

## Hormone holds key to gypsy moth control

COLLEGE/PARK, Md. — For more than 100 years, forestry experts have been searching for ways to get rid of the gypsy moth, an Old World insect pest responsible for millions of dollars in damage to trees each year.

Now researchers at the University of Maryland's Agricultural Experiment Station have begun studies they hope will shed light on new gypsy moth control.

The studies center on the adult "eclosion" process - that point in the adult's lifecycle when it emerges or hatches from its pupal case, according to Michael C. Ma, assistant professor of entomology at the University.

It is during the eclosion process, says Ma, that insects like the gypsy moth are highly vulnerable and his research may give scientists a clue to how they might

control or inhibit the "turning on" of adult behavior.

With research just under way, Ma and fellow researchers have found the gypsy moth's brain houses a hormone which triggers the onset of eclosion. The concept of a hormone triggering mechanism was first discovered by James Truman of the University of Washington in the Chinese silkworm moth.

"The eclosion hormone acts as a key that unlocks virtually all adult behavior in the gypsy moth," states Ma.

"Morphologically, the gypsy moth is an adult while it is in its pupal case at least two or three days before eclosion.

But without the release of the trigger mechanism, the moth will not take on adult behaviors such as flight and reproductive activities," he said.

By understanding the release mechanism and action of the hormone, he added, scientists may be able to develop methods to interfere with, or stop, the "turning on" of adult behavior. This, says Ma, could in turn provide a means of controlling the population spread of the destructive pest.

The gypsy moth was introduced to the northeast United States in the late 1860's. It was chosen as an experimental subject, explains Ma, because since the mid-19th century it has proven to be the

most ravenous of defoliating insects in the U.S.

Each year, scientists estimate the gypsy moth causes several million dollars in damage to oak, beech and maple trees in the U.S. In addition to large dollar amounts lost through damaged trees, huge sums of money are spent each year to control or

eliminate gypsy moth populations.

Ma says he hopes his research will contribute significantly to a total integrated pest management program for the gypsy moth.

## Prevent tractor overturns

NORRISTOWN — There are four major causes of overturns when driving a tractor or any other type of farm machinery, says Joseph H. Way, Montgomery County Agricultural Agent.

One major cause of overturns is raising a load higher than the center of gravity of the equipment. To avoid this, there are four precautions that can be taken. Use wide front ends, and keep your attachments low when using them. Always use proper weights and ballasts, and remove the attachments when they are not being used.

Centrifugal force is the second cause of overturns. This occurs when a sharp turn is made at a high speed and the tires become pivot points, causing the vehicle to turn over. Way recommends idling down before making sharp turns

and keeping brakes evenly adjusted.

Overturns also occur when a vehicle is being used to pull a stationary object, such as a log or tree stump. This "rear axle torque" results in a backward flip. Operators can avoid this accident by not blocking the wheels when stuck and always backing out of holes. Another precaution is to avoid popping the clutch and sudden starts

Improper hitching also can

cause overturns. When a heavy load is hitched, the front end can be lifted off of the ground and the vehicle can flip backwards. To prevent this, remember to keep the drawbar at the recommended level, hitch only to the drawbar, and use the proper ballasts and weights.

Way reminds tractor operators that the few minutes needed to take safety precautions may save valuable time, energy, and human resources in the long run.

## Farm Talk

(Continued from Page D3)

