

Household Pests

4-H CLUB MANUAL

Circular 523



EXTENSION SERVICE, OKLAHOMA A. AND M. COLLEGE
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HOUSEHOLD PESTS

Insects occur everywhere and most homes have a few insect pest problems. Centipedes, scorpions, pillbugs and mice are often present in our homes and may become a serious pest if they are not controlled. Members of the household pest club learn how to recognize the most important household pests. They learn where and how they live and also how to control them. Each member will collect the insect pests, properly mount them on pins and label them for future study. Insects for the collection can be collected where ever they are found, in the home, store, warehouse or barn.

WHO MAY JOIN THE CLUB

Any boy or girl living in country, town or city, between the ages of 10 to 21 is eligible to enroll.

EQUIPMENT NEEDED

1. Only a small amount of equipment is necessary to carry on this project.
2. Equipment used in the work can be used about the home in controlling insect pests.

ADVANTAGES GAINED BY BEING A HOUSEHOLD PEST CLUB MEMBER

1. Learn how insects feed and live.
2. Learn how to handle poisonous insecticides.
3. Learn how to control household pests.

WHAT IS AN INSECT?

An insect is a small animal which:

1. Has six legs.
2. Has two feelers (antennae).
3. Has three body regions. The **head** is the part which holds the eyes, mouth parts and antennae or feelers. The **thorax** is the middle part and the legs and wings are attached to it. The **abdomen** is the part behind the thorax.
4. Breathes through the small openings in its body wall, called spiracles. These breathing openings, or spiracles, are found in the abdomen and parts of the thorax, and are connected to tubes which carry the air to all parts of the body.

HOW INSECTS GROW

Some insects hatch out of the egg into a form which resembles that of the adult. Others hatch out into a form which does not resemble the adult in any way. For example, a maggot hatches from a fly egg. After feeding for several days, the maggot, or larva, goes into a resting stage from which the adult fly emerges. This series of changes is called metamorphosis.

Insects shed their skins from time to time during the growing stage. The new skin forms under the old and when the shedding occurs the new soft skin enlarges to allow for the growth of the insect. This shedding is called moulting. (Example: Roach and Bedbug.)

INSECT CONTROL

In insect control, insects are classed according to their manner of feeding. There are two general groups: Those with **biting** or **chewing** mouth parts and those with **sucking** mouth parts.

The mouth parts of the grasshopper, is a good example of chewing mouth parts.

A good example of the sucking insects is the bedbug.

INSECTICIDES

Insecticides are poisonous liquids, dusts, or gaseous materials used to kill insects. They kill either by coming in contact with the insect or being swallowed by the insect as it feeds.

The fact that insects breathe makes the use of contact insecticides possible. Most contact insecticides act on the nervous system and kill the insect by paralysis.

Contact insecticides are used to kill insects with **sucking** mouth parts. These insects suck juices from the inside of the plant and would not take up poisons placed on the surface of the leaves or fruit. It is necessary to apply a contact insecticide directly on the insect, unless the insecticide has a residual effect.

Some common contact insecticides are DDT, benzene hexachloride, chlordane, nicotine sulphate, lubricating oil emulsion, miscible oils, lime sulphur, pyrethrum extract, rotenone and soap solutions. DDT and chlordane have a residual or lasting effect when sprayed on a surface. This means the insecticide remains active or effective for a number of days after its application. Both of these insecticides will kill certain insects when they walk or crawl over surfaces on which these materials have been sprayed.

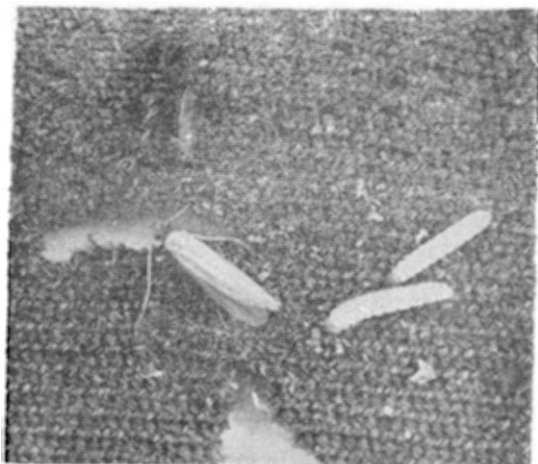
Stomach poisons are materials which the insects swallow along with food material. It is not necessary to spray the insect with poisons. Poisons can be sprayed where insects feed or crawl. Example: Dusting or spraying poisons where roaches crawl. The roach is poisoned by coming in contact with the insecticide, or getting it on its feet or antennae which later comes in contact with its mouth.

