

CANADA
DEPARTMENT OF AGRICULTURE.

The Suppression of Two Insects Affecting Troops

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*SPECIAL CIRCULAR FOR CANADIAN EXPE-
DITIONARY FORCES*

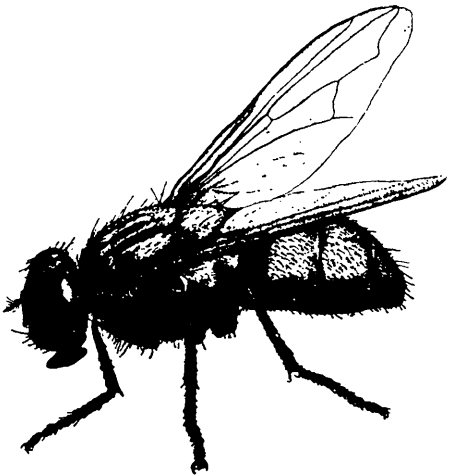
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The Common House-fly. A carrier of typhoid fever and other infectious diseases. Breeds in filth and infects food.

SUPPRESSION OF FLIES.

Flies are one of the most important carriers of preventable disease, particularly typhoid, in the camp and field.

The first essential is to prevent the breeding of flies, particularly in the spring and early summer when they are less abundant.

Each fly lays several batches of 100 to 150 eggs; from these eggs in warm weather young maggots emerge in less than a day and another generation of flies is produced in about ten days.

Fresh horse manure is the chief breeding place, but they will breed in any kind of excrement and organic refuse such as garbage from the mess tents, etc. Stables and horse lines should be kept clean; manure should be immediately cleaned up and covered if possible, and it should be removed from the lines daily.

All fresh manure should be collected and burnt in the special incinerators constructed near the camp for that purpose. Where for any reason, immediate burning is impossible, the manure should be treated by the most convenient of the following methods:

1. If much straw is used, pile in heaps as firmly as possible and water or spray the heaps, especially around the edges, with a solution of borax in the proportion of $\frac{1}{4}$ lb. of borax to 3 gallons of water. Solutions of certain proprietary disinfectants may be used if borax cannot be obtained.

2. If the manure is fairly free from straw, pile in heaps, beat the manure with spades to pack it tightly and make the firmly packed sides as vertical as possible. Cover with a foot of earth if this can be done.

Keep the flies out of the garbage by covering it. Burn all garbage and organic refuse as soon as possible—this is safer than to bury it.

It is most important that all excreta should be covered; flies will breed in it and carry infection from it to food.

All excreta in the latrines should be completely covered. Special attention should be paid to its satisfactory and speedy disposal.

Flies can emerge from beneath a few inches of loose soil. Buried material should be covered by a depth of at least one or two feet of tightly packed soil.

As flies are bred from filth, which may be infected, they should naturally be kept off food.

A flyless camp is possible with proper care. No flies means less sickness and greater comfort for all.

EXTERMINATION OF LICE.

Two kinds of lice occur commonly on man, the Body Louse and the Hair Louse. The former parasite spreads rapidly when favourable conditions occur such as crowded quarters, inability to change one's clothes, and dirty surroundings.

The Body Louse lives on the clothes over the skin, and is not usually found on the skin itself. It requires a meal of blood twice in 24 hours. It lays its eggs in the seams of the clothing and retreats into such seams and folds after feeding. The Hair Louse occurs in the hair as its name indicates, and its eggs or "nits" are well known.

The female louse is able to lay on the average 6 or 7 eggs daily and a total number of 295 eggs; the eggs hatch in three days, sometimes longer, and the next generation begins to lay eggs in about two or three weeks.

The Body Louse is the carrier of typhus fever in addition to being an irritating parasite. Avoid scratching the irritated places.

Search the clothing for lice and their eggs or "nits." The clothing should be changed as often as possible. Keep verminous clothes away from uninfested kit. Lice die of starvation in about a week's time in discarded clothes. Brushing and ironing are the best means of destroying the eggs in the clothing. Badly infested clothes not further needed should be burnt, buried or sunk in water. Where clothing cannot be removed the wearing of silk underclothing will serve as a good preventive.

Outer garments should, if possible, be ironed with a hot iron at least once a week in verminous quarters.

Dry heat of 160° F. maintained for 10 minutes, steam or boiling water will destroy lice and their eggs, which are more difficult to destroy than the adults, in clothing.

Clothing may be freed from lice by washing with cresol soap* made as follows:

Water	10 gallons.
Jeyes Fluid.....	1½ ounces.
Soft Soap.	1½ pounds.

Wash shirts in cresol soap solution made with boiling water; soak blankets in the solution first. Tunics and pants should be turned inside out and rubbed with lather, especially along the seams; allow the lather to dry on the garment.

Affected individuals should bathe and after drying lather their bodies with cresol soap, especially the hairy portions of the body; the lather should be allowed to dry on.

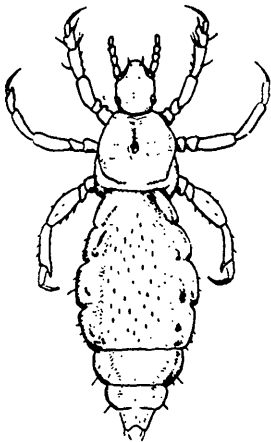
The most satisfactory remedy for lice that has been found is known as N.C.I. It is composed of the following: naphthalene, 96 per cent; creosote, 2 per cent; and iodoform, 2 per cent. One thorough application of this powder down the shirt and trousers is said to last four to five days. Too free use of N.C.I. on the body, particularly at the fork, causes severe smarting and in the latter region the use of an ointment is recommended.

Lice on the head or body may be destroyed by the application of kerosene (paraffin oil), petrol, turpentine, benzine. Remember these fluids are inflammable.

Other remedies that have been recommended as satisfactory for lice are as follows: Perchloride of mercury, 1 part in 1000 of water for skin and clothes. Chloride of lime, used in a bath of hot water. Naphthaline may be used in ointment form (5 per cent) or as a powder to sprinkle over clothing or body.

Avoid sleeping on spots previously occupied by verminous individuals.

*Recommended by Lieut.-Col. S. Monckton Copeman, F.R.S.



The Body Louse. Magnified twelve times. A disgusting and dangerous pest. (From Shipley.)