

Section VIII  
Mites and Sap-sucking Insects

**NEW OR UNUSUAL PESTS IN IDAHO IN 1994**

Susan Halbert and Larry Sandvol

University of Idaho, Aberdeen R&E Center, P.O. Box AA, Aberdeen, ID 83210

**Aphids on potato tubers**

An unusual aphid infestation was found near Twin Falls associated with severely malformed potato tubers. The aphids proved to be *Smynturodes betae* Westwood. *Smynturodes betae* is permanently anholocyclic on roots in Idaho, because the overwintering host is *Pistacio*. The species is most commonly found on bean roots, and the single previous Idaho record is from roots of beans in Parma. The potato field where the aphids were found was planted to beans in 1993, and beans in a field across a road from the infested potato plants were also infested with *S. betae*, though no damage was observed on the beans except a slight bend in the roots where the aphid colonies were located.

The potato plants appeared normal above ground except for aerial tubers near the bases of the plants. Tubers, however, were small and knobby. The herbicides that sometimes cause similar malformation of tubers without foliar symptoms had not been used on beans in 1993 or 1994. Plants without aerial tubers had normal underground tubers and no aphids. Although *S. betae* has been reported from potato, but there is no information that we can find on whether it causes damage to tubers. It is not known whether the aphids caused the severe damage with which they were associated, or whether they preferentially colonized damaged plants.

***Metopolophium festucae* (Theobald)**

*Metopolophium festucae* was found in Boise this spring colonizing drought tolerant fescue lawns. It is usually a rare species in Idaho, with most consistent collections in the Lewiston suction trap in the spring. People who have planted drought tolerant fescue lawns for water conservation have inadvertently planted a monoculture of the favorite host of *M. festucae*. Moreover, the mild winter of 1993/94 enabled this commonly anholocyclic species to overwinter easily in the Treasure Valley. Populations in a few lawns reached hundreds per leaf.

***Metopolophium festucae cerealium* Stroyan**

Several aphid specimens collected in Oregon suction traps this summer have been identified as *Metopolophium festucae cerealium* Stroyan, constituting a new record for North America of a moderately important European cereal pest. The identity of four specimens has been confirmed by Prof. George Remaudière, who recently documented the presence of the same subspecies in Bolivia. Confirmed collection locations so far are all in Oregon and include Corvallis, Madras and Hermiston. As always, a final confirmation depends upon finding *M. festucae cerealium* on cereal crops.

In contrast to *M. festucae s. str.*, *M. festucae cerealium* is a potentially damaging new pest of cereal crops. It was separated from *Metopolophium festucae* (Theobald) *sensu stricto* by Stroyan



Table 1. Trials with Natur'l Oil\* against twospotted spider mite on lima bean plants in the laboratory.

Conc. of oil in spray	No. mites on primary leaves with indicated time between spray and infestation **		
	0.5 hr.	24 hr.	48 hr.
1.25%	1.2a	6.4b	7.6ab
2.50%	0.2a	0a	1.8a
5.00%	0a	0a	0a
10.00%	0a	0a	0a
None	12.6b	33.4c	44.6b

Numbers followed by the same letter are not significantly different (Tukey's HSD test,  $P=0.01$ ).

\*An emulsifiable soybean oil.

\*\*Mites counted 1 week after infestation of plants.

Table 2. Trials with molasses against twospotted spider mite on lima bean plants in the laboratory.

Conc. of molasses in spray	No. mites on primary leaves with indicated time from spray to infestation		
	0.5 hr.	24 hr.	48 hr.
3.12%	47c	23.8b	17.2b
6.25%	6.6ab	16.6b	36.2b
12.50%	2.2ab	0a	1.6a
25.00%	0a	0a	1a
None	33.6bc	43.4b	24.6b

Numbers followed by the same letter are not significantly different (Tukey's HSD test,  $P=0.01$ ).

Table 3. Control of spider mites on red raspberries, Puyallup, WA, 1994.

Miticide	Rate*	No. mites per leaflet				% reduction
		Pretreatment, Aug. 9		Aug. 16		
		Treated	Check	Treated	Check	
Abamectin 0.15 EC	0.01 lb.	361	439	202	405	50.1
Abamectin 0.15 EC	0.02 lb.	440	578	146	430	66.0
AC 303,630 3SC	0.3 lb.	382	476	82	518	84.2
Molasses	12.5%	602	380	254	420	39.5
Molasses	25%	294	369	240	427	43.8
Natur'l Oil**	1%	490	627	61	156	60.9
Natur'l Oil	2%	413	270	69	288	76.0
Vendex 50 WP	1.0 lb.	440	402	95	375	74.7

\*Sprays applied on Aug. 9 in 285 gal. per acre. Percentages are concentration in the water. Pounds are the amount of actual chemical per acre.

\*\*Emulsifiable soybean oil.

Table 4. Control of spider mites on red raspberries, Vancouver, WA, 1994.

Miticide	Rate**	No. mites per leaflet*		
		Pretreatment,		Sep. 6
		Aug. 22	Aug. 29	
Abamectin 0.15 EC	0.01 lb.	629.0	297.3 bcd	157.0 cd
Abamectin 0.15 EC	0.02 lb.	866.3	337.3 cd	157.5 cd
Abamectin 0.15 EC	0.04 lb.	831.3	262.8 bcd	91.0 bc
AC 303,630 3SC	0.3 lb.	759.5	29.5 a	11.3 b
AC 303,630 3SC	0.6 lb.	909.8	22.0 a	7.3 a
Molasses	25%	809.3	91.3 ab	123.0 bc
Natur'l Oil	0.5%	682.3	296.0 bcd	217.5 cd
Natur'l Oil	1.0%	1011.5	453.0 de	266.0 d
Natur'l Oil	2.0%	753.0	301.5 bcd	156.0 cd
Vendex 50 WP	1.0 lb.	940.0	171.3 abc	18.5 b
Untreated check	N/A	705.3	551.5 e	278.0 d

\*Means followed by the same letter are not significantly different (Tukey's HSD Test,  $P=0.05$ ).

\*\*Sprays applied at 285 gal. per acre. Percentages are concentration in the water. Pounds are the amount of actual chemical per acre.