The most common stomach poisons are the arsenicals, such as arsenate of lead, calcium arsenate, Paris green, magnesium arsenate, fluorines, white arsenic, DDT, and some of the other new organic insecticides.

CAUTION—All boys and girls must remember that chemicals (insecticides) used for controlling insects are poisonous. They must be handled with care, and you must not get careless with these poisons. Keep them labeled and in a safe place where your little brother or sister cannot get into them. A small box or locker that is fastened high on the wall in the garage or wash room is a good place to store your insecticides.

Study labels—find out what the insecticide is composed of and for what it is recommended to control, how much to use and how often.

CLOTHES MOTHS



This pest is very destructive to woolsens, furs, feathers and any other materials that contain animal products. Sanitation is very important in controlling clothes moths. Soiled clothing should not be stored at the end of the winter season. All blankets and woolen clothing should be thoroughly cleaned and then stored in insect-tight containers, such as cedar chests, trunks and storage boxes or even closets wrapped in several thicknesses of paper. Paradichlorobenzene crystals, commonly called PB, should be placed in the storage boxes or trunks when the clothing is stored.

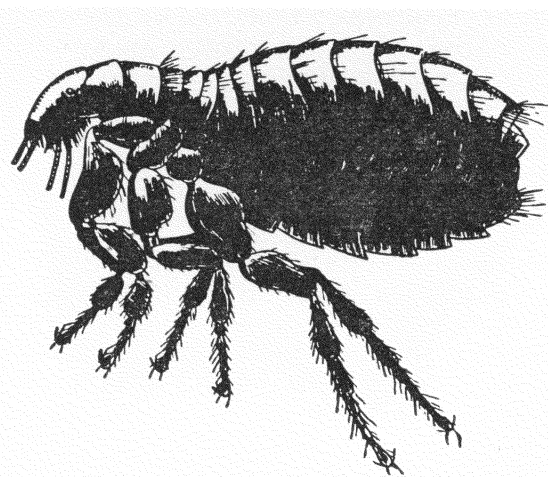
Use it at the rate of 1 pound to the average size trunk. All trunks and containers should be checked from time to time and additional crystals added when needed.

Clothing may also be stored in tight paper bags, known as moth proof bags. It is best to have clean clothes to put in these type bags when returned from the cleaners.

A 5 percent DDT oil spray is effective in keeping down clothes moths infestation. Spray it over the walls and ceilings of the clothes closet.

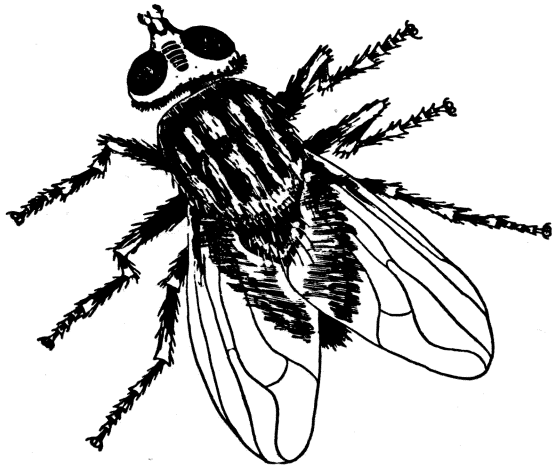
FLEAS

Fleas can carry diseases to man and household pets carry fleas, so keep your pet free from fleas. Fleas can be controlled with DDT. One thorough treatment may be enough. A 5 percent DDT oil solution should be sprayed on or beneath rugs and over floors. Treat the sleeping places of your pets thoroughly. You must also spray other places where they are in the habit of lying down. Use a 10 percent DDT dust on the concrete or dirt of cellar floors. Dust the powder into the cracks and crevices in basements, kennels, barns, and in other places where you suspect the fleas are breeding.



Dogs — can be dusted safely with about a teaspoonful of 10 percent DDT powder. A line of dust rubbed into the hair along the middle of the dog's back is often enough to kill all the fleas and to prevent them from coming back for a week or more. Do not use the oil spray.

