University of New Hampshire
Cooperative Extension

# Impact Highlight:
# Partial Biological Control of Tarnished Plant Bug in New Hampshire

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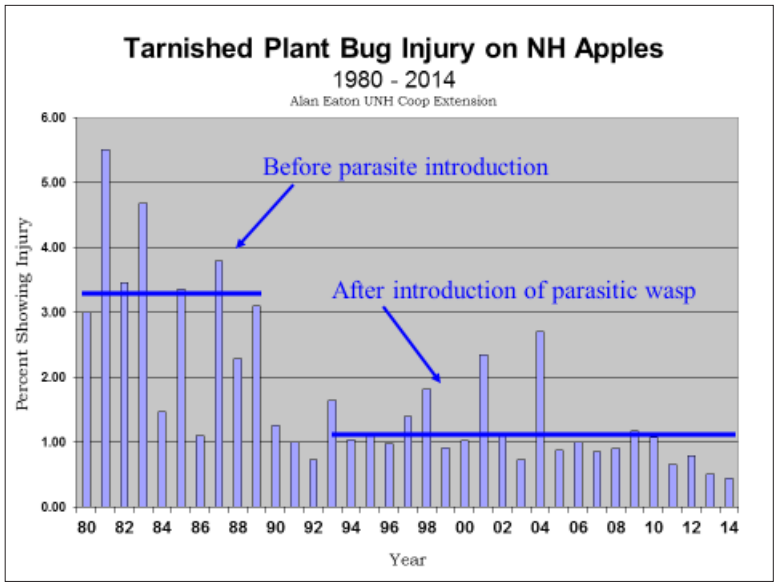
Tarnished plant bug (TPB) is a native insect that feeds on a huge range of plants. Native parasites held down its population somewhat, until alfalfa (a European plant) was introduced to the USA, about 100 years ago. TPB's did very well in alfalfa, building up to very high numbers. The native TPB parasites had not adapted yet to searching alfalfa, so TPB numbers in New Hampshire rose. In the late 1970's, Dr. William Day of the USDA Beneficial Insects Research Lab found a European parasite [*Peristenus digoneutis*] that would readily attack TPB. Day & staff tested the insect and found it would not attack other U.S. insects. It was approved for release in the US, and they were able to establish it in Ware County, New Jersey, in 1984.




Dr. Alan Eaton joined the project in 1990, to get it established in New Hampshire. He made three releases in 1990 & 91, and the insect quickly became established here. Dr. Eaton had already been measuring the TPB damage to apples in NH, and still continues annual evaluations today.

Since establishment, TPB injury on apples has dropped to 1/3 of its pre-establishment level. In 2013, that amounted to a 2.6% reduction in damaged fruit statewide. For the 492,000 bushel crop that year, that increased the amount of unblemished fruit by 13,136 bushels. That raised the value of the NH crop that year by perhaps $130,000. Clearly, damage has decreased on other crops as well, but apples is the only one where we have pre- and post-establishment damage figures. The parasite will continue to work for us, into the indefinite future.