# Eliminate Tiresome Mosquito Problems

### **CHARLES PITTS** Penn State Extension **Entomologist**

STATE COLLEGE (Centre Co.) - Most people think only of flies as problems around dairy facilities during the summer months but there is one problem that is present that we don't normally think of. This is the many species of mosquitoes that feed on both man and animals.

People can feel the bites when they are outside, but the mosquitoes that feed at night are not plainly visible when they feed on animals.

For practical purposes, the numerous species of mosquitoes that we will have to deal with can be grouped on the basis of similarities in their larval habitat preferences, which generally reflect other important aspects of their ecology.

A convenient grouping of species includes: (1) The permanent pool group (2) the transient water group, (3) the flood water group, and (4) the artificial container and tree-hole group.

## **Permanent Pool**

Mosquito species belonging to the permanent pool group are generally found in fresh bodies of quiet water exposed to sunlight and containing an abundance of surface vegetation at the air-waterplant interface.

Typical habitats are shallow margins of ponds, lakes and small impoundments, the main characteristic being a degree of permanency. Such habitats are particularly suitable for Anopheles, Culex spp., and Mansonia spp.

The mosquito species inhabiting permanent waters deposit their eggs on the water surface, singly in the case of anopheles, and in rafts in the case of Culex and Mansonia.

Oviposition egg laying sites are sheltered from wave action and are always in the presence of vegetation suitable for larval protection or attachment.

Breeding is generally continnous in these species with several generations per year. The effective flight range of permanent pool species are relatively short, usually within a mile or so of the breeding area.

## Transient Water

The members of the transient water group are mostly Culiseta spp., plus some Culex. Their habits are similar to those in the permanent pool group, but they seem to be more associated with pools of a temporary nature as opposed to species with an affinity for ponds and lakes.

Typical sites are roadside ditches, barrow pits, canals, ground pools, clogged streams, irrigated land etc. Flight range similar to permanent water group.

## Floodwater Group

The floodwater species of mosquitoes of the genera of Aedes and Psorophora deposit their eggs singly on damp soul in grassy or woodland depressions or along vegetated shorelines that are intermittently flooded. Salt marsh mosquitoes are also included in this group.

When the eggs are flooded after a perios of desiccation, they will hatch if conditions are favorable. Otherwise the eggs may remain dormant and viable on the soil until a more favorable inundation.

Typically, large numbers are produced at a hatching; larval development is uniform and adults. may appear as early as six days after flooding.

Some species produce a single brood, while many produce multiple generations per year. These species are particularly troublesome as pests and some characteristically fly long distances.

#### Artificial Container, Tree-Hole Group

Characteristic of the artificial container and tree-hole group are members of the genus Aedes, with specialized habits.

The eggs are laid singly on the inside wall of the container, at or above the waterline, and hatch when inundated after a period of desiccation. Over wintering is in the egg stage and there are multiple broods.

The oviposition sites include natural cavities containing water, such as tree holes but frequently are found in artificial containers with leafy sediment or decaying

# Control

After having read about the different breeding sites, it becomes clear that the farmer alone can make an impact on mosquito populations in their area.

Things a dairy producer can do are as follows:

1. Make sure there is no standing water on their premises that will breed mosquitoes. The main breeding site on dairy farms are in old tires. If you are still using tires on your silage pits you should think of using half tires that have

holes punched in the sidewall so there is no possibility of holding water.

These half tires are easy to throw on the pit and can be stacked easily when not in use. These half tires can be purchased from Mahantango Ent. Inc., Liverpool.

- 2. Schedule outdoor events during daylight hours. Mosquitoes are the most active during sundown hours.
- 3. Mosquitoes do not like high winds, so fans directed on outdoor activities may give some relief.

FOR SALE

5 bottom MM cusion trip plow \$500 OBO. Berks Co. 810-944-8380.

5yr work horse, lead horse,

also smooth mouth mare \$600 OBO. Lanc. Co.

6wk old border collie pups, Ben Stoltzfus, 1/2 mile N of

Myerstown, first road: R, 44

Antique weaver pump

organ with high top and beveled mirror \$500 OBO.