Cats—DDT should not be used on cats, as they may lick off enough to poison themselves. Cats should be treated with a rotenone dust containing about 1 percent rotenone. Be careful not to get it in the cat's eyes. The cat's bedding can also be dusted with rotenone.

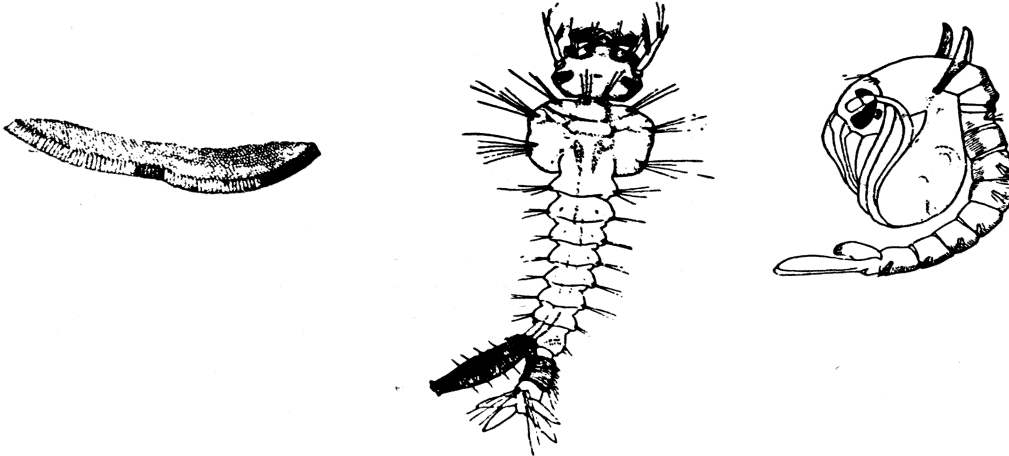


HOUSE FLY CONTROL

The common house fly is one of our worst insect pests. They carry disease germs on their feet from garbage pails, barns and outdoor toilets to our food and milk supply. Houseflies breed in filth, and if sanitation is practiced around the home their number will be reduced. Keep all garbage picked up around the home, keep the garbage pails clean and keep them covered with a tight lid.

DDT and methoxychlor are very effective in controlling the housefly. Spray the doors and window screens, and the underside of the

porch ceiling with a 5 percent DDT or methoxychlor oil solution. Methoxychlor must be used when DDT fails to give control. When flies get into the home, spray the walls and ceiling with a 5 percent DDT oil spray. Aerosol bombs may also be used for destroying flies when they gain entrance to the rooms. Close the doors and windows before applying the spray. Leave closed for about 10 to 20 minutes. Do not remain in the room after spraying until it has been aired out.



MOSQUITOES

Some of our mosquitoes carry serious human diseases, such as malaria and yellow fever. In most parts of Oklahoma, mosquitoes are easy to control. Mosquitoes breed in water, therefore, sanitation should be practiced by keeping all tin cans, buckets or other objects that might catch and hold rain water picked up. Small water holes near the home should be drained. If impossible to drain them and there are no fish in them, spray the surface with a 5 percent DDT oil spray. When mosquitoes are troublesome around the home, spray the windows and door screens with 5 percent DDT oil spray. Inside the home can also be sprayed with the same material to kill any mosquitoes that might have gained entrance.

The aerosol bomb is very effective in controlling mosquitoes inside the home. It is used the same way for mosquitoes as for the housefly.

ANTS

The best way to control ants is to find and destroy the colony. When ants make their mounds of dirt about the yard and sidewalk, they can be dusted with a 5 percent chlordane dust or a 3 percent chlordane oil base spray poured in the holes to kill them. Carbon disulphide (Hi-life) is also effective in destroying ant hills. For large hills use one-half teacupful. Pour in hills and cover with moist earth. Treat when temperature is 70 degrees or above.

When ants are found in the home, spray the surfaces where they are found, such as around base boards, window frames, beneath tables, around refrigerators, cabinets and sinks with a 2 percent chlordane oil spray. The legs of tables should also be sprayed. It is usually necessary to make a second application 2 or 3 weeks later. To prevent reinfestation, do not leave food, such as greases and sweets where the ants can gain access to them. All dishes and cooking utensils should be washed after each meal and the kitchen cleaned.

