

What to Do About Bed Bugs in Poultry Houses



Figure 1. Adult bed bugs on a mattress. Photo courtesy Dr. Blake Layton, MSU Extension Service

What are bed bugs? How do they spread?

Bed bugs, *Cimex lectularius*, are small (about .33 inch or 5 millimeters long), flat, oval-shaped, wingless insects that feed on blood (Figure 1). Their primary hosts are humans, but they may also feed on chickens, other fowl, and mammals when given the opportunity. Bed bugs are found in temperate regions worldwide.

There is another human-biting bed bug species, *Cimex hemipterus*, that is also widespread but is found mostly in the tropics. Several other bed bug species may be found on bats, but they do not usually bite people.

Bed bugs somewhat resemble unfed ticks or small cockroaches. Adults are reddish-brown (chestnut-colored);

immature bugs resemble the adults but are very small and may be yellowish in color. Bed bugs have pyramid-shaped heads with prominent compound eyes, slender antennae, and long snouts (proboscises) tucked backward underneath the head and thorax.

These blood-sucking parasites had nearly disappeared in developed countries until the 1980s, when a dramatic increase and spread of the insects began. Since then, bed bugs have been increasingly reported inside U.S. hotel rooms, dormitory rooms, and apartments. Now, they are increasingly showing up in poultry houses, especially broiler breeder houses (Figure 2).

Bed bugs move from place to place in people's belongings—for example, in boxes, bags, and luggage. They are extremely difficult to eliminate and can survive for months without taking a blood meal. Control of bed bugs is made more challenging by the fact that they are becoming resistant (immune) to the pyrethroid pesticides commonly used by most pest control personnel.

In a breeder facility, hens and roosters, typically in high numbers, are used to provide hatching eggs for broiler production. Several regions of the broiler breeder facility may serve as shelter and hiding places for bed bugs. Typically, feeders and waterers are hung over platforms made of wooden slats that provide excellent shelter for bed bugs. Also, the corners of galvanized metal nest boxes and cardboard boxes used to transport eggs are typical sites for bed bugs.



Figure 2. Bed bugs occupying an empty chicken house weeks after the birds have been removed.

How do bed bugs affect chickens?

Because of the high density of animals and the resulting stress, heavy infestations of bed bugs in chicken houses may lead to excessive feather loss, cloacal irritation, lesions on the breast and legs, and even anemia in extreme cases. Consequently, production may be decreased, feed consumption may increase, and egg spots from bed bug fecal deposits may be observed, potentially diminishing the value of the eggs as well as the profitability of the chickens.

NOTE: The eggs and meat are not harmed directly by bed bugs. However, there can be indirect harm such as anemia from blood loss. Bed bugs are not like ticks that remain attached to animals. They feed for a few minutes and then run away, so the chickens themselves when sent to market should not have any bed bugs still on/in them.

What can I do about bed bugs in breeder houses?

Make sure you don't transport boxes, bags, purses, bottles, or other items from an infested house to a non-infested house. This may require changing clothes and shoes each time after working in infested areas. Treat all houses with pesticides at the same time.

Keep in mind that using pyrethroids like Tempo® (cyfluthrin) and permethrin may not kill bed bugs. If not, try using a non-pyrethroid pesticide such as Durashield® (chlorpyrifos) or RaVap® (chlorpyrifos + dichlorvos) in the houses. RaVap® can be used with chickens present in the house (check the label), but **Durashield® can only be used when the houses are empty and must be mixed and sprayed by a certified pest control person.** Also, please note that Durashield® may not be on the "approved chemicals list" for some poultry companies. Make sure the label directions are followed when using these and other pesticides.

Also, make sure the nest boxes are sprayed, including the corners and all cracks, crevices, and bed bug hiding places. Bed bugs aren't out in the open—they're in cracks and crevices, and those places need to be sprayed

thoroughly. Since the eggs may not always be killed during treatment, spraying will probably need to be repeated after approximately 2 weeks (see label for instructions). As far as is known, these non-pyrethroid pesticides should kill the bed bugs.

HEAT may be used to kill bed bugs when there are no chickens in the facility. Sustained heating of the houses to 130°F for a few hours should kill all the bed bugs and their eggs. You could call around to some of the pest control companies and see whether any of them have the heat equipment and expertise necessary to do this. If heat treatments are used, it's a good idea to use residual insecticides outside the building as a perimeter spray to kill any bugs trying to escape.

How can I keep from spreading them to my home?

Keeping bed bugs out of your house can be a daunting task, especially if you travel a lot, have frequent guests, or, in this case, have them where you work. Bed bugs may enter your home on or in all sorts of items such as on used furniture or items purchased at second-hand stores or garage sales, so those items need to be disinfected (more precisely, "dis-insected") before bringing them inside. Purses, bags, or boxes placed inside an infested chicken house—no matter how briefly—can easily become infested and carried back to your house.

First of all, after being inside an infested chicken house, be sure to change clothes and wash your clothing in hot water and dry it on high heat, if possible. Alternatively, you may place clothing directly in the dryer on high heat. Any items brought into the home from the affected poultry facility should be thoroughly inspected for evidence of bed bugs.

If you find bed bugs or suspect they may be in your home, call a pest exterminator to treat your house. Do not try to control bed bugs with over-the-counter pesticides purchased from local home and garden stores. It won't work, and you may endanger the health of your family!

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By **Jerome Goddard**, PhD, Extension Professor, Biochemistry, Molecular Biology, Entomology, and Plant Pathology; and **Kristine T. Edwards**, PhD, retired Senior Extension Associate, Biochemistry, Molecular Biology, Entomology, and Plant Pathology.



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