

## ISCALure for Citrus Leafminer (IT203-K1)

Updated: 3/26/2010

### BACKGROUND

The citrus leafminer (CLM) *Phyllocnistis citrella* is a damaging pest of citrus because the larvae feed by creating shallow tunnels, referred to as mines, in young leaves of citrus plants, ultimately killing the leaves and defoliating the plants. Though CLM damages a variety of citrus plants, grapefruit, lemon, lime and orange appear to be most susceptible to damage. Since 2001, CLM has infested citrus growing regions of the U.S., including California and Florida.

ISCA Technologies introduces ISCALure for Citrus Leafminer, a pheromone lure designed to manage this pest. ISCALure for Citrus Leafminer, like ISCA's other pheromone based products, is environmentally friendly, species specific and emits the naturally occurring CLM pheromone in a controlled release which mimics a female CLM. The lure attracts male CLMs to the insect trap over a period of up to 15 weeks. ISCALure for Citrus Leafminer can be used for the monitoring and mass trapping of CLM. It has been selected by leading CLM researchers, the USDA and CDFR as a tool to monitor and manage CLM infestations.



### ASSEMBLING THE TRAP



#### STEP 1

Pull the paper delta trap apart so that the glue inside is exposed and the base sits flat.



#### STEP 2

Fold corners inside along the perforations.



#### STEP 3

Place ISCALure for Citrus Leafminer on its side in the center of the sticky surface. Typically, one ISCALure for Citrus Leafminer is used with one delta trap.



#### STEP 4

Fold up the edges of the trap along the fold lines so that there is only the small opening in the center.



#### STEP 5

Punch out the hole at the top of the trap and thread the metal hanger through the hole. Loop it around once so that it stays in place.



#### STEP 6

Bend the other end of the metal hanger into a hook and hang the completed pheromone trap.

### TRAP PLACEMENT

1. Infestations of leaves are lowest in the winter and early spring, increasing significantly through the late spring, summer and early fall. The timing of trap placement should be based on the seasonal phenology of CLM at your location. If you are unsure about the seasonal phenology of CLM at your location, hang traps from March to November for the first year, and make weekly counts of the CLM caught in your trap to understand the seasonal phenology. The bottom panel of the paper delta traps have a printed chart that you can use to record insect counts. Performing weekly counts can also provide you with indications of the effectiveness of your CLM control measures.
2. Traps are hung at shoulder height on the south side of the tree in winter and on the north side in the summer. Place the trap on the inside of the canopy in trees, in open shade, with 8-10 inches of clearance from foliage at the edge of the grove.
3. ISCALure for Citrus Leafminer will remain effective for up to 15 weeks depending on environmental conditions. Replace traps and lures after 15 weeks, or earlier if you notice that ISCALure for Citrus Leafminer has lost its attractiveness. Discard used traps in sealed trash bags.

**OTHER INFORMATION**

1. CLMs are attracted to new flush of growth. Avoid pruning live branches more than once a year, so that the cycles of flushing are uniform and short. Once the leaves harden, the pest will not be able to mine the leaves. Do not prune leaves damaged by CLM because undamaged areas of the leaves continue to produce food for the tree. Do not apply nitrogen fertilizer at times of the year when CLM populations are high as new flush of growth will be severely damaged.
2. Unused rubber septa type pheromone lures should be sealed in air-tight bag/container and stored in refrigerator. For longer product shelf life, store in freezer. Delta traps should be stored in a cool and dry place, and covered up to prevent dust build-up.
3. The University of California Cooperative Extension (UCCE) and ISCA Technologies conduct on-going research on CLM control. You should periodically check for updated information, which can be found over the internet and the ISCA Product Support website: <http://www.iscotech.com/exec/customersupport.htm>. At this website, instruction sheets are periodically updated to incorporate latest information from research efforts. The password to access these instruction sheets is: isca951, or contact ISCA for the latest password.
4. Environmentally friendly CLM management solutions like ISCALure for Citrus Leafminer (which emit the nature identical CLM pheromone) are effective for managing low to medium levels of CLM infestation. At high levels of infestation, additional measures such as the use of insecticides may be needed to supplement the environmentally friendly solutions.
5. The effectiveness of your CLM control measures is contingent on the effectiveness of control measures in host plants in your vicinity. If CLM is not well controlled in your vicinity, they can reproduce and migrate to nearby host plants.
6. Acknowledgements: Much of the CLM management information in this instruction sheet is based on UCCE materials. The R&D of ISCALure for Citrus Leafminer is funded in part by the United States Department of Agriculture.
7. The standard disclaimer for the information and use of ISCA's products can be found in the ISCA Technologies Standard Terms and Conditions of Sale. You may request that a copy be sent to you or you can view this at the ISCA website at: <http://www.iscotech.com/exec/sales.htm>.
8. Please feel free to view the latest ISCA products and other customer support material at the ISCA website: <http://www.iscotech.com/exec/customersupport.htm>.

**ISCA's Semiochemical  
Synthesis and Analysis  
Capabilities**

ISCA Technologies possesses state-of-the-art semiochemical synthesis and analysis capabilities. It is the world's sole source for many difficult to synthesize and important nature identical semiochemicals and pheromones. Customers include the USDA, state departments of agriculture, growers and grower associations, distributors of consumer pest management products, pest management