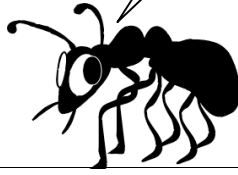


There's a
bug in the
system!



Bug-Wise

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Ants, Wasps and Other Bugs in Electrical and Telecommunications Equipment: Fire ants and other ants often invade outdoor electrical equipment such as pad-mounted transformers, traffic light control boxes, irrigation control boxes, heating and air conditioning units, and telecommunications equipment. Once inside they can cause equipment to malfunction due to electrical shorts or accumulation of soil. Paper wasps, honey bees, mud daubers, and other stinging insects will also build nests inside such equipment. These nests can cause shorts and mechanical problems, but the greater problem is the nuisance and hazard stinging insects present for technicians servicing or repairing the equipment. Spiders, including venomous species such as black widows and brown widows, also build their webs in such locations.

Malfunctions in such equipment are costly to repair and can result in power failures or disrupted service. Although it is important to protect such sensitive equipment from insects, it is equally important that the methods used to prevent or control the insects not be damaging to the equipment. Fortunately, there are a few insecticide products that are specially developed and marketed for use in or around such equipment. Here we discuss some of the pests that cause such problems and some of the methods and tools used to prevent or control them.

Note that most of the products discussed here are sold in volumes suitable for commercial use. Persons using these products must have adequate knowledge and training to determine whether the product is safe and appropriate to use in the specific situation of concern. Technicians who work for power or communications companies are likely already aware of the tools discussed here, but maintenance personnel who work for other kinds of companies or in other situations may be interested in learning more about methods and tools for controlling these pest problems.

Fire Ants: Fire ants have a propensity to build their mounds next to structures like cement pads and equipment housing. This happens either because a founding queen finds this to be a nice protected place to start her colony or because a nearby mound relocates its brood to the site to escape adverse environmental conditions at the original nest site. Fire ants like to nest next to and under concrete pads because they warm up earlier in the spring and provide a cool, protected environment in the hot summer time. Sometimes they will carry soil and brood inside the housing and build nests on top of the pad, or inside equipment housing, and these are the situations that cause the greatest problems. Not only do fire ants damage equipment, but it is much more difficult to service or repair equipment that's swarming with angry fire ants.

The best way to prevent fire ants nesting around a concrete pad on which sensitive equipment is mounted is to treat a band of soil around the pad with a long-lasting soil-applied insecticide. Talstar EZ Granular Insecticide (0.2% bifenthrin) will provide about 6 months of residual control when applied to the soil around equipment. There are also specialty insecticide products labeled for application inside the housing of pad-mounted transformers and similar types of equipment to repel and control fire ants and other insects. Hy-End Bifen ITP & S (0.2% bifenthrin) and Rainbow Fire Ant Killer (5% chlorpyrifos) are two examples. These two products are sold in

pails containing pre-measured packets of insecticide, as well as in other volumes. These are long-lasting granular insecticides that are applied by sprinkling in and/or around the equipment as directed by the label. These treatments provide long-term control but must be reapplied at appropriate intervals to maintain protection. Maintaining good fire ant control in the landscape in which the equipment is located is also very helpful (see extension publication 2429, Control Fire Ants in Your Yard), but not all such equipment is located in managed landscapes.

Sometimes technicians need to quickly kill fire ants located inside sensitive equipment so they can access and service the equipment. Rainbow Technology Corporation sells an insect probe adapter that can be attached to a can of their Telco and Power Wasp and Ant Spray for this purpose. The 15 inch probe can be used to inject the aerosol spray directly into the mound or to direct spray into crevices and narrow openings.

Other Ants: Several other species of ants also invade electrical equipment and cause malfunctions, but unlike fire ants, these ants will also invade equipment that is not located on the ground. These include: Argentine ants, acrobat ants, hairy crazy ants, and odorous house ants. None of these ants carry soil inside equipment. They nest by simply piling their brood in protected areas, such as the space between insulation and equipment covers. Malfunctions result either from shorts or mechanical problems due to accumulations of dead ants or because of ants chewing through wiring insulation or other equipment components. Fortunately these ants do not sting.

Granular insecticide treatments that are labeled for use inside equipment housing will help prevent/control these other species of ants, but because these ants do not always travel and nest at ground level, control may not be complete, and such treatments are not always appropriate for equipment mounted above ground level. Rainbow Insect Tape is a long-lasting, slow-release insecticide strip impregnated with propoxur (Bagon) that is specially labeled for use inside electrical and telecommunications equipment. This product works by slow-release fumigation action to repel and control insects and spiders inside enclosed equipment. This is an especially useful treatment for sensitive equipment located above ground. Rainbow Insect Tags contain the same active ingredient and have similar uses, but are attached using a small cable tie.

