should be avoided when possible. The best remedy is to keep the dock doors closed while not in use.

Continued on page 22
A Double Barrier Of Protection That Stops Pests In Their Tracks

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- 9.7% is an innovative lambda-cyhalothrin capsule suspension formula with superior microencapsulation for extended residual protection.

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Fireback
Fireback is an insecticide that is highly effective against bedbugs. It also gives you a 3-month residual and can be used against 28 other listed pests. Fireback’s unique application tip creates a pin stream for treating bedbugs in tight cracks and crevices as well as a regular spray for other listed pests.

FOOM FRESH
ORGANIC ODOOR PROBLEMS ARE HISTORY.

1. When you spray Foam Fresh onto a surface, the foaming action immediately encapsulates odor-causing molecules, reducing offensive odors.

   The offensive odor is replaced by the bold fresh scent of Foam Fresh. This fresh scent is most powerful when first sprayed, then it dissipates to a gentle fragrance.

   Finally, Foam Fresh attacks the organic matter that is the cause of the odor. Seven strains of microbes begin consuming the organic matter, and the microbes will double in population every 20 minutes until their food source is consumed.

2. Air pressure forces the foam through small holes in the treatment tip, creating an effective barrier.

   When the foam reaches its destination, it quickly forms a tough, microbicidal barrier against listed pests.

   After spraying, spray garbage receptacles, including tufts and seams and any crevices as well as a regular spray for other tough-to-reach areas. Spray garbage receptacles and the microbes will double in population every 20 minutes until their food source is consumed.

3. Foam Fresh is active against a wide range of sustainability-relevant pests, including bedbugs, cockroaches, and a wide range of other pests.

   Foam Fresh is also effective against a wide range of other pests, including bedbugs, cockroaches, and a wide range of other pests.
These three activities are basic tenets of successful applied biological control.

- **Bird netting** is a very effective and economical way to keep birds out of key areas in and around structures. Whole sections of a building can be “walled-off” or architectural features protected.

- **Cold treatments of liquid nitrogen** can eradicate pests that live in a narrow temperature range. Liquid nitrogen can be pumped into walls, which freezes the pests, killing them, then warms and evaporates. This method of pest control has been effective in controlling carpenter ants and dry wood and powder post termites.

- **Pheromones** are substances produced by an organism that elicit a response in another of the same species. Allophoromone favors emitter over receiver. Kaiphoromone favors receiver over emitter. Synophoromone favors emitter and receiver.

- **Solarization** is nonchemical technique that captures the radiant heat and energy from the sun and causes physical, chemical, and biological changes in the soil. These changes lead to control, or suppression, of soil-borne plant pathogens such as fungi, bacteria, nematodes, and pests along with weed seeds and seedlings.

- **Ultraviolet light traps** are effective sub-controls and environmental monitoring devices. The size or wattage (w/m2) and phosphor emission of the trap must slightly exceed the line-of-site space provided.

- **Vitamin B1** or thiamine taken orally has been used as a flea repellent. F. Pearlman reports the results of a study in which 24 of 33 patients who took 50 mg of VB1 3x/d counted fewer flea bites. Pets can be given B-complex vitamins at a dose of 1/4 to 1/2 a 10mg vitamin pill twice daily (only when flea populations are heavy or if the animal shows FAD). Be sure to consult your physician or veterinarian.

- **Aphids** can be washed off plants and some will be killed and others end up food for other predators. Repeat every 3 to 4 days.

The ABC’s of Green techniques alphabet list will continue to lengthen within our challenging business environment. The question, “What is Green?” will certainly continue to be posed. In the quest for “Green,” the pest management industry and its professionals will continue to adapt to a strong consumer demand for Green pest management services.
5 - Incoming Shipments

Just like pests can hitch-hike on employees, pests can hitch-hike on raw ingredients and other materials coming into the building. A good inspection of incoming goods is required to make sure that hitch-hikers are excluded. Once the product has been accepted into the site, it can be difficult to establish responsibility for the pest infestation. An infestation can also go unnoticed until populations have reached critical numbers. A good example of this issue is pallet mix which can be harboring in the center of a palletized product stack. Pallet mix can remain inside that stack where food is available and begin to infest neighboring products. Numbers can build up quickly and compromise food safety. A proper inspection program can help reduce this risk. Check between the top and bottom decks of the pallets while elevated on the forklift to look for droppings at a minimum.