Must sell. Lanc. Co.

American eskimo puppies, have mother and father,

shots and wormed, home

raised, have 4 males, 2 females, \$175 each. Depo-

sit will hold. Snyder Co.

2000 bd ft seasoned oak boards. York Co.

1988 Tray Bilt tiller 8 PTO

furrowing shear, like new condition, \$925. Silver dol-lars 1927 1928 \$25 each.

York (%, 717-741-2215.

Walls unlimited concrete

bunker silo walls 8x120' w/

supports \$2000 OBO.

Chester Co. 717-687-7000.

275 gal oil tank 1971 R10

Renault, used bee supers

some new. Del Co.

Free-two neutered goats,

6mth, brown, white male,

Katahdin hair sheep \$50,

silver and white muscovy ducks. Burlington Co.

Generator 3kva Onan twin

cylinder air cooled 12v or

pull start, output 12v 110v, 220v \$250. Chester Co.

Solo 5 gal backpack spray-

er w/engine, 80PSI, max,

plus 60" tree ext model 422 exc cond \$375. Moses Beil-

er, RR;, Box 199C, Loganton, PA 17747. Clinton Co.

29' Marauder travel trailer,

furnace, full bath, stove

refrigerator, good condition, Aughwick Creek

Campground. Huntingdon Co. 814-447-3383.

Whole sale Christmas

trees, scotch pine, 5ft 8ft \$5 baled. Fulton Co.

Farmall M tractor, 1949,

good running condition,

shed stored, good tires, wheel weights, PTO,

hydraulics, good for restor-ing. York Co.

Miniature donkeys, 3 year

old bred jennet, 6 month old jennet, 5 year old jack,

iack russel terriers. Centre

Alaska stoker stove, 30000 BTU, good cond \$500. Sioux Model 202 pressure

washer, good cond \$250.

Complete Sioux steam

cleaner Model 160C, \$550.

Wild turkeys, \$18 each. 4

year old pair of emu \$1200. Yearling rheas \$95 each.

Dillinger 454 12" hammer mill flat belt \$100. Wheel horse 1075 mower \$300.

1/2 t chain hoist \$45. York Co. 717-292-1802.

Co. 814-349-5536.

Schuylkill 717-386-3141.

717-364-5812.

ing. You 717-229-2192.

610-459-3347.

609-894-0313.

610-469-9188.

Golf Rd. Lebanon Co

717-656-8137

717-445-4439.

717-837-1814.

717-993-2704.

4. Fog in the evening. Fogging during the day does not give good mosquito kill because the mosquitoes must be flying to pick up enough pesticides to receive a lethal dose.

5. Use insect repellent when out of doors.

6. If not too hot, wear long sleeves to give protection from bites.

7. No chemical treatment of dairy animals is necessary if proper sanitation measures are taken by removing breeding sites.

Wood splitter electric

craftsman on small wheels.

2 wedges \$300. Alaskan Hi fits 36" chainsaw blade,

slab lumber \$95. Bradford

Delaval separator number

15 complete \$50. Kendali

WWIf oil jars \$25 each. License plate tydol man \$40 each. Wayne Co. 717-785-3353.

One row pull type New Idea

corn husker, like new \$2500. Berks CO.

Hay alfalfa Timothy mix

excellent for horses, deliv-

ery available. Indiana Co.

Stoker boiler unit, AP 520

EFM with 5 gallon coil, extra blower, and gear box. Lehigh Co. 610-298-2304

JD com harvester, chop-per, has PTO drive, 3000 gal skid tank, call mornings 8-9 a.m. Montgomery Co.

1/2 bu apple picking bags, 10 with metal liners and 8 with just canvas liner.

Chester Co. 610-269-3494.

Clay 70ft belt feeder, 48ft

belt conveyor 35' belt conveyor, 24' belt conveyor,

very good condition. Fayet-

Dorset ram, excellent

breeder. Chester Co. 610-869-3302.

Rosenthal stationary, corn

husker shredder, belt drive, steel wheel, Zerk fittings,

shed kept, good condition, \$600 firm. York Co. 717-235-1549.