ROACH CONTROL

Roaches are not only troublesome and destructive but may also carry diseases. They hide and develop in filthy places and may carry germs to your food. There are a number of methods used in controlling roaches, however, one of the best materials for their control known today is chlordane. The surfaces where roaches walk should be sprayed with a 2 to 3 percent oil base or emulsion spray. For treating cupboards, cabinets, etc., first remove all dishes, glassware, etc., then



spray the underside of the shelves, the walls of the cupboard and around the kitchen sink. Spray along the baseboard, cracks and crevices, and any other place where you may find roaches hiding or where you find them running at night. Usually one thorough application gives good control and an application should last 60 days or longer.

A 5 percent DDT may be used also as a spray the same as chlordane. A 10 percent DDT dust when dusted into the cracks and crevices where the roaches hide, will give good control. Often times a combination of the DDT dust and spray is used which is very effective. Sodium fluoride may also be used as a dust in the same manner as DDT dust.

Reinfestation may occur by bringing in roaches in boxes of groceries or in egg cases. Examine the grocery boxes and egg cases for roaches.

PANTRY PESTS

Large quantities of food often have to be thrown away because it becomes infested with small brownish beetles, flour beetles, weevils and bran bugs. There are several moths among our pantry pests, and the young larvae are whitish worms. To control this pest, first remove everything from the shelves or cabinets and thoroughly clean them. All beetles that are present may be killed by spraying the cracks and shelf space with 5 percent DDT solution. In order to prevent reinfestation of these pests, do not keep old cereals and other food material on hand. Use up the old package before opening a new one. When possible store cereal foods in glass jars with tight lids. The flour bin should be cleaned often and new flour should not be placed in the bin until it is cleaned and all old flour removed.

MICE

Mice often become a serious pest in the home. The first thing that one should do in controlling mice is to make the home as near mouse proof as possible. This can be done by seeing that the doors and windows fit snugly. Anyholes in the floors or walls should be covered with small pieces of tin, especially around the openings in the floors for water pipes. All food should be kept in containers where the mice cannot reach it. After you have practiced the above two recommendations and you still have mice, trap them with small spring or snap back traps. Bait with thin pieces of cheese or bacon rind. Peanuts or raisins may also be used. Use several traps at a time. The traps should be kept clean.

REQUIREMENTS FOR COMPLETING PROJECT

To complete the household pest project, the club members should:

1. Collect, pin and label 8 household insect pests. Example: Roach, 2 kinds; house fly, mosquito, ant, flea, clothes moth, pantry weevil or beetle.
2. Conduct 3 control demonstrations in your home or a neighbor's home, store or warehouse, such as roach control, fly control and mouse control.
3. Fill out the blank form in the manual on the life history, habits and control of one of the household pests that you have studied and controlled.
4. Submit a report on the work done at the end of the year on a report blank furnished you by the county agent.

For more complete information on collecting, labeling and preparing insects for study, household pest club members can join the 4-H Insect Club. Oklahoma 4-H Manual No. 333 and U.S.D.A. 4-H Club Insect Manual Also see Extension Circular No. 454, Control of Household Insects. See your County Agent for other circulars and bulletins on the control of household pests.

INSECT RECORD SHEET

- I. Common name of insect _____
- II. Description:
1. Size (indicate by mark) _____
 2. Color _____
 3. Mouth parts Chewing _____; sucking _____; lapping _____
 4. Number of wings _____
- III. Where does insect live: Air _____; soil _____; water _____; in host _____
- IV. On what does insect feed:

Item	Leaves	Blossoms	Fruits	Branches	Main Stems	Roots
Flowers						
Shrubs						
Orchard Trees						
Other trees						
Hay crops						
Grains						
Vegetable crops						
Other crops						

Wood _____; wood products _____; woolens _____; furs _____

Fabrics _____; food materials _____; stored products _____

Man _____; animals _____; other insects _____

Tiny plants or animals in water _____

- V. Habits:
1. How does it spend the winter: _____
 Egg _____; larva _____; nymph _____; pupa _____; adult _____
 2. Where does it spend the winter? _____
 3. Kind of life cycle:
 - a. Complete (four stages) _____
 - b. Incomplete (less than four) _____

- VI. Economic importance:
1. Pest _____
 2. Beneficial _____
 3. Questionable _____

- VII. Control for pest:
1. Stomach poison _____
 2. Contact spray _____
 3. Sanitation _____
 4. Cultural practices _____