6 - Negative Building Pressure

One of the most expensive structural deficiencies to correct is a negative pressure situation. Yet it can be responsible for bringing in a wide variety of insects into a structure. In worse case scenarios, negative building pressure can make it almost impossible to open a door because of the force of the outdoor air pressing towards the door is so strong. Negative pressure can pull insects into a building whether they want to come inside or not. Insect attractive lighting, building temperatures and food odors emanating from the structure, can add to the complexity of the issue.

7 - Improperly Functioning Air Doors/ Curtains

Air curtains can provide a false sense of security when it comes to preventing pest entry, if the right air door is not selected and maintained. Overtime, these doors may not function as well as originally installed or may not have been installed correctly in the first place. The proper air stream should be 2-5 inches wide at the nozzle and a minimum air velocity of 1600 fpm of air, 3 feet above the floor and across the entire span of the door opening. Food facilities should periodically check their air doors for proper function. An improperly functioning or installed air curtain can do more damage than no air curtain by pulling insects into the building. If a building has a negative air pressure issue, it may be difficult to find an air door or curtain strong enough to compensate for the force from the outdoor air. Negative air flow must be considered in selecting the right air curtain.

8 - Dock Plates

Because of the nature of a dock plate, there can be gaps around the dock plate required to permit movement. The best dock systems consist of a plate which is lowered from an upright position into a trailer versus the dock plates which are incorporated into the floor. Dock plates which are incorporated into the floor will have spaces around the plate which need to be sealed with brushes or plates. Special care is needed to insure a proper seal where the dock plate seal meets the door seal. In addition, there will be chain pull openings which require sealing. There are several different door seals available, including seals for the chain pull area to exclude pests. Xcluder is one product line offering dock plate seals, door seals and dock plate chain pull seals.

9 - The Wrong Screens Used for Doors, Vents and Windows

Most insects will be excluded using normal sized window screens. The average mesh is designed to exclude pests like house flies and mosquitoes. However, some insects like fungus gnats and thrips, will get through normal window screening and require a smaller mesh screen. In the search for zero insect activity, these smaller mesh screens may be necessary, depending on the type of exterior pest pressures. Bio Quip and U.S. Netting are two suppliers of finer mesh netting for small insect exclusion. In addition to the right size mesh, all screens should be tight fitting and repaired if tears occur.

10 - Floor Drains

Our sewer system can provide an ideal harborage for pests like small flies, cockroaches and rats which then travel into our facilities. Drains which are seldom used for water management can be particularly problematic. Maintaining drains through cleaning and proper grating is essential in helping keep pests from migrating into structures through sewer highways. If a drain is not needed for waste water management, consider capping it. If it is needed and supporting pest entry, consider using special caps or screened “socks” which will allow liquids to flow down the drain but help keep pests out. Some of these exclusionary devices are designed for insects only and not rodents. Liquid Breaker Green Drain is an example of a one-way valve insert for insect exclusion.
**By Ronald Balsamo**  
Nevada Department of Agriculture  
Pest Control Program Manager

The Nevada Department of Agriculture (NDA) is always committed to providing expertise and resources to the pest control industry. As the new pest control program manager for the NDA, I’d like to introduce new leadership and myself.

**Ronald Balsamo, Pest Control program manager**

If we haven’t already met, I am Dr. Ronald A. Balsamo, but you can call me Ron. I currently manage the Pest Control program at the Las Vegas NDA office. To give you a little insight into my background, I have spent my entire 28-year career in the fields of agriculture and plant sciences. I also have 20 years of experience as a research biologist. I have worked with many clients in the commercial greenhouse industry, developing expertise in integrated pest management. Earlier in my career, I worked as a quality control inspector for agricultural produce.

I received my Bachelor of Science in Horticulture from Delaware Valley University of Science and Agriculture, a Master of Science in Plant Physiology from Washington State University and my Ph.D. in Botany and Plant Sciences from the University of California, Riverside. I am excited to start this new chapter in my career and am honored to serve the pest control industry.

