

# Serpentine leaf miner on beans

*Liriomyza trifolii*



Adult *L. trifolii* (Central Science Laboratory, Harpenden, British Crown, Bugwood.org)



*L. trifolii* visible within the leaf mine (NBAIR)

Prevention	Monitoring	Direct Control
<ul style="list-style-type: none"> <li>• Use tolerant crop varieties if available</li> <li>• Where possible, cover small plants with transparent plastic (such as polytunnels) to prevent insects from laying eggs</li> <li>• Weed out leguminous plants which can be alternative hosts such as sweet clover, Lathyrus, and many others.</li> <li>• Plant maize around beans because maize acts as a barrier against the leaf miners</li> <li>• Rotate beans with cereals, and not with legumes, tomatoes, garlic, onions, groundnut, rape, melon or cucumber.</li> <li>• Tomato is a host plant for <i>L. trifolii</i></li> </ul>	<ul style="list-style-type: none"> <li>• Monitor weekly at all growth stages of crop</li> <li>• Look for tiny thread-like tunnels (mines) on the upper leaf sides</li> <li>• Look for larvae inside tunnels or on the upper side of leaves (tiny legless maggots with no separate head, whitish, transparent and later yellow-orange)</li> <li>• Threshold: At 8 to 12 infected plants (with 5-6 infected leaves) per 100 plants, consider green direct control action</li> <li>• If, after green direct control, leaf miner damage still increases up to 20 to 30 infected plants per 100 plants, then consider chemical action</li> <li>• Use yellow sticky traps to assess the presence of <i>L. trifolii</i></li> </ul>	<ul style="list-style-type: none"> <li>• Hand pick heavily infested leaves with many leaf miner tunnels, and destroy them by crushing or burying them, or feeding them to cattle</li> <li>• Spray neem extract against larvae onto leaves in the early morning or late evening. Add a sticker such as liquid soap to the neem water mix. Reach good leaf coverage. Neem slightly enters the leaves and reaches some of the larvae inside the tunnel</li> <li>• If possible, cover soil under infested plants with plastic sheets to prevent larvae from reaching the ground and pupating</li> <li>• Use yellow sticky traps to reduce numbers of <i>L. trifolii</i></li> <li>• Parasitoids, and to a lesser extent to nematodes, bacteria and fungi, are used for biological control of leafminers</li> </ul>

Note: Pesticides may be available to control this pest. Please check with the Ministry of Agriculture in your country to find out which pesticides are registered in your country and the local restrictions for their use.