

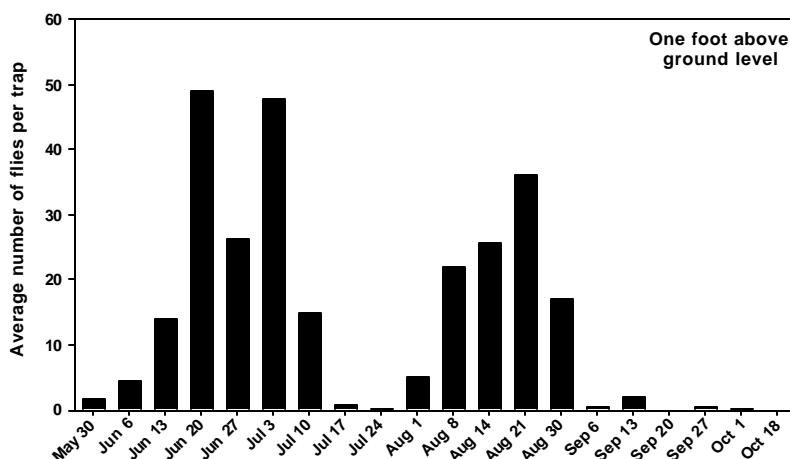
ASPARAGUS DISEASE UPDATE

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Asparagus miner and *Fusarium*: The asparagus miner (*Ophiomyia simplex*) is commonly found on asparagus throughout the commercial asparagus growing regions of the United States. During the fern stage the fly lays its eggs at the base of asparagus stems where larvae mine stems and pupate within them. It is currently thought that feeding by the asparagus miner, resulting in extensive stem mining damage, can lead to increased stem rot by *Fusarium*. Pathogenic strains of both *F. oxysporum* f. sp. *asparagi* and *F. proliferatum* have been associated with all life stages of the asparagus miner with infected pupae serving as an overwintering source of inoculum in Massachusetts.

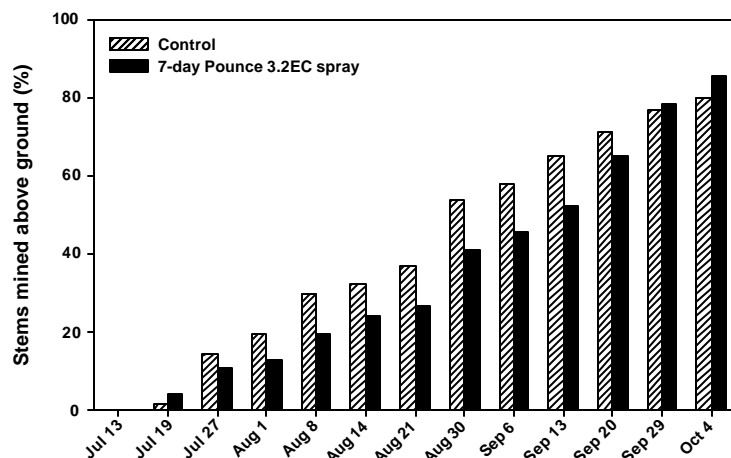
Due to extensive mining damage in several newly established commercial asparagus fields in Michigan during 2000 and 2001, a project was established to better understand the biology of the asparagus miner, its control and impact on *Fusarium* crown and root rot.

A preliminary survey in August indicated that 58% (15 out of 26) of the pupae collected from asparagus stems from commercial fields had *F. proliferatum*. Four percent (1 out of 26) had *F. oxysporum* f.sp. *asparagi*. Larvae were also collected and 3 out of 10 had *F. proliferatum*.



Asparagus miner flies were trapped using sticky cards in a newlyplanted asparagus field. From May 30 to September 13 there were two peaks in numbers of asparagus miner flies (see graph right).

One of the experiments conducted during the 2001 season involved applications of the insecticide Pounce 3.2EC to the asparagus fern in an attempt to reduce the number of mines. Pounce 3.2EC (4 oz/A) was applied weekly to plots (50' by 50') beginning June 22 and continuing through September 13, and compared to plots that were not treated. The number of stems with mines were counted weekly. Large differences between the 7day treatment and no treatment were not observed (see graph next page). This may have been because Pounce does not control asparagus miner adults or because the insecticide did not reach the bottom of the stems, where females lay eggs.



Control of rust of asparagus ‘Franklin,’ ‘Mary Washington,’ and ‘Viking’ with foliar sprays, 2001: During the 2001 growing season, Michigan asparagus growers had a Section 18 label for Folicur 3.6F against rust. Several rust trials were conducted with grower cooperators to compare Folicur 3.6F with the standards of Bravo Ultrex 82.5WDG and Nova 40W. In all of our studies, regardless of variety, Folicur 3.6F provided superior control. Four treatments were applied at site A on

July 18; and August 2, 15 and 29. Four treatments were applied at site B on July 18; and August 1, 15 and 29. Seven treatments were applied to ‘Mary Washington’ fern on June 20 and 28; July 5 and 19; and August 1, 15 and 29. Eight treatments were applied to ‘Viking’ fern on June 14 and 28, July 12 and 26, August 8 and 22, and September 5.

Treatment and rate per acre, applied at 14day intervals	Rust rating*									
	‘Franklin’		‘Mary Washington’ 8/29	‘Viking’						
	site A-8/29	site B-9/12		8/29	9/6					
Untreated	6.3	c**	7.3	d	5.5	c	5.3	c	6.3	d
Bravo Ultrex 82.5WDG 1.82 lb . .	3.3	b	4.8	c	2.5	b	2.3	b	4.0	c
Folicur 3.6F 6.1 fl oz + Induce 8.33EC 3.8 fl oz	1.0	a	0.5	a	0.0	a	0.8	a	1.0	a
Nova 40W 5.0 oz + Latron B1956 8.33EC 0.5 pt . . .	2.8	b	2.8	b	2.0	b	2.3	b	2.8	b

*Based on a rating of 1 to 10 where 1=0% to trace of defoliation to 10=fern defoliation and death.

**There were no significant differences among treatments (StudentNewmanKeuls; P=0.05).



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