Quantifying Acaricide Resistance in Spider Mite Populations Infesting Peppermint

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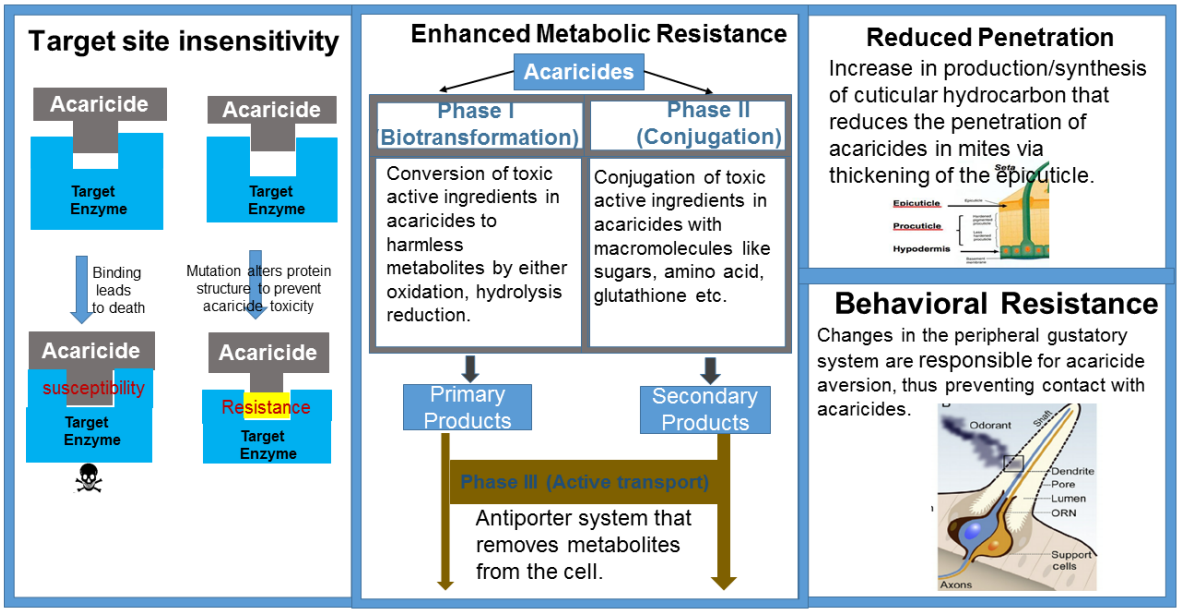
Acaricide resistance in spidermite can result in significance crop loss, especially in hot and dry climate of the inland Pacific Northwest. Hence, a proactive approach in dealing with this problem is to actively and regularly screen spidermite populations in cropping systems such as peppermint, with resistance biomarkers. The rate of resistance development in the two spotted spidermite far outpaces the development and registration of new chemistries of acaricides for its management. This project intends to evaluate the resistant status of the endemic spidermite populations on Washington mints to various acaricides currently registered for peppermint, and also the underlying mechanism(s) of resistance. The possible resistance mechanisms and project outline is summarized in the figures below.

Mechanisms of Acaricide Resistance



Experimental Outline