

Pesticide-free Rhizosphere Protection – Bug Bags



by Kurt Badertscher **Otoké**
HORTICULTURE



Abstract 25128:

Use of a bag to enclose containers or rockwool blocks effectively blocks aphids and fungus gnats from inhabiting plant roots. An old approach with some new twists provides pesticide-free protection from root/media dwelling pests in soilless, organic and hydroponic cultivation schemes. Useful to anyone wanting to reduce the risk of both pests and pesticides at the same time.

Context:

States that have approved the use of some pesticides for use on cannabis based mostly on their being on the list of 25b minimal risk pesticides which are exempt from tolerance requirements, registration with the EPA or both. But approval does not equate to effectiveness. Between that situation and states that prohibit the use of any pesticide on cannabis, producers are working to address pest risks.

At the end of 2015, root aphids had proven especially resistant to all pesticides approved for use on cannabis in Colorado and beneficial predator suppliers did not have an answer for deep container plants either.

Methods: IPM principles applied to new problems

Integrated Pest Management teaches growers to use a variety of tools to control pests. With pesticides and beneficials removed from the toolkit, taking another look at simple exclusion is one way of mitigating the loss of those tools.

Placing plant containers inside a bag that can be sealed around the stalk of the plant creates a smaller portal of entry to protect such as spraying Tanglefoot® or other sticky substance on the stalk to capture any aphids that may attempt to enter the small opening around the stalk. The bag color allows scouts to see aphids making the trek toward the opening before they get there.

Fabric for the Bug Blocker product was identified by placing aphid infested plants inside a bag. The root ball was dosed with an Azadirachtin pesticide which does not kill the aphids but does irritate them to where they attempt to get away. The photo of the aphid shows a very early instar exiting a test bag made of a loose weave cotton muslin. Tighter weaves were specified and the final product is impervious to aphids, allows water to drain freely and air to be exchanged.

Comments:

Applied Horticulture. From problem to solution using mainstream horticulture principles. The solution may not be the best, but it is a solution that solves all the problems and we call that a good start.

