

Here's help in reducing rodent populations in tomatoes



By Kathy Coatney

It doesn't take much of a rodent infestation to create problems for tomatoes growers using subsurface drip in processing tomatoes, says Gene Miyao, University of California Cooperative Extension farm advisor for Yolo, Solano and Sacramento coun-

ties.

Rodent damage creates problems on two fronts. First, repairing subsurface drip irrigation is labor intensive and expensive, and secondly, there isn't uniform irrigation within the row when the drip tape has been damaged, he said.

Miyao said he has heard from several processing tomato growers who are also concerned about crop rotations. When they rotate out of tomatoes into a small grains crop like wheat, the vole (field mice) populations get very high, and they feed on the drip tape, he said.

"With the voles, the population can be very high and the damage extensive," Miyao said, adding damage to the drip tape from the voles is much less visible in general.

Another major issue caused by damage to the subsurface drip irrigation from rodents is the disruption of cultural operations.

"With buried drip irrigation in tomatoes, growers have come to expect to schedule all tractor operations without concern for irrigation schedules, compared to furrow irrigation or sprinkler irrigation (because they expect the furrow area to be dry)," Miyao said.

Breaks in the drip tape, however, mean the furrow area is flooded, and when the tomato plants become large, the leaks aren't as easily detected.

"We frequently see tractors during the later plant growth stage getting stuck in fields or bogging down in wet spots," Miyao said.

Roger Baldwin, wildlife pest management advisor for the UC statewide integrated pest management program, said rodents are a big issue. Gophers and voles can both be problems for subsurface drip irrigation.

"Vole populations were substantially higher throughout much of California last year, but that's somewhat typical of voles. Vole populations do tend to cycle quite a bit," Baldwin said.



George Miyao, UC Cooperative Extension farm advisor, above right, places a trap in a gopher hole in a field that will be planted in processing tomatoes with subsurface drip in Woodland. An open gopher hole, above left, will be baited in the tomatoe field to control damaging gophers.

Baldwin has a four step process for dealing with rodents.

- Identify the pest species that is causing damage.
- Assess the different options for managing a particular species.
- Develop a management plan to deal with the pest and implement that management plan.
- Monitor after implementing the plan to determine how effective it was at controlling that species.

Step four is important so that a grower knows if further action is needed, Baldwin said.

“With buried drip, obviously it can be an even bigger concern because gophers can do quite a bit of damage to buried drip, and obviously when they do that, it’s very difficult and expensive to replace or repair that damage,” Baldwin said.

Blake Harlan, owner of Harlan and Dumars Inc. in Woodland, grows processing tomatoes under subsurface drip, and he has encountered problems with rodents in his subsurface drip.

“I wouldn’t say it’s a growing problem, but it can be depending on the field,” Harlan said. “Sandy soil always tends to have more gophers in it than the heavier types, but obviously anything that’s had alfalfa in it more recently tends to have more gophers in it than others.”

Baldwin suggests taking what he calls a zero tolerance policy for pocket gophers because even just a few can cause a lot of damage, particularly when using subsurface drip irrigation.

“What I recommend is, if you’re starting with a field that is relatively clean of gophers, just continue to monitor over time. Whenever you see a gopher mound pop up, that’s really the best time to go out there and get rid of them,” Baldwin said. “If you do that in a continuous manner like that, you never let those populations get established, and you are never going to have a big problem with them.”

Harlan agreed getting the rodents under control before installing subsurface drip irrigation is the best move. Baiting a fallow field after rain or a tillage operation is ideal, he added.

Deep ripping a field destroys the gopher burrow systems, and it will also help reduce populations.

“That will get rid of the existent gopher tunnels in that

area, which will greatly slow down re-invasion rates,” Baldwin said.

Baldwin also recommends trapping or fumigating with aluminum phosphide in a fallow field.

“Fumigation works really well,” Baldwin said, adding hand baiting has had mixed results.

“Our more successful efforts have been when we’ve baited after ground work and you can see where the fresh burrows are,” Harlan said.

Weed control is also effective for controlling gophers, Baldwin said.

Harlan agreed weed control is an important cultural practice for controlling gophers.

“It’s kind of one of my observations that if you have a field in subsurface drip, that a lot of times your gopher problems will be in the same area that you’ve got weed problems,” he said, adding he’s found gophers tend to feed on the morningglory roots.

“They’ll kind of congregate under the morningglory, and that compounds the problem, because you’ll have the gophers there, and the morningglory will kind of shade the ground where it’s a problem, and then make it difficult to detect leaks,” Harlan said.

Nutsedge, clover and alfalfa are popular foods for gophers, Baldwin said.

“The bigger, fleshier the root, the more that gophers tend to like them because it’s a greater food source for them,” he said.

Fencing around the field may be another option for deterring gophers, Baldwin said, but it’s costly and labor intensive.

“I’m not entirely convinced it wouldn’t work, but there hasn’t been much research done on it to show how effective that would be, so I really don’t have a big opinion on it at this particular point and time, although I think it’s something worth looking at in the future,” he said.

Miyao added: “Overall, the buried drip irrigation systems are efficient and more easily managed to provide uniform water for the crop. However, leaks and breaks in the system, when they occur frequently or extensively, are problematic and expensive.”

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