Wasps and Bees: Paper wasps like to build their nests in areas that are protected from rainfall, and equipment housing is a favored location. We have several species of paper wasps in the state and they can all sting. Large nests can harbor dozens of wasps and the hazards to service personnel are obvious. Honey bees build their nests in dark voids of a certain size range. This is why hollow trees are a favored nesting site for feral honey bee colonies—it is dark inside and the size of the cavity is right. The housing for many types of equipment provides similar-sized dark voids and honey bees will readily move in—if they have access.

Exclusion is the best defense against wasps and bees. If they can't get inside the equipment, they can't nest there. Many companies do a good job of making insect-proof housing for their equipment. But housing gets damaged; covers get left open, and not all equipment is insect proof to begin with. When wasps build nests inside electrical or telecommunications equipment you can't just spray them with any available wasp spray. It might cause a short or cause damage or corrosion of components. Telco and Power Wasp and Ant Spray, by Rainbow Technology

Corp., is an aerosol insecticide spray designed for use in such sensitive sites. The label indicates this spray is non-conductive (Dielectric rating = 62,000 volts) and is non-corrosive to many plastics, as well as rubber and metal. Before using this or a similar product, be sure to read the label and other supporting material carefully to be sure it is safe for the use you have in mind. Slow-release insecticide strips or tags can also help repel and control wasps and prevent them from nesting inside equipment housing.

Honeybees are a special case. You usually can't eliminate a colony of honey bees by spraying it with a can of wasp spray. Seek the assistance of an experienced beekeeper or pest control company to remove a colony of honey bees. Depending on the situation, a technician who understands the safety precautions required for accessing and working around the affected equipment may need to work with the person who is removing the bees. Proper protective equipment is an important requirement for this job. Although Africanized honey bees are not yet established in Mississippi, they are in neighboring states and could appear in Mississippi any time now. Africanized bees are much more aggressive than European bees, and, because they tend to nest nearer the ground and in smaller voids than European bees, they are more likely to build their nests in these types of equipment.

It is often helpful to take additional steps to prevent insects from being able to enter equipment housing. Insect-proof screening, caulking, foam sealants, foam and rubber gaskets, and copper wool, are just a few examples of the tools that can be used for this purpose. Think before you seal. Holes in equipment housing are often there for a reason: to allow proper ventilation for cooling, exhaust, or air intake. Be sure any physical exclusion practices that are installed do not interfere with proper equipment ventilation.

Mud Daubers: Mud daubers are a particular problem in equipment that has moving parts but sits idle for long periods. The wasps build their mud nests while the equipment is not running, and the nests cause problems when the equipment is activated. Sometimes the problem is clogging of a ventilation port or exhaust, but more often the damage is due to accumulations of dirt in moving equipment parts. There are also many species of potter wasps that normally build their mud nests in small holes, such as hollow plant stems. These can cause problems by plugging ventilation or exhaust ports, or bolt holes.

Physical exclusion is the best defense against mud daubers. Slow-release insecticide strips, like Rainbow Insect Tape, can also help keep them out of enclosed equipment. Technicians should make it a routine practice to check for and remove any mud nests that are built inside equipment.

Spiders: Ground level equipment housing provides especially favorable habitat for black widow spiders; they like to build their webs in dark, protected sites at or near the ground. Many other spiders will also build their webs inside equipment housing. Accumulations of spider webs and the leaves and other debris that accumulate in old spider webs can cause equipment malfunctions and even fires.

The granular insecticide treatments, like Hy-End Bifen ITP & S (bifenthrin) and Rainbow Fire Ant Killer (chlorpyrifos), that can be sprinkled inside equipment housing for fire ant control will also help prevent and control spiders, by affecting the spiders directly and by repelling and

killing other insects that attract spiders. Insecticide impregnated strips, like Rainbow Insect Tape (propoxur), also aid in spider control.

Cockroaches: It is usually the large cockroaches: American cockroach, smoky brown cockroach, or brown cockroach that harbor inside equipment housings, sometimes in large numbers. Equipment that generates heat is especially attractive to cockroaches during the cooler months of the year. These are large insects. Adult American cockroaches can be over 1.5 inches long, and it may only take one crawling into the wrong place to cause a short or some other equipment failure.

The granular insecticides that are labeled to be sprinkled inside equipment, Hy-End Bifen ITP & S and Rainbow Fire Ant Killer, do a good job controlling cockroaches, and propoxur impregnated insect tape or tags are also effective against cockroaches.

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This information is for educational and preliminary planning purposes only. Brand names mentioned in this publication are used as examples only. No endorsement of these products is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control. Always read and follow the insecticide label.