Untitled note

[This Betacam SP was duplicated from a 16mm answer print by Colorlab for t he National Library of Medicine. February 2003. HF #0112 (1946). "Aedes Ae gypti Control".]

[Aedes Aegypti Control], [Background Music]

[Training Film. Produced by Training and Education Division, Office of Mal aria Control in War Areas, Atlanta, Ga.]

Not so many years ago, travel between continents was a major undertaking a nd few persons had either the time or the money required for such long jou rneys.

Today, air transportation has reduced the world in size until no area on E arth is more than 60 hours away.

This change has brought many new problems. Preventing the introduction of foreign diseases into the United States is one of the most important of th ese problems.

Within seven hours flying time of the United States, there are areas in wh ich dengue and yellow fever are endemic.

From the jungles of Africa and South America, these diseases may be brough t to our shores by air travelers.

Most of our ports of entry are within areas where the Aedes Aegypti mosqui to, vector of both dengue and yellow fever, is already present.

Our first line of defense against these diseases is the quarantine officer . It is his duty to prevent the entry into this country of infected passen gers or mosquitoes.

Essential preventive measures are: one, the destruction of insects brought in with the plane, and identification of those that are found.

Two, checking vaccination certificates of persons originating in or passin g through yellow fever countries.

And three, careful examination of passengers.

Our second line of defense is the control of the Aedes Aegypti mosquito br eeding. This is the job of the Aegypti control inspector.

In many South Atlantic and Gulf Coast cities, the Aegypti control unit is working to reduce the hazard of introduction of dengue and yellow fever.

In order to successfully apply proper control measures, the inspector must be familiar with the habits of this sly, biting mosquito.

The Aedes Aegypti mosquito breeds in and around homes.

It rarely flies more than a hundred yards.

Aedes Aegypti eggs are generally found at the water level on the sides of containers.

These are the larvae, commonly known as "wiggletails."

These are the pupae, with an adult emerging. There are four stages in the life cycle of the mosquito: egg, larva, pupa, and adult.

About ten days are required to complete the cycle from egg to adult.

Notice the white tipped palps, the triangular white spots on the abdomen, the white legbands, and the white flyer shaped design on the thorax.

These are characteristic of the adult Aegypti mosquito.

This is a group of inspectors similar to the group of which you are a memb er.

After you understand the habits of the mosquito and the methods of control , you will become an important member of the Aegypti control program.

The necessary equipment is simple: notebook, report forms, larvicide appli cator, flashlight, pipette, chalk, dipper, mirror, kerosene, pointed hamme r, and satchel.

To completely eliminate Aegypti breeding, an inspection zone must be cover ed every ten days. This period represents the life cycle of Aedes Aegypti from egg to adult.

As you work through your zone, use special markings so that you can be loc ated easily by your supervisor.

Before entering a premise to make an inspection, mark the first half of a "V" on the sidewalk or fence.

Regardless of the type home you enter, always be pleasant and courteous.

Once inside, your work begins.

You will recognize these as Aegypti larvae. The S-shaped swimming motion i s characteristic of this species.

Encourage the housewife to grow plants in earth rather than in water.

Take larval specimens so that identification may be confirmed.

Remove the plant and scrub the edges of the bowl to destroy the eggs. Rinse the roots thoroughly to eliminate larvae.

Ant guards may be a source of Aegypti breeding. In this case, they are treated with kerosene.

Barrels and drums are frequent sources of Aegypti breeding. For best visibility, use a mirror to reflect sunlight into dark containers.

Avoid jarring the container before dipping because Aegypti larvae will quickly dive to the bottom if disturbed.

Larvae are concentrated at the bottom of the dipper by pouring off excess water.

This facilitates the transfer of larvae from dipper to vial.

Kerosene is applied in only two cases. First, where poisonous larvicides may be dangerous and second, to water in which the non-feeding pupae are found.

In areas where water is scarce, cisterns are used to store rainwater.

Cisterns may be prolific breeding places because they contain water throughout the year.

Examine trash buckets. Rainwater or wastewater is often found in such containers and, if not too dirty, Aegypti will breed there.

Larvicide all receptacles of this type, or turn them "bottoms up."

Old discarded tires containing water are frequent breeding places. After removing the water, larvicide and store under cover.

Tell the householder about the conditions found and how to prevent mosquito breeding.

A completed "V" will indicate that the inspection is finished.

Make a full report after each inspection.

When beginning a new block, indicate the direction of travel, the date and time of day, and your initials, so that you can be easily located.

No home is immune to Aedes Aegypti as long as water containers are present.