Rocky Mt elk raised in NJ

bulls, cows, calves, 5x4 6x6, 7x7, 8x8. Hunterdon Co. 908-996-6515.

Model T Ford engine, rear front axle spindels, and

other parts. Montgomery

80 5 gal buckets of amber

local honey \$35 per bucket. Adams Co. 717-528-8891.

Ford 900 lime and fertilizer spreader truck with pup trailer, JD 4020, 1360 dis-

cbine NH 848 round baler.

Berks Co. 717-933-8695.

John Deere 643 corn head.

\$11500. Call between

Oliver 3 point hitch for 660 Oliver fenders, for 1600 bush hog, 7 ft blade 3 point hitch. Lycoming Co.

10 beef type feeder cattle

weighing approx 675

pounds, acclimated ready to go. Franklin Co. 717-530-1213.

IH #10, hoe drill 16x8 fert

and timothy seeder, VG

\$500. Wanted-tracks for

TD18 IH dozer must be

useable. Col Co. 717-799-5425.

Frick sawmill diamond reo

rwr unit good cond \$1200.

79 FOrd 10 wheeler, dump tk 308 cat 17ft \$10500.

North Co. 717-758-7137.

15kw onan PTO generator,

on new cart, excellent condition. Lanc. Co.

717-445-9825.

Somerset PA.

a.m.-5p.m. Used

acres. Somer 1-800-730-4240.

717-494-0556.

Co. 610-272-0768.

te Co. 412-628-3993.

610-845-2674.

814-749-8489.

610-933-7683.

Co. 717-537-2897.

### Importance Of Mosquito Control

The importance of mosquite control in the Northeast is that Culiseta melanura mosquitoes are the vectors of Eastern Equine Encephalitis and Aedes spp. are vectors of dog heart worm.

The number of cases of these diseases per year is highly variable but the potential for outbreak numbers is always there. Large numbers of mosquitoes can be extremely annoying to both man and animals.

Horse cart, two wheel full Ford 8N tractor and Woods size on rubber with 32"x6" 5ft finish mower \$3500. tag along two wheel wagon to match \$425. Perry Co. Fully restored showroom condition. Chester Co. 610-869-0711. 717-957-3568.

Fresh and springing regis-tered holstein heifers vac and BVD shots. Northumberland Co. 742-7008.

Snow plow 7' Meyers power, angle fit, full size veh \$650 OBO. Sussex Co.

Kalamazoo cook stove

Flow EZ trail 300 bushel

Farmall Cub lights r/

Hereford bulls, organic raised, gentle all sizes, feeder prices excellent breeders choice beef, hauling available, shown at Farm. York Co.

Steel wheels 53x12, JD 10ft cultipacker. Lanc. Co. 717-354-0159.

10 hole smidley hog feeder wagon, delivery auger. New Idea grinder and shell-

German shepherd pups,

International truck, KB with title, rototiller models B1-7, B17RS manual, two vinyl air mattresses, 1965 roto-tiller, make offer. Berks Co.

cab, hydra, 671 Detroit engine, good condition \$9500 OBO. Hardy Co.

JD 5 bottom rollover plow \$3500. 5hp milk compressor \$800. 800 gal milk tank split \$400. 500lb gas roller \$1500. Northumberland

bred to Al bred bull, will calf early spring, good quality bulls. Wanted-stock trailer.

Puppies, 8wks old, blue healers. Dauphin Co. 717-362-3058.

71 Ford L7000 with 20' flat bed dump, 27500 GVW, strong 1160 cat motor \$4000. York Co. 717-456-5403.

Some black. Call anytime. Bedford Co. 814-733-4705

Brand new belt, double work harness with lines and

Lridles \$350. Rt 414 Hector, NY. Schuyler Co. 607-546-4153.

VW sandri dune buggy, 1600cc VW motor trilled out, dual Webers \$2000 OBO. Chester Co.

201-875-5299.

\$150. Milton upright piano \$100. Metal cord wood saw \$1500. Electric stove and gas range. Berks Co. 610-488-1365.

gravity bin wagon \$2000 firm. Franklin Co. 717-328-5233.

weights, new tires, full cults, fert spreader, good cond \$2250. Wicomico Co. 410-835-3035.

