

Pest Management Transition Project

Tree Fruit Research & Extension Center

DELAYED DORMANT SPRAY

In the face of increased regulatory activity surrounding organophosphate (OPs) insecticides, it is prudent to reexamine the utility of a widespread use of Lorsban at the delayed-dormant (DD) timing. In 1997, 91% of Washington's apple acreage was treated with Lorsban. However, a move by growers to

reduce their reliance on OPs resulted in a decline of Lorsban use to about 68% of the acreage in 2001. Lorsban use has remained steady since that initial decline. WSU's Crop Protection Guide recommends Lorsban for control of Grape Mealybug, Woolly Apple Aphid, Lygus, Stink Bugs, Campyloptus, Leafrollers, and San

Jose Scale. Lorsban appears to be a very important insecticide in IPM programs, but we must question if it is necessary to continue a reliance on the widespread use of Lorsban as a prophylactic application against these pests. With many new products available, is a DD application of Lorsban still prudent?

SAN JOSE SCALE (SJS)



SJS overwinter as immature scales in the black-cap stage on the tree

bark. In order to control overwintering scale at the DD timing the insecticides must make contact even when they are protected within bark crevices. Since this is difficult to achieve, especially in older trees, it is best to never let SJS get established. A Lorsban and oil spray at DD has a long history of providing SJS control. Recent studies have shown a majority of the control may come from the oil alone, especially when spray coverage is optimized. However, historically it was believed that oil alone may not be sufficient to control SJS, and a

more specific insecticide may occasionally be warranted. Good results have been observed with Esteem as a Lorsban replacement at DD, but Esteem was effective at the pink and petal fall stages, as well as at 500 SJS degree-days (roughly second codling moth spray timing). In our experience, codling moth spray programs that incorporate oil, rely on the insect growth regulators (Esteem, Rimon), or repeated applications of neonicotinyls (Assail, Calypso) will suppress but not act as a primary control for SJS.

WOOLLY APPLE APHID (WAA)

A recent PMTP survey reported 20% of the growers indicated WAA was causing unacceptable damage, behind only codling moth and leafrollers. WAA control provides a major challenge for No-OP programs. WAA may be the most important target for Lorsban. Growers that have had problems with WAA should consider Lorsban as a part of their pre-bloom program, as effective post-bloom controls are limited to diazinon and Thiodan. A No-OP option is to apply Ultor at

petal-fall with a repeat application 14 days later. Although WAA are generally not present at petal fall, the early timing with this product is necessary due to its improved trans-laminar movement. Applying Ultor to clean-up an already heavy infestation of WAA is not nearly as effective. *Note: the EPA is issuing a decision during the month of March as to whether or not Ultor will remain registered.* If the EPA decides that Ultor will lose its registration, it will then decide if growers will be



allowed to use existing stock or if they will have to return the purchased product to their distributor. You should contact your Ag. Chemical distributor with further questions.

LEAFROLLER (LR)



Both Pandemis and Obliquebanded leafroller remain important pests in apple orchards despite many effective control options. Leafrollers are still listed as a targets for Lorsban, however recent data suggests that it is not nearly as effective against OBLR as it is against PLR. Further, far more growers are reporting

problems with OBLR and it appears the distribution of PLR is on the decline. It is likely that the later emergence of OBLR makes a DD application too early to provide effective control. PLR emerges earlier and thus Lorsban probably has a greater impact on this species. Most orchards with a significant LR population will require a petal fall spray to control the overwintering population despite a previous Lorsban application. With the advent of new, highly effective



LR products, Lorsban is no longer necessary to control this pest in most orchards.



Lorsban's broad-spectrum activity can be effective in controlling many secondary pests, but is this the best use of this chemical? Knowing the biology of the insect can improve control decisions during

MISCELLANEOUS SECONDARY PESTS

the season. For example, by incorporating a neonicotinyl insecticide, such as Assail or Calypso, at the proper time into their codling moth control programs, growers can prevent apple damage caused by grape mealybug. Also, early season use of Lorsban is not effective for stink bug because fruit damage occurs as they immigrate into orchards during the late summer. Campylopus, another potentially damaging pest when in significant numbers, is not likely to be

controlled by Lorsban because the DD application occurs too early to impact this pest. A secondary pest likely to be controlled by the DD application of Lorsban is the Lygus bug. While few growers have reported any significant damage by this pest, if your orchard has a history of Lygus damage, then a Lorsban DD treatment may be warranted.

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