Housewives will soon learn to recognize you. The invitation to enter is us

ually cordial. If not, either explain the purpose of your visit more fully or thank the householder and refer the matter to the foreman.

Water standing in flower containers is a definite hazard. Even when no breeding is found, request the housewife to change the water at least once every five days as a preventive measure.

When breeding is found, the stem should be rinsed to remove larvae and the container scrubbed to eliminate attached eggs.

Phenothiazine may be added to fresh water to prevent breeding.

After the interior has been examined, inspect the yard.

In the search for water containers look under, over, around, and, if possible, through any object you encounter.

When no one is at home, proceed to examine the yard. Call back later to inspect the house.

Breeding containers such as paint buckets, unused washtubs, and tin cans are frequently found around the yard. Work in a routine and careful manner to avoid overlooking any breeding places.

Even though no larvae or pupae are found in a container, the water should be emptied and the container inverted.

When not in use, septic tanks often hold accumulations of clear water in which Aegypti will breed.

Complete the "V", but box it to indicate that the interior has not been examined.

Every premise in the zone must be examined.

A thorough search is made in all vacant buildings.

Sometimes containers are placed under leaky roofs to catch rainwater. Such containers must be inspected, emptied, and treated with larvicide to prevent breeding.

Openings to a cistern are often difficult to locate. They may be concealed under floor coverings, furniture, or trash. In such places may be hidden mother foci that produce Aegypti continuously and infest an entire neighborhood.

Fill out a request for special corrective measures.

Unused closet bowls and flush tanks should be treated with a larvicide since they are frequent breeding places.

Dispose of tin cans or puncture them so they won't hold water.

Complete the circuit of the grounds.

A day's inspection will probably include the reporting of accumulations of tin cans such as this.

After the day's activities, report to headquarters.

Identification of specimens is checked by the supervisor.

The presence of pupae indicate imminent emergence of adults. In such cases, adult spraying is necessary on the following day.

At the beginning of each day's work, foremen of special crews are assigned work which inspectors are unable to handle, such as large scale larvicidi ng, introduction of fish, or permanent corrective measures.

A clean-up crew may be necessary when refuse is not collected by other mun icipal agencies.

Records show that three-fourths of all Aegypti breeding occurs in tin cans , bottles, and other refuse.

Not only is breeding prevalent in such containers, but eggs remain there t hrough the winter.

Special equipment is necessary for larviciding scrap piles.

An abandoned cistern, such as this, may need a light film of oil or stocki ng with fish.

The fish crew is probably the most important single service unit. Several species of the genus gambusia, commonly called top minnows or mosquito fis h, will eat the larvae.

Usually these minnows are collected from local ponds. Cisterns have been k nown to remain stocked with gambusia for several years.

A watertight marine lamp is useful when treating dark, secluded places.

When the only opening into a cistern is the lead-in pipe from the roof gut ter or the air vent, fish can be poured into a rubber hose and flushed int o the cistern with additional water.

Cisterns in use should have all openings screened.

This is a well-sealed cistern.

Unused cisterns should be destroyed or filled.

A special crew inspects all roof gutters. One of the main jobs is to keep the gutters clear of leaves and branches, thus preventing accumulations of water in which Aegypti may breed.

When water is found, it is swept out. A maritime crew may be needed in sea ports to inspect boats. A light film of kerosene will control breeding in water kegs.

Cabins are sprayed to kill adults. Flower containers in cemeteries are ide al mosquito-breeding places. A special assignment may be necessary for eff ective control.

The continued presence of adult mosquitoes after all routine control measu res have been employed indicates some undetected breeding place or mother focus.

No possibility should be overlooked in searching for such a hazard. Perser verance and tedious effort are often necessary in searching for these cont inuously producing foci. Although such a focus is usually a heavy breeder, it may not be large in size.

When discovered, inspection will reveal all stages of a mosquito. The adul t should be sprayed immediately to prevent any further infestation. Adults in the vicinity of the focus must also be sprayed.

The mother focus is reported so that permanent correction may be made.

You, as an Aegypti inspector, have been assigned important work which must be done thoroughly. The success of the program depends on your conscienti ous effort and your ability to integrate Aedes Aegypti work with other off icial sanitation activities.

Just as the Aegypti control program depends on you, so must you depend upo n gaining the goodwill of the residents within your zone.

Impress upon your people the urgent necessity for mosquito control to prot ect themselves and their neighbors.

Show them in a pleasant and courteous manner the methods of eliminating th e Aegypti hazard. Encourage each householder to be his own inspector.

Thus you will play a vital role in the public health program of your commu nity.

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