

greenhouse structures



Photos: Stuppy, Inc.

To Screen, or not to Screen?

As insect netting slowly garners buzz among U.S. greenhouse growers, the question remains whether the industry will see the value in this promising pest management alternative.

By Darhiana Mateo

"Do what we can, summer will have its flies."
— Ralph Waldo Emerson

For growers, working to keep pests away from crops has always been accepted as part of the game.

However, the playing field might be shifting. As experts sound the alarm regarding invasive species infestations and the government imposes more stringent regulations regarding chemical applications, insect screening is emerging as a viable piece in the pest management puzzle.

While popular with greenhouse growers abroad, and increasingly so within U.S. vegetable and fruit markets, insect screening has been slow to catch on.

"No one is spending much time putting screening up," says Jim Bethke, floriculture and farm adviser with the University of California Cooperative Extension in San Diego County, who has visited greenhouses across the country. "And that's a real serious failing. When you are looking at pest management, you should look at all the methods that are available."

Basic Screening Steps

The science is pretty simple: Insect screens, filters made of a fine mesh of threads or strings, create a barrier that insects cannot cross, thus reducing insect pressure on crops without the use of chemicals.

The first step is for growers to work with manufacturers to select the appropriate screen based on the type of pests they are trying to exclude. "The idea is to pick the smallest insect of interest, and anything larger than that is automatically out," says Kurt Parbst, president of Ludvig Svensson Inc., a manufacturer of screens in Charlotte, N.C.

The second step is to determine how restrictive that screen is to greenhouse airflow. The smaller the insect, the smaller the opening of the holes on the net, the harder it is for air to get through, explains Matt Stuppy, president of Stuppy Inc., a greenhouse design, manufacturing and con-

struction company.

Growers should take into account airflow restrictions so greenhouses do not overheat.

The third step is to determine how to best attach the netting to the greenhouse and how much of the greenhouse needs to be screened. Typically, a vestibule or secondary door is also installed to maximize effectiveness.

An Expanding Market?

According to Stuppy, this market is slowly expanding in the United States. A "perfect storm" of factors might cause growers to consider adding insect screens to their pest control arsenal.

"The No. 1 reason why it's growing now is that growers are able to use less insecticide [resulting in labor and cost savings]. Second, with the trend toward natural ventilation, there are now more openings in greenhouses to let air in and out, creating more opportunities for insects to invade. And last of all, a big driver

and light requirements, throwing something else into the mix — such as screening — alters established parameters.

Bethke doesn't predict a huge soar in demand for insect screens — yet. "The only time I have seen insect screening is when [growers] are under extreme pressure where they can't grow what they want to grow without the screens," he says.

The Good, the Bad and the Obvious


Although netting simply "makes sense," for some growers, there are some deterrents. "There's costs to it. No doubt," Stuppy says.

In addition to the costs of materials and installation, growers usually have to build a framing for the screens and commit to regular maintenance.

But the potential perks of reducing labor and costs trump any drawbacks, Bethke says.

A couple of years ago, an acre of greenhouses at Florida-based Sunshine Growers' Plant City location was retrofitted with insect netting. The decision was "just a precaution," says Vice President Scott Roth. "And maybe even the cost savings of not having to spray as often." So far, the investment is more than paying off, he says.

Looking Ahead

With consumer preference for chemical-free plants and increased scrutiny regarding the handling of chemicals, insect netting is an option that merits a closer look, according to the National Greenhouse Manufacturers Association website: "The laws are getting [more strict] and the paranoia surrounding chemicals more intense. The reasons for insect screens are compelling." 

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has been that growers have to meet regulations regarding invasive pests," says Stuppy. "It's just a smart thing to do."

Although the percentage of total greenhouse production that is insect screened remains small, some subsections of the market, namely potted-plant growers, plug growers and "any kind of propagators" are getting on board.

Many greenhouse growers still see the method as more of a headache than a help. Because crops are grown based on specific humidity, tempera-

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