717-432-3188.

er, boogs potato grader, roof vents. Dauphin Co. 717-367-2033.

Ford Jubilee tractor, JD grain drill, 3pth 12' harrow, disc, small trailer frame, hay and straw. Eves. Schuylkill Co. 717-467-2609.

AKC ready 10/17, blk tan \$250. Chester Co. 610-593-6927.

610-369-1559.

Fox 6600 SP harvester, 304-538-6194.

Co. 717-286-5306.

Berks Co. 610-678-9326.

Purebred polled simmental cattle bulls, heifers, cow calf pairs, starting at \$600.

610-869-2936.

AKC dalmatian puppies, shots and wormed, also stud service delmatian, collie, and pomeranian. Lanc. Co. 717-733-8770.

Two warm morning coal stoves \$250 each or best offer, both in excellent condition, will deliver. Bradford Co. 717-537-2165.

19" papec cotton 6 knives seats and 6 knives, 3 shredder bars, good condi-tion. 503 Strasburg Rd, Paradise, PA 17562. Lanc.

Ford Tempo sdn, 5 spped, 110000 miles, good \$950. Steel door 36x80 \$60. 3 storm doors \$35 each. 717-865-2022.

Carriages, restored 4 pass show trappe \$4000. Spring wagon \$1800. Amish buggy \$800. Mennonite carriage \$800. Rocksled \$300, more. 1601B Pine Ave, Kirkwood, 609-783-8302.

Silage cutter sale or rent, IH 10E, 4 extra knives, 12997L and w shredder bars, 4 wheel small unit good for mulcher \$300, more. 1601B Pine Ave, Kirkwood, NJ. 609-783-8302.

Ford 9N, Ford 801 loader tractor, 5ft brushhog, 6ft grader blade, dirt scoop, John Deere lawn seeder, post hole digger. North-ampton Co. 610-759-2796.

Jeep bodies, new original steel AMC/Jeep CJ7 and 1976-83 CJ5 body tubs, new and used CJ7 tail-gates. Lehigh Co. 610-395-3562.

JD 66 blower, field ready 400x4 automatice roller mill, Delaval vac pump 3hp new motor. Bedford Co. 814-766-3831.

John Deere bale push bar for 535 or 435 round baler, like new \$500. Lanc. Co. 717-653-0897

Pequea manure spreader whall gate, new bearings and web, delivery avail, David King, RR1, Box 126E, Mill Hall, PA 17751. Clinton Co

1987 John Deere Model 212 garden tractor with 4' mower deck and snowblower like new condition \$2800. Cambria Co. 814-674-5917

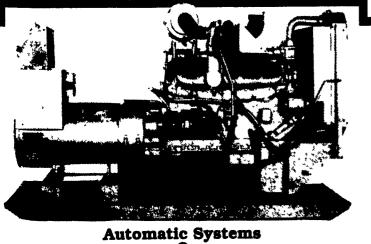
1985 Ford F250 Explorer package, 4x4, 351 auto, AC, AM/FM cassette 69k, very nice \$7000. Lanc. Co 717-426-2326.

ACD17 gas w/plow, mower \$2900. Taylorway 12' offset disk 28" discs, used 200 ac, \$4900 AC 600 c planter, no fert \$750. Harford Co. 410-836-1722.

International harrow, 3 section 8ft has 25 reversible teeth. Bedford Co. 814-652-2851.

Galvanized hot water tank, 100 gal upright, good cond \$100 OBO. Wantedshelled corn out of field. Lanc. Co. 717-445-6880.

85 Chev S10 Blazer, V6, Auto, PS, PB, AC, cloth int, tinted windows, alum wheels, runs great \$3995. York Co. 717-741-1518.



**USED** 

200-KW Deisel

**MAXI-POWER RADIO** 

150-KW Deisel

SERVICE 330 Fonderwhite Rd. 717-273-4544

100-KW Deisel

24 HR

1-800-272-MAXI

DISPATCH

Lebanon, PA 17042