Pharaoh Ants have become a serious nuisance pest in hospitals, rest homes, apartment dwellings, hotels, grocery stores, food establishments, and other buildings. They feed on a wide variety of foods including jellies, honey, shortening, peanut butter, corn syrup, fruit juices, baked goods, soft drinks, greases, dead insects, and even shoe polish. Also, these ants gnaw holes in silk, rayon, and rubber goods. In hospitals, foraging ants have been found in surgical wounds, I.V. glucose solutions, sealed packs of sterile dressing, soft drinks, water in flower displays, and water pitchers. These ants are capable of mechanically transmitting diseases and contaminating sterile materials. Some feel Staphylococcus and Pseudomonas infections, occurring from time to time in hospitals, are associated with these ants.

Identification
Pharaoh workers are very small (about 1/16-inch long), light yellow to reddish brown in color with the abdomen (hind portion of body) somewhat darker. There is no stinger. The petiole (narrow waist between the thorax and abdomen) has two nodes and the thorax has no spines. Eyes are well-developed. The antennal segments end in a club with three progressively longer segments. This is in contrast to the thief ant’s two-segmented club.

Life Cycle and Habits
Female pharaoh ants can lay 400 or more eggs in her lifetime. Most lay 10 to 12 eggs per batch in the early days of egg production and only four to seven eggs per batch later. At 80°F and 80 percent relative humidity, eggs hatch in five to seven days. The larval period is 18 to 19 days, prepupal period three days, and pupal period nine days. About four more days are required to produce sexual female and male forms. The entire life cycle takes about 38 to 45 days depending on temperature and relative humidity. Unlike most ants, they breed continuously throughout the year in heated buildings and mating occurs in the nest. A single queen can produce many hundreds of workers in a few months. Mature colonies contain several queens, winged males, sterile females or workers, eggs, larvae, prepupae, and pupae growing to as large as 300,000 or more members.

Periodically a queen, together with a few workers carrying immatures (eggs, larvae, and pupae), leaves the nest and sets up a new colony elsewhere, quickly spreading an infestation. This behavior pattern is known as “satellit ing,” “fractionating,” or “budding” where part of the colony migrates to a new location rather than by single females dispersing after a reproductive swarm. Budding may occur due to overcrowding, seasonal changes in the building’s central heating and cooling system, or application of a repellent pesticide.

A nest is often so small it can be contained in a thimble, located between sheets of paper, in clothing or laundry, furniture, foods, etc. Nests usually occur in wall voids, under floors, behind baseboards, in trash containers, under stones, in cement or stone wall voids, in linens, light fixtures, etc. They prefer dark, warm areas near hot water pipes and heating tapes, in bathrooms, kitchens, intensive
care units, operating rooms, etc. They are “trail-making” ants and often are found foraging in drains, toilets, washbasins, bedpans, and other unsanitary sites as well as in sealed packs of sterile dressing, intravenous drip systems, on surgical wounds, food and medical equipment.

Control Measures

Pharaoh ants are usually much harder to control than other ants because of their ability to disperse. There may be dozens or hundreds of colonies in a single hospital and when a few colonies are missed during control, populations will quickly rebound. About 90 percent of the colony remains hidden in the nest so even if 10 percent of the colony is killed by a residual pesticide, the remaining reservoir of ants is enormous. Conventional contact pesticide applications, especially repellent products such as pyrethrins, may spread infestations to new areas with multiple colonies blossoming within the structure. These ants will avoid certain pesticides. Control is difficult and often long term (months to years), depending on the building size, wall voids, etc., especially in hospitals and food plants. Complete cooperation from the property manager and residents is essential for a successful control program.

Inspection

Carefully examine the building inside and outside from the roof to the basement, finding the ant distribution, population size, and food sources. Locate ant trails, following them to where feeding occurs. A single stream of ants moving in one direction may indicate colony movement, not foraging. Mark the established feeding trail with a sticker and date. Trails with many ants coming and going indicate a large colony. Pre-baiting (dilute honey or peanut butter on three-by-five cards) helps to identify “hot spots,” but with experience one will already know where such places are located. In the winter, these ants tend to concentrate near and around heat, whereas in the spring and summer they move to the outside walls and distribute themselves throughout the building. Carefully check areas with moisture such as pipes, faucets, air conditioners, refrigerators, drains, leaking roofs, etc.

Prevention

When insecticides are prohibited around high-tech equipment and in health areas, use sticky tapes, double-faced adhesive tapes, and masking tape (glue side out) wrapped around objects as barriers. Use a ring of petroleum jelly, non-hardening glues, sticky dust mats, or glue boards under equipment legs.

Insecticides

In areas of active colonies, treat walls and ceiling voids through cracks and crevices with non-repellent boric acid dust and use baits designed to be attractive to this ant. The idea of using baits is to let worker ants pick up the material, take it back to the nest and feed it to the larvae and queen. Because these insecticides act slowly, these essential elements of the colony are eliminated. Insecticides with repellent action, such as pyrethroids (these usually end in “–thrin”), will move the colonies, spreading them further throughout the building. These treatments are best left to commercial applicators who have proper baits and understand the principles of baiting.

Total release aerosols (commonly called bug-bombs) are not effective at reaching the colonies of this ant and if fumes do reach the nest, the ants may quickly move the colony to another location.

This publication contains pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator’s responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registration, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author, The Ohio State University, and Ohio State University Extension assume no liability resulting from the use of these recommendations.

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