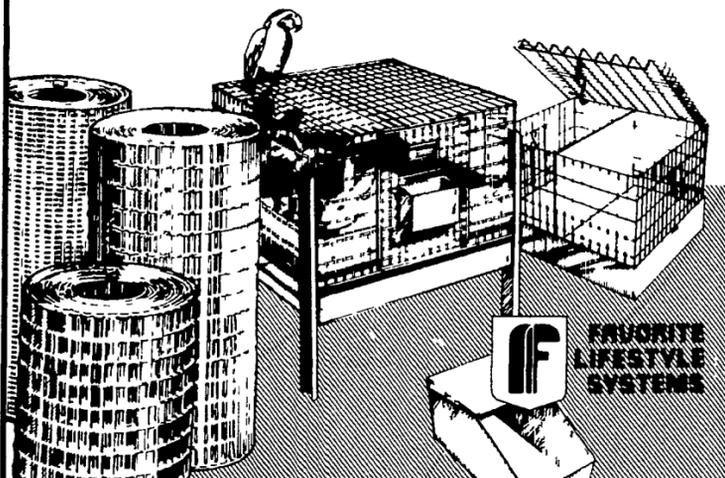
farmers and rural residents must accept. If we're going to have animal agriculture, and to the consumer that means meat, milk, eggs, wool, and some other products, we're going to have manure. There just isn't any other way. Surely the occasional smell of a properly managed animal unit is worth the end products we consume

## Grow Rabbits. Quail. Pheasant. Racoons. Chickens. Turkeys. Guinea Pigs. Any small animal. Right in your own backyard!

Put a little bit of country in your life. Experience the fascination and fun of raising small animals in your own backyard. Natural education for kids, profitable hobby for adults. To get started visit the 1100 square foot Favorite Factory Showroom. Everything you need for successful small animal raising. Full line of pre-fabricated, all-metal Lifestyle enclosures. Watering systems. Feeders. 100 foot rolls of welded

wire mesh. Complete modular rabbit raising systems. All at direct-to-you low prices. Stop in today and save! Favorite Manufacturing, Inc., 114-116 Earland Industrial Park, Building #1 Just East of New Holland off Route 23. Phone (717) 354-4586

Open weekdays 7:30 AM to 4:30 PM  
Fridays 7:30 AM to 6:00 PM  
Saturdays 7:30 AM to 11:30 AM

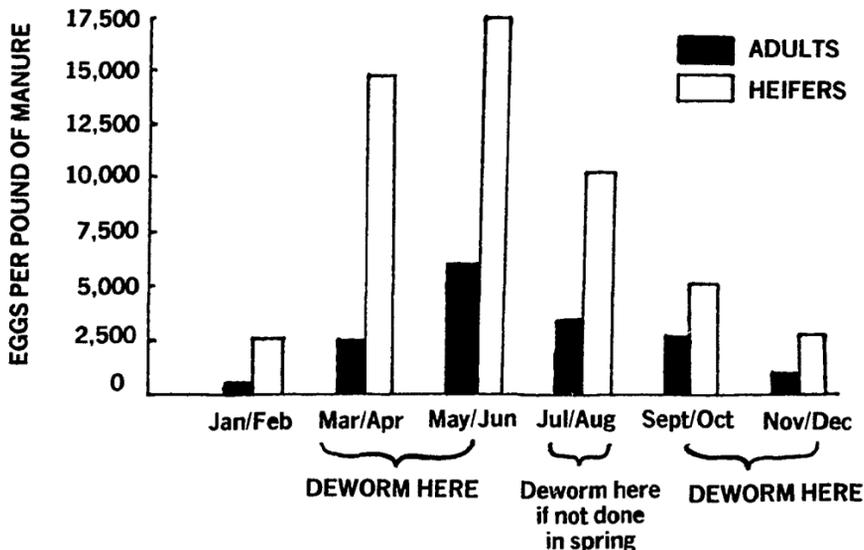


## Dairy Farmers - Deworm Now "STRESS"

You've heard a lot about stress, 2 sources of mid-summer stress; heat and worms. One can be avoided, the other only modified. Parasite burdens can be avoided; heat stress can only be modified. The chart below illustrates heavy burdens during mid-summer resulting from heavy egg deposition in the spring.

### SPRING RISE OF EGG PRODUCTION

1974 - T.A. Yaswinski, M.S. and H.C. Gibbs, DVM, Ph.D.  
Journal Veterinary Research Nov. 1975



If your herd was not dewormed in the spring, a parasite burden can be avoided during mid-summer by whole herd deworming with

## BAYMIX®

**BAYMIX IS AVAILABLE AT YOUR LOCAL**

**DEALER**  
New Holland Supply Company

