

OPERATIONAL NOTES

P. BRUCE BROCKWAY, JR.

In a letter received from Bob Spencer of Bristol County Mosquito Control Project, it is quite apparent that Bob is also following through on the use of the "Ten Commandments of Mosquito Control" as a means of acquainting the public with the fact that they too have a responsibility in our common effort. He has been distributing these through banks, post offices, and various public centers and it is his thought that the "Ten Commandments" could be passed on through the public schools. This may be an idea for some of the rest of us to investigate.

Some public schools allow their children to take home such public information; however, others seem to frown upon this for one reason or another. The theory of teaching them young is well tried and the mosquito control districts in the East certainly have many examples of the success of this type of program. Each mosquito control district should make efforts along this line.

Bob also mentions that they have an educational exhibit in the County Fair. These annual outings of the general public have changed considerably during the past 25 or 30 years. A quarter century ago County Fairs were mainly attended by farmers or, at least those living in rural districts. However, since that time the city slicker seems to be taking more interest in cows, chickens, and other such items that would be found at County Fairs, not to mention the farmer's daughter.

The success or failure of an educational exhibit at a County Fair quite often depends on the type of exhibits that are in the same building or at least surrounding the exhibit. The use of a device that is eye-catching for the general public is especially helpful.

Evidently Bristol County has the opportunity to tell their mosquito story before church and fraternal organizations, as well as political groups. There is no substitute for this type of public information except, perhaps, television, if a mosquito control district has such a cooperative agency within its district.

Color slides, movies, or descriptive models certainly enhance what could be a rather dry talk. This is not a new topic to any mosquito control agency, but cultivation of good public relations, and dissemination of information are often neglected by public agencies.

Bob also mentioned that he purchased a form or mold for the manufacture of concrete pipe. This will help solve the problem of what to do with idle hands during inclement weather. If my memory serves me correctly, Rolly Dorer of the great state of Virginia used a similar system and found it of advantage.

Your writer is wondering what has happened

to the interest that used to be so alive concerning operational field trips. Those of us who attended the Ottawa meeting in 1952 learned a great deal from our good neighbors to the north and the Toledo Area Sanitary District enjoyed being host to the Toledo Seminar in 1954. Is there an interest in having another such Seminar?

If so, perhaps we could ask our President of AMCA for 1962 to appoint a committee to get another operational field trip or seminar planned for the coming year. Of course, it should be at a central location that is accessible to quick travel because normally these programs are held during mosquito breeding seasons. What about St. Louis, Missouri? Who in the AMCA knows anything about their mosquito control program? Maybe we could meet for a two day program there. We all know they had an encephalitis problem there a few years ago.

Let's keep this thought in mind while talking and corresponding with each other with a view to starting something.

A SIMPLE INEXPENSIVE AIR PRESSURE SPRAYER
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For the past 12 years, the Kern Mosquito Abatement District has used a conventional type air compressor for spraying gutters and storm drains in urban larviciding. Each month during the season, about 1200 miles are traveled while spraying from several Jeep units, using some 3000 gallons of toxicant for this purpose.

While the type of sprayer mentioned proved satisfactory in almost all respects, it does have two pronounced shortcomings. First, a power-take-off unit must necessarily be installed for its convenient use, and second, pressure in the tank is not constant, as it varies from 80 to 30 psi unless the unit is manually engaged at short intervals. With pressure variance, application rates are also inconsistent.

In an effort to overcome these adversities, a pump was sought which could be used without installation of a PTO unit, and one which would automatically keep a constant pressure in the tank.

Such a pump was found and placed in operation in one Jeep for a season's use. The unit is a Bendix-Westinghouse *Tu-flo 100* compressor No. 400005, designed for operation in the high speed, high pressure range. Bracket-mounted on the Jeep engine, and belt-driven by power supplied from the crankshaft pulley, it is in constant

operation with the vehicle engine much as a refrigerator unit on an automobile. Governor control of reservoir pressure is eliminated by close control of the clearance volume which causes the reservoir pressure to balance; or, in other words, the pressure is equalized between tank pressure and piston displacement. With this system of automatic, balanced pressure, there is no need to reserve space in the insecticide tank for compressed air, as in the older system where about three cubic feet was wasted for this purpose. With the present unit, the tank may be filled to capacity, which means fewer stops for refilling. Air is pumped directly into the 50-gallon tank through 5/16 inch copper tubing. Pressure is set for use at 100 psi. A pop-off valve set at 105 psi is installed on the tank as a safety feature, although, theoretically, it is not needed.

All during, and after a year's use, the spray operator repeatedly expressed his satisfaction with the unit. Although the pump was put to greater strain in the first year of testing than it would

be in ordinary use, there were no breakdowns and no maintenance operations were required, even after driving at speeds up to 60 mph.

For the 1962 season, seven more units of this type are to be installed on spray vehicles, three for urban and four for rural use.

With greater emphasis being placed on hand application of granular insecticides, the need for hoses up to 300 feet long has become unnecessary. Without this need, there is little use for high pressure, heavy duty pumps: so it is hoped these smaller units will prove to be just as useful in the rural areas as in the city.

Advantages of this unit compared to the old type compressor are listed below:

1. No PTO unit involved.
2. Cost of installation cut by more than one-half.
3. Constant pressure—automatically.
4. No operating noise (a definite advantage in city traffic).
5. Pressure tank can be filled to capacity with liquid toxicant.

SCIENTIFIC NOTES

MODIFICATION OF "ARCTIC HAMPERS" FOR THE LIVE SHIPMENT OF ADULT AND LARVAL MOSQUITOES

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The increased need for shipping mosquitoes or insecticide resistance testing, for epidemiologic studies of various kinds, and for collection of undamaged mosquito reference materials stimulated us to modify "arctic hampers" for transporting living mosquito larvae and adults to our laboratory³ from any location in the continental United States. We prepare the container in our laboratory, and forward it to the using agency together with an adult mosquito catching aspirator and instructions.

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The shipping container consists of a styrofoam insulated box (arctic hamper) measuring 12 x 13 x 13.5 inches (Fig. 1). A pre-cut insert (approximately one and one-half inches thick) of styrofoam or rubberized horse hair (A) allows a one-quart can of refrigerant (B) (Magic Cold, Carry Ice, etc.) to be placed centrally. Four 510 ml. specimen jars (C) fit snugly into the corners of the container. An additional insert (D) of cardboard with fiberglass or rubberized horse hair insulation, firmly holds the can of refrigerant and jars in position when the lid of the hamper is sealed.

The 510 ml. jars can be used for either larval or adult mosquitoes. For larvae the jar is used with a screw-cap. For adults, the mouth of the jar is covered with two pieces of neoprene rubber (obtained from surgical gloves) held in position with rubber bands and masking tape. Each of the two pieces of neoprene is slit once through the center, and placed so that the slits cross at right angles to each other. This cover allows an aspirator tube to be inserted and withdrawn without losing adult mosquitoes. A strip of blotting paper is placed in each jar to provide a resting surface for adults.

Each container is large enough to accommodate 300 adult or 250 larval mosquitoes (in 250 ml. water) for at least 48 hours. It is thus possible to transport by air express in one box, combinations of such jars to hold up to 1,200 adults or 1,000 larvae.