CONTROLLING FLEAS

HOME AND GARDEN BULLETIN NO. 121
U.S. DEPARTMENT OF AGRICULTURE
CONTROLLING FLEAS

Prepared by
Entomology Research Division, Agricultural Research Service

Fleas often breed in large numbers where pets and livestock are kept. They spread through homes, buildings, and yards. They attack pets, livestock, poultry, and people.

Pets infested with fleas scratch and bite themselves almost constantly. Their coats become soiled and roughened, and their skin becomes irritated.

Domestic animals are painfully annoyed by fleas, and young chickens and other poultry are sometimes killed by heavy infestations.

You can control fleas by applying proper insecticides.

COMMON KINDS

Many kinds of fleas attack animals and people.

The dog flea \(^1\) and the cat flea \(^2\) are the most widespread and abundant. Each kind attacks dogs and cats.

The human flea \(^3\), a severe pest in many areas, lives on numerous animals. It is often found on hogs, and it breeds in hog houses. It also lives on dogs, cats, goats, and domestic rats and on wild animals such as skunks, coyotes, and badgers. It most often is found in the Mississippi Valley, in Texas, and westward to the Pacific coast.

The sticktight flea \(^4\), infests poultry and occasionally annoys people and pets in the Southern States.

Several species of rat fleas, particularly the oriental rat flea \(^5\), infest houses and buildings that harbor rats.

All of these fleas can bite people.

DEVELOPMENT

Fleas pass through four stages of development—egg, larva (maggot), pupa, and adult.

The female adult lays eggs on an animal or in its sleeping place. The eggs fall off the animal and, within a few days, hatch into larvae.

The larvae are fully grown in about 2 weeks; then they spin tiny cocoons in which they change into pupae.

The pupae change into adults in about 1 week and emerge from the cocoons.

Adult fleas can live several weeks without food. This is why owners of dogs or cats sometimes return from vacation to find their homes overrun with fleas, even

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\(^1\) *Ctenocephalides canis*.

\(^2\) *C. felis*.

\(^3\) *Pulex irritans*.

\(^4\) *Echidnophaga gallinacea*.

\(^5\) *Xenopsylla cheopis*.
SAND FLEAS

Although fleas found in sandy places often are called "sand fleas" there is no flea by this name. Many kinds of fleas develop in sandy places—as a result of being dropped there (as eggs or adults) by flea-infested animals.

though no adult fleas were in evidence when they left for vacation.

Fleas feed on animal or human blood; they cannot breed or survive without it.

CONTROL WITH INSECTICIDES

The kind and amount of insecticide needed to kill fleas depends on (1) the kind of animal that is infested and (2) whether an infestation is inside or outside a home. Insecticides used in the home differ from those used in other locations.

Control of fleas on animals is necessary to prevent infestations in homes, animal quarters, and yards.

Fleas on Animals

Dogs and Cats

Malathion, methoxychlor, rotenone, or pyrethrum (pyrethrins) will kill fleas on dogs and cats. DDT and lindane are also effective on dogs but are not recommended for pups under 2 months old or for cats. You can buy these insecticides ready for use as flea powders or sprays.

Powders.—Use a powder that contains no more than: 5 percent of malathion, 5 percent of methoxychlor, 1 percent of rotenone, or 1 percent of pyrethrins. Flea powders sold for dogs and cats often contain several of these insecticides combined—each at a lower concentration than those listed above.

If you use DDT or lindane powder on a dog, do not use more than 5 percent of DDT or 1 percent of lindane.

Sprays.—Use a spray that has not more than 0.5 percent of malathion or methoxychlor. If you use a DDT or lindane spray on a dog, do not use more than 0.5 percent of DDT or 0.025 percent of lindane.

Use insecticides carefully. Follow directions on the container. Don't be alarmed if your dog or cat shows discomfort for a few minutes after the application. Insecticides often cause increased activity by the fleas in their last moments of life. If the animal has free run, treatments may have to be repeated to keep fleas
Rubbing powder into dog’s hair.

under control. (Treat the animals only as often as suggested on the container label.) If the animal is confined to an area free of fleas, one treatment usually is enough.

Fleas begin to leave the animal within a few minutes after a pyrethrum powder is applied, but they are only paralyzed and may recover. Treat the animal outdoors or in an enclosure where the paralyzed fleas can be swept up and destroyed.

**Goats and Hogs**

Human fleas often are a problem on goats and hogs. An insecticide spray or powder will control the fleas, and should be applied to the animals and their quarters.

**Powders.**—Use DDT, lindane, malathion, or methoxychlor in the strengths recommended for dogs. Use enough powder to treat the animals thoroughly.

**Sprays.**—Wet the animals thoroughly with an emulsion or a wettable-powder suspension that contains 0.5 percent of DDT, methoxychlor, or malathion, or 0.05 percent of lindane. Prepare sprays by mixing an emulsifiable concentrate or wettable powder with water (see chart).

