Thrips Management: Exciting News

In previous newsletter articles, we updated you on progress we have made with the use of UV light to manage western flower thrips populations. Our progress has been steady and extremely positive. We have reported finding the most effective dosages of UV to kill adult and immature thrips. We double checked our work to make sure the dosages mentioned did not damage different host plants; they didn’t. Of the adult thrips that survived our UV treatments most all of them had a significant reduction in total fecundity (immatures born). In summary, the UV did not damage the ornamental plants we tested, yet, they killed significant numbers of adult and immature thrips. The adults that survived laid very few viable eggs.

We are now looking into the effect of UV light on thrips eggs. If we hold a leaf horizontally and look at the edge of the leaf, on the top there is a rather tough epidermal layer likewise on the bottom there is a similar lower epidermal layer. Thrips lay their eggs on the inside of the leaf just above the lower epidermal layer. Here the eggs are protected from some natural enemies and external environmental factors. Are they protected from UV light? The simple answer is no. One of the first things done by our cooperators at RPI was to determine if during exposure to UV this treatment actually went through the leaf, i.e. actually went through both the upper and lower epidermal layers inside the leaf. Indeed, although a very small amount, the UV did go through. Next, we had thrips lay their eggs as they normally do in healthy leaves then we exposed the leaves to even lower UV using dosages than we found could kill adults. Our results, although preliminary, revealed that the UV killed the eggs (Fig. 2). To finalize this aspect of our research, we must repeat these trials several more times with leaves from different ornamentals.

What lies ahead? It is important for readers to realize a very simple reality fact. What positive results scientists get in the laboratory are very often not the same positive results one gets in the field. Adjustments have to be made. Our next tasks involve thorough field testing. Further updates will be coming soon. Please stay tuned.