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SPIROTETRAMAT FOLIAR, A NEW NEMATOCIDE TO REPLACE DRIP-APPLIED FENAMIPHOS **McKenry, Michael, S. Kaku and T. Buzo.** Nematology Department, UC Riverside, Riverside CA 92521.

Applied to foliage at <100 ml/ha with various adjuvants, spirotetramat enters leaves and metabolizes into several enol-type derivatives that are quickly transported throughout root systems including root tips. These metabolites may differ in their nematode impact but they generally halt synthesis of animal lipids. After three years of field study we have not yet observed reduced volumes of stored lipids within treated nematodes but lipids in other unseen forms are integral to various cell membrane functions. Population levels of *Xiphinema americanum* collected from *Vitis* spp were reduced by as much as 70% using sieve/mist extraction procedures 18 days after treatment. Extractions of *Xiphinema index* involved a sieve/cheesecloth procedure with impact detectable at 18 days but population declines undetectable until 36 days after treatment. Soil extractions for *Criconeoides xenoplax* involved sieve/centrifugation methodology, a procedure that provided no indication of reduced population levels until 54 days after treatment. Thus far, spirotetramat has impacted all plant parasitic nematode species associated with roots of *Citrus* spp., *Vitis* spp. and *Juglans* spp. and to a lesser extent significantly impacted associated saprophytic nematodes. Population reductions of 50% for three months have been achieved with all plant parasitic nematode species tested if irrigation did not follow within two weeks after treatment. Late fall treatments to *Juglans* spp reduced population levels of *Pratylenchus vulnus* by 45% for 4 months but *Tylenchulus semipenetrans* infecting *Vitis* spp were reduced for only 6 weeks. Spring treatments involving *Meloidogyne* spp, as well as those listed above, have provided 50% population reductions for 3 months. Currently, our spring/fall treatment timings are associated with avoidance of post-treatment irrigations rather than toward date of root flush. This strategy will change depending on the crop and method of irrigation. Infection percentages of *T. semipenetrans* by an undescribed species of *Pasteuria* sp. were not impacted due to spirotetramat applications. First-year yield improvements of 10% from treated vines were common but seldom significant. One data set involving a 2-year test provided significantly improved yield as a result of treatment. Transport of nematicidal agents via phloem will require a greater understanding of the various spirotetramat metabolites as well as prevailing field conditions. Movento, a Bayer Crop Sciences product, is much more than an insect growth regulator. Two well-timed treatments per year provide a starting point toward better understanding of the pest management complexities when multiple target pests are involved.