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 Monday November 8, 2021

Poster Title: Nematode Management in Vineyards using Cover Crops

Poster Category:

	Vineyard Establishment
	Vineyard Management
	Irrigation
	Economics
X	Pests, Diseases, Disorders, Nutrition
	Weather
	Resources (ex. AgWeatherNet, Clean Plant Network)

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Abstract (no more than 200 words):

The northern root-knot nematode (*Meloidogyne hapla*) is a problematic nematode for wine grape vineyards (*Vitis vinifera*). This nematode induces small galls on roots which restrict water and nutrient uptake; this can impede vineyard establishment or exacerbate decline in chronically stressed vines. While pre-plant fumigation is a common strategy for managing this nematode, its efficacy is temporary. Cover crops are a potentially viable addition to an integrated management approach for nematodes. Two trials were established evaluating the efficacy of cover crops to reduce the northern root-knot nematode in vineyards. In one trial, litchi tomato (*Solanum sisymbriifolium*) was used as a preplant fumigation alternative. We found that after one growing season litchi tomato reduced *M. hapla* densities by 75% (fall 2020; $p < 0.0001$). However, this effect was lost by the following spring (spring 2021; $p = 0.92$). In another cover crop trial for post-plant management, we are evaluating oilseed radish (*Raphanus sativus* var. *oleiformis*), White Dutch clover (*Trifolium repens*) and Pacific Gold mustard (*Brassica juncea*). After 1 year, there was not a significant difference in nematode populations ($p=0.3$) but trending such that plots treated with oilseed radish, White Dutch clover and Pacific Gold mustard have fewer *M. hapla* than control plots.