

Miticide tolerance in field populations of twospotted spider mite in California strawberry production

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Adult twospotted spider mites (TSSM) were sampled from strawberry fields in Arroyo Grande (AG), Ventura (VEN), and Santa Maria (SM). The miticides Nealta (a.i. cyflumetofen; IRAC 25), Enervate (a.i. bifenazate; IRAC 20D), Agri-mek (a.i. abamectin; IRAC 6) and Onager (a.i. hexythiazox; IRAC 10A) were evaluated. For each location and chemical treatment, five adults were placed on a green bean leaf disc, with five replicate discs per combination. In the Onager assay, adults remained on the leaf discs for 24 hours to allow oviposition before removal and subsequent egg counts. All leaf discs were then sprayed using a Potter's tower at each chemical's maximum field rate, diluted to 150 GPA, and mite mortality was recorded 48 hours post-application. Egg hatch was counted for Onager 8 days after application.

Table 1. Cumulative acres treated with each a.i. in Santa Barbara County from 2018-2022. Cumulative acres means if one acre was treated three times in a year, the cumulative acres would equal three acres.

	Cumulative acres treated in Santa Barbara County strawberry per year				
	2018	2019	2020	2021	2022
Cyflumetofen	5,281	5,702	7,687	10,824	14,680
Bifenazate	8,609	8,851	11,538	11,711	13,699
Abamectin	4,089	2,800	6,967	5,898	8,624
Hexythiazox	3,380	3,906	4,606	5,586	5,910

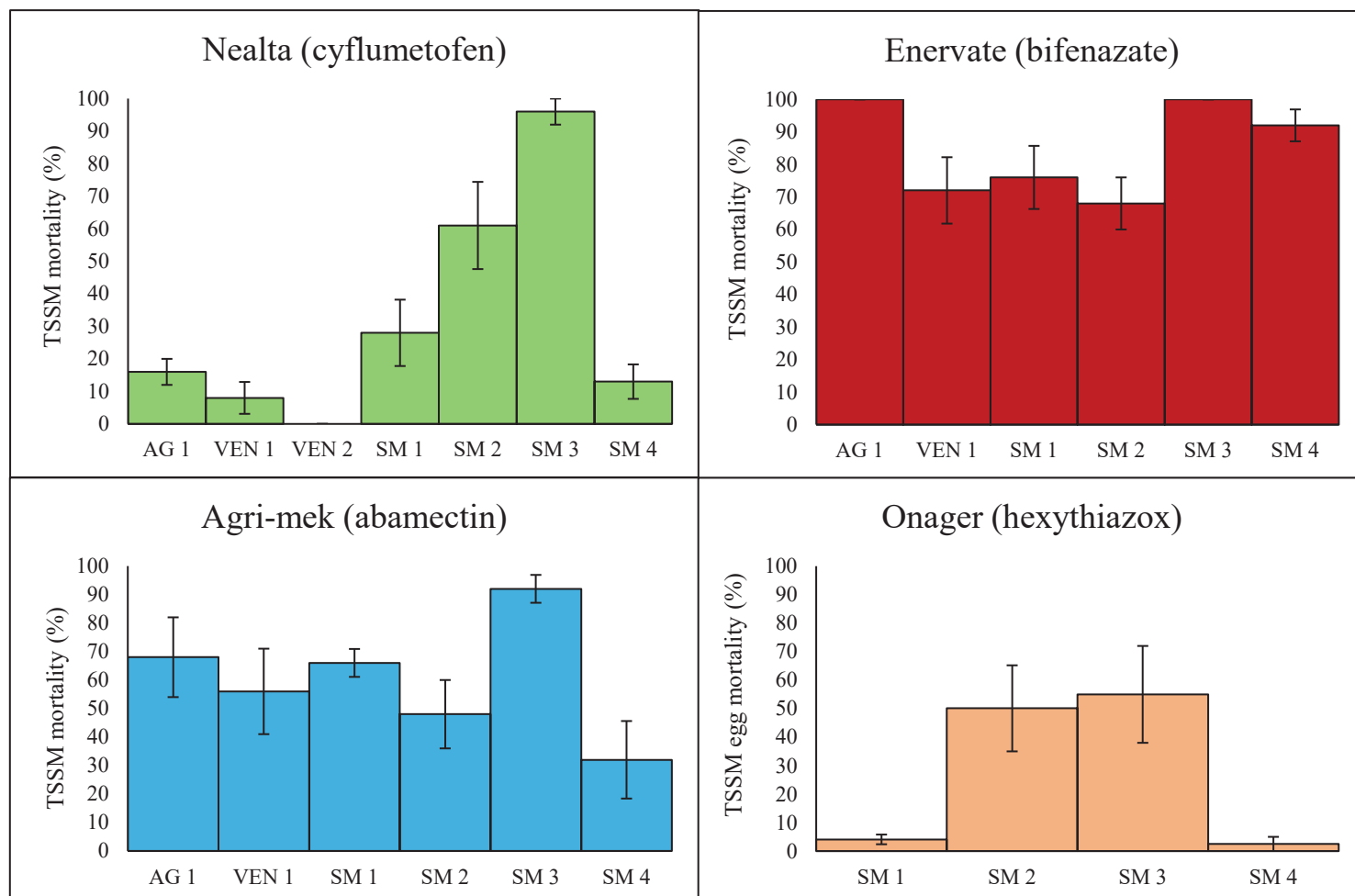


Figure 1. Mean mortality (\pm SE) of adult twospotted spider mites (TSSM) 48 hours after application of maximum field rate of Nealta, Enervate, Agri-Mek, and Onager. SM = Santa Maria; VEN = Ventura; AG = Arroyo Grande.

