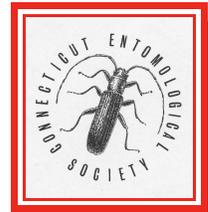




483TH MEETING
Minutes of the
**Connecticut Entomological
Society**



19 November, 2010

Environmental Science Center (Rm 110), Yale University, New Haven
Pre-meeting pizza and beverages were enjoyed by the attendees, 6:30-7:25 p.m.

Business Meeting

Meeting was called to order by President Richard Cowles at 7:30 p.m.; 16 members and 1 guest were present.

Reports: The minutes of the 482th meeting were read by Secretary Munstermann, several corrections were provided from the floor and duly entered for the permanent record. The treasurer's report was presented by Treasurer Montgomery. He noted that, to date, 25 memberships were paid, whereas 60 paid memberships were realized the previous year. Nine of the 25 had made donations in addition to the dues.

Old Business: Treasurer Montgomery announced that only a few CES t-shirts commemorating its 50th anniversary remained in stock; all are extra large size (XL or XXL).

New Business: Vice-President Marshall asked that a better method be established for an accurate count of attendees arriving for the pizza. Questions were raised as to rationale and funding availability for meeting pizzas. President Cowles noted that he noted a decreased attendance when pizza was not served. Member Gerry Bunker's name was mentioned in appreciation for his generous donation for the pizza fund several years previously. Treasurer Montgomery felt that 4 large pizzas for 17 attendees was sufficient.

Exhibits:

- Michael Thomas presented a dozen cicada representatives from Costa Rica, Florida and French Guiana for identification by Kathy Hill.
- Leonard Munstermann presented 9 cicadas from Panama, Honduras, French Guiana and Ghana.
- Chris Maier displayed a collection of 8 Siricidae (wood wasps) species known to occur in Connecticut; an accompanying USDA publication for their identification was as follows: Schiff N, Valley SA, LaPonte JR, and Smith DR. (2006). *Guide to the siricid wood wasps of North America*. 102 pp. *Gratis* copies available: nschneeberger@fs.fed.us.
- Raul Ferreira displayed a book: Cranshaw W. (2004). *Garden insects of North America*. Princeton University Press. 656 pp.
- Michael Montgomery described the book titled *Insect tracks and signs*. He suggested that one of the authors be approached for speaking at the annual meeting in April.

Evening Presentation: President Cowles introduced Dr. Jude Boucher, an extension entomologist at the University of Connecticut and stationed in Vernon CT. His talk was titled *Managing pepper maggots and striped cucumber beetles using perimeter trap cropping*.

Dr. Boucher described perimeter trap cropping as it is applied in Connecticut; this method has several requirements: (1) it must protect the main crop—must be more attractive than the cash crop, (2) it must be simple, practical and inexpensive, (3) must not compete with cash crop, *e.g.*, nutrients or land perimeter. Its effectiveness requires proper placement, increased

attractiveness with baits (e.g., pheromones), and a decreased attractiveness of cash crop (e.g., with insecticides or parasitoids). The perimeter crop intercepts and concentrates the target pest and slows its dispersal—changes distribution of pest, increases predator species diversity (no insecticide use), and changes pest carrying capacity.

One target pest is the Tephritidae fly, *Zonosemata electa*. It has a spotty distribution in New Jersey and the Connecticut River valley. Its native host is the horse nettle, pepper, and eggplant, and although it is a minor pest, its control is difficult because of the timing of its life cycle—univoltine, variable hatch times, adults resting in surrounding brush. Monitoring is difficult, but effective with ammonia-baited sticky traps at 3 m height in surrounding brush canopy. The cash crop is bell peppers, the perimeter trap crop is hot cherry peppers. Result: edge effect absorbs most crop predators, reduces interior damage by 83%. In one commercial plot with eggplant as cash crop, the perimeter of 2 rows of cherry pepper plus insecticide, completely prevented damage to the cash crop.

A second pest to which the perimeter trap method is applied is the cucumber beetle (f.Chrysomelidae, *Acalymma vittatum*) that also transmits a bacterial wilt (*Erwinia tracheiphila*); this beetle overwinters in the hedgerows surrounding fields. The cash crop of yellow squash (*Cucurbita moschata*) was surrounded by the non-commercial “Blue Hubbard” squash (*Cucurbita maxima*)—more attractive to insects, but resistant to bacterial wilt. This was so effective that insecticide use was reduced 97%, even with only a single row of perimeter foliage.

This approach to IPM (integrated pest management) can reduce reliance on chemical insecticides—which have been the usual IMP strategies. However, some crops are not amenable to the perimeter trap crop approach, e.g., corn and corn borers. Furthermore continuous monitoring is necessary in case of perimeter breach; perimeter may require insecticide assist to prevent large encroachments into the cash crop area.

Questions:

- (1) Impact of insecticide use pattern on insecticide resistance? Ans: The trap crop reduces the necessity of insecticides at perimeter and preserves insecticide susceptible individuals in center.
- (2) What about insects that fly over the barrier? Ans: the attractive perimeter crop attracts those from the cash crop center as well as intercepting the low flying insects.
- (3) What about genetic selection for avoidance behaviors? Ans: Probably this poses a high future risk, careful monitoring must be a part of the IPM package.
- (4) Answers to several additional questions addressed effect of surrounding topography (hills), effectiveness around home gardens, ineffectiveness of pyrethroid insecticides on pepper plant maggots, and impracticality of treating hedgerows and surround tree vegetation.

Literature made available:

Boucher TJ and Durgy R. (2004). Demonstrating a perimeter trap crop approach to pest management on summer squash in New England. *Journal of Extension* 42(5): 1-10.
[\[http://www.joe.org/joe/2004october/rb2.shtml\]](http://www.joe.org/joe/2004october/rb2.shtml).

Boucher TJ, Ashley R, Durgy R, Sciabarrasi M, and Calderwood W. (2003). Managing the pepper maggot (Diptera: Tephritidae) using perimeter trap cropping. *Horticultural Entomology* 96(2): 420-432.

Respectfully submitted,

Leonard E. Munstermann, CES secretary
16 January, 2011

Note: Corrections and additions are welcome—e-mail them to: leonard.munstermann@yale.edu or give Munstermann a call at (203) 785-5533.