Do not use DDT, lindane, malathion, and methoxychlor on milk goats. If milk goats are infested with fleas, use rotenone or pyrethrum powders; follow the manufacturer’s directions.

**Chickens**

Sticktight fleas may be a problem on chickens. Spray infested chickens with a 0.5-percent malathion spray (see chart) or dust them with 4- or 5-percent malathion dust.

**Fleas in Animal Quarters and Yards**

To destroy fleas in barns and other animal quarters, in yards and lawns, and under houses, spray or dust with the insecticides recommended under “Fleas in Animal Quarters and Yards.”

**Dusting under doghouse for control of fleas.**
GUIDE FOR MIXING SPRAYS

<table>
<thead>
<tr>
<th>Insecticides and some of the forms in which they may be purchased</th>
<th>Percentage of insecticide desired in spray</th>
<th>Approximate amount of purchased product to mix with 5 gallons of water</th>
</tr>
</thead>
</table>
| DDT or Methoxychlor  
50-percent wettable powder  
25-percent emulsifiable concentrate | 0.5  
.5 | 6 ounces.  
1 pint. |
| Lindane or Malathion  
25-percent wettable powder  
20-percent emulsifiable concentrate  
57-percent emulsifiable concentrate | .025  
.05  
.5 | 1 tablespoonful.  
1 ounce.  
12 ounces. |
| Ronnel  
24-percent emulsifiable concentrate | 1.0 | 1 ¼ tablespoonfuls.  
2 ½ tablespoonfuls.  
6 ounces. |

on Animals” or apply a 1-percent ronnel spray (see chart). If animal quarters or pens are littered, remove the litter before spraying or dusting.

Spraying.—Apply spray at the rate of 2 gallons to 1,000 square feet (but apply 1 gallon of 1-percent ronnel). Use a garden-type compressed-air sprayer or small power sprayer.

Dusting.—Apply malathion dust at the rate of 1 pound per 40 square feet in poultry quarters. Apply 1 to 2 pounds per 1,000 square feet in dog kennels or goat or hog quarters.

Apply DDT, lindane, and methoxychlor dust at 1 pound per 1,000 square feet, but only in dog, goat (except milk goat), and hog quarters. Dusts often can be blown under low buildings where spraying would be difficult.

Fleas in Homes

Sprays that contain DDT, methoxychlor, malathion, pyrethrum, or ronnel will destroy fleas in homes.

Apply a 5-percent DDT or methoxychlor spray or 2-percent malathion spray to floors and baseboards and to walls to a height of about 1 foot. Apply a light mist to upholstering, rugs, and other fabrics; a heavy spray may stain fabrics. Before spraying, clean rooms and upholstered furniture with a vacuum cleaner.

Prepared household sprays that contain pyrethrum may be applied in the same manner. Since these sprays usually contain low concentrations of insecticide, the treatment may have to be repeated in 7 to 10 days. Apply pyrethrum sprays at the rate of about 1 quart to 250 square feet. Use a household hand sprayer designed for treating surfaces. Apply a fine-mist spray; a heavy spray may stain fabrics.

If you apply a ronnel spray, see that it is labeled for home use and follow instructions on the label.
PRECAUTIONS

Insecticides improperly used may cause injury to man and animals. Use them only when needed and handle them with care. Follow the directions and heed all precautions on the labels.

Keep insecticides in closed, well-labeled containers in a dry place. Store them where they will not contaminate food or feed, and where children and animals cannot reach them.

When handling an insecticide, wear clean, dry clothing.

Do not apply oil sprays near an open flame.

Avoid repeated or prolonged contact of insecticide with your skin. Avoid prolonged inhalation of insecticide dusts or mists.

Avoid spilling insecticide concentrate on your skin, and keep it out of your eyes, nose, and mouth. If you spill any on your skin or clothing, remove contaminated clothing immediately and wash the skin thoroughly with soap and water. Launder the clothing before wearing it again.

Avoid prolonged contact of lindane with your skin.

After handling an insecticide, do not eat, drink, or smoke until you have washed your hands and face. Wash exposed skin immediately after applying insecticide.

Do not spray or dust entire lawns unless necessary—damage to wildlife may result.

Washington, D.C.

To protect water resources, fish, and wildlife, do not contaminate lakes, streams, or ponds with insecticide. Do not clean spraying equipment or dump excess spray material near such water.

Do not apply DDT sprays or dusts in dairy barns. Do not apply DDT or lindane in poultry houses. Do not apply DDT or lindane to milk goats or to goats or hogs less than 30 days before slaughter.

Avoid drift of insecticide to nearby wildlife habitats, bee yards, crops, or livestock.

Dispose of empty insecticide containers at a sanitary land-fill dump, or bury them at least 18 inches deep in a level, isolated place where they will not contaminate water supplies. If you have trash-collection service, wrap small containers in heavy layers of newspapers and place them in the trash can.

This bulletin supersedes Leaflet 392, "Fleas: How To Control Them."

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