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**Lynn Hettrick, Plant Industry Division administrator**

Lynn Hettrick has recently joined the Plant Industry division as its new administrator. Hettrick most recently served as the executive director of the Nevada Dairy Commission and the deputy director of the NDA. He served as a Nevada state legislator for 14 years, including ten years as the minority leader, and was a small business owner until 1989.

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**Heather Lackey, pest control industry representative on the Board of Agriculture**

Also joining leadership is Heather Lackey, recently appointed by Governor Brian Sandoval to represent the pest control industry on the NDA’s Board of Agriculture. Heather is the owner of Carson Creature Catchers, a nuisance wildlife control company based in Carson Valley, specializing in exclusionary methods to resolve nuisance wildlife conflicts.

The NDA Board of Agriculture, all appointed by the governor, contains 11 community leaders who establish NDA policy and verify laws and programs administered by the department are carried out.

The Nevada Department of Agriculture (NDA) promotes a business climate that is fair, economically viable and encourages a sustainable environment that serves to protect food, fiber and human health and safety through effective service and education. NDA includes the divisions of Administration, Animal Industry, Consumer Equitability, Food and Nutrition and Plant Industry.
scorpions are born with a litter averaging about 20 individuals. The female scorpion will carry her young on her back until their first molt (seven to 12 days). Bark scorpions, unlike most other species, tend to be social and may be found in large numbers together, especially during winter months. In Las Vegas, they have been found inside homes (on walls and behind pictures) year-round. Outdoors they have been collected from palm trees, outer walls of buildings and concrete block walls. Bark scorpions are active climbers and are often found fair distances from ground level. They may even spend most of their life in trees, seeking cover during the daylight under bark and in cracks and crevices of the tree (especially palm trees). Most other species of scorpions prefer the ground.

All scorpions are nocturnal and come out at night to hunt for food or mate. However, only a small portion of the population may be out on any one night. The most effective method of controlling bark scorpions is finding the scorpions at night with a black light. Scorpions glow light yellow-green when exposed to black light. Once detected, the scorpions can be killed manually or chemically. Treating areas with chemicals for scorpions is ineffective. Attempting to control scorpions by eliminating their prey with pesticides is also unproductive.

Dealing with poisonous bark scorpions in Nevada

There are approximately 23 species of scorpions found in Nevada, and species will often live in close proximity to other species. All scorpions are predators and often are beneficial to homeowners by feeding on other pests like cockroaches. Of all scorpion species found in Nevada, only one is considered poisonous enough to require medical attention, the bark scorpion (Centruroides exilicauda). Thankfully, death and serious illness are extremely rare. All other species found in Nevada have venom and can sting when provoked or trapped, but the reaction to the sting is usually mild.

The bark scorpion appears primarily in Arizona, but ranges into New Mexico, Nevada, southeastern California and southern Utah. Bark scorpions occur naturally in a small area in southern Nevada bounded by the Virgin River, Lake Mead and the Arizona border. The arachnid wasn’t found anywhere else in Nevada until 1993 and is now common throughout the Las Vegas valley. The bark scorpion was most likely introduced to Las Vegas through nursery stock (especially palm trees) and building materials imported from Arizona.

Mature bark scorpions average between two and three inches in length, including the tail, and their color ranges from a light yellow to a reddish tan. They are very delicate-looking, with long slender tails and thin claws, compared to other scorpions. The tail is often as long or longer than the body. The sting located at the end of the tail is used for defense and killing prey. Other characteristics useful in identifying bark scorpions from other species include: a “tooth” or projection at the base of the sting several diagonal rows of “teeth” (most scorpions have a single straight row) on the inside of the claw. Bark scorpions may take from six months to one year to mature, and the average life span of a bark scorpion is approximately five years. The young

Fig. 1 An adult bark scorpion. Fig. 2 A bark scorpion’s sting. Fig. 3 Rows of “teeth” on a bark scorpion’s claw.

Jeff Knight has served as the Nevada State Entomologist since 1993. The Nevada Department of Agriculture’s entomology program identifies, surveys for and controls native and exotic invertebrate pests, applicable quarantines and regulations.
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