

Preserving owl, bat habitat good for farming

Billions of dollars in pesticides saved by natural predators

by RONDA PAYNE

DELTA – It can be hard to tell friend from foe when it comes to insects and other potential crop pests, but helpers like bats and owls know what to go after to help reduce crop losses and pesticide use.

A variety of methods can help farmers encourage these natural predators, first off by giving them homes.

Cascade Box Group of Delta builds owl boxes for Sofi Hindmarch, project biologist with the Fraser Valley Conservancy, who has been providing owls with boxes for the last decade.

"They are a bunch of retired guys that get together and build excellent boxes," she says. "Without their efforts, this project would not be possible."

Once installed, each box has room for a nesting pair of barn owls and their chicks. A



Biologist Sofi Hindmarch displays one of the owl boxes made by Cascade Box Group in Delta. The design is excellent for owlets. The hole is up high so babies need a bit of dexterity before they can reach it.

be possible?
 Once installed, each box has room for a nesting pair of barn owls and their chicks. A family of owls can eat more than 1,000 rodents a year, including voles. Voles don't generally go for crops when they have preferred food sources like grasses, but when those die off, the tender roots of young blueberries and cranberries are prime fodder. Most of the damage occurs from November onwards. Hindmarch has spent two

Biologist Sofi Hindmarch displays one of the owl boxes made by Cascade Box Group in Delta. The design is excellent for owlets. The hole is up high so babies need a bit of dexterity before they can reach it, and the porch gives them the ability to be outside, flap their wings and not fall when they first emerge from the nest. RONDA PAYNE PHOTO

years working with the BC Blueberry Commission to address vole damage. More recently, the BC Cranberry Marketing Commission has become involved.

Hindmarch currently focuses on installing owl boxes in blueberry fields and hopes to connect with more cranberry growers, too. Many

are looking for alternatives to chemical rodenticides. "They don't want to use rodenticides," she explains.

"They just don't know how effective it is in [terms of] how much gets eaten by voles or deer mice."

One message Hindmarch wants growers to hear is that

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Better bait

Sofi Hindmarch is committed to helping berry farmers eliminate voles from their fields. Recently, she began collaborating with Goodnature, an innovative rodent trap company in New Zealand. Together with Elana Varner, a doctoral candidate in the biological sciences department at SFU, Hindmarch is trying to find an attractant specific to voles for use in the Goodnature trap.

"We're working on apples, oats and peanut butter," says Hindmarch. "But if you put something fresh in there, it would mould pretty quickly."

The rodent attractant is in a mesh pouch that can be sniffed out, but not accessed. It's formulated to last significantly longer than fresh-food attractants. Hindmarch hopes that Goodnature and Varner's work can be combined to create a combination

pheromone and food attractant voles can't resist.

Varner is also helping to test trap setups and attractants from both Goodnature and her own lab for efficacy.

Trapping trials will start in three blueberry fields and one cranberry bog once the better bait becomes available.

Hindmarch expects the traps to attract a following, and not just among voles.

"Farmers are pretty keen on alternatives," she says. "They like that [this trap] is an instant kill and it resets itself."

The traps won't harm raptors and other vole predators, doesn't need to be cleaned and uses a carbon dioxide-powered bolt to kill rodents. To secure proof of the traps' effectiveness, Hindmarch will put a camera on the first devices so farmers can see for themselves.

Sofi Hindmarch is working with a New Zealand-based company that has created a rodent trap that won't harm raptors.

RONDA PAYNE PHOTO



BATS

deer mice don't damage berry crops like voles. Outreach around that fact is backed by the Investment Agriculture Foundation of BC, which will fund presentations at BC Blueberry Council meetings educating growers on how to identify and minimize vole damage, best management practices for rodenticide use and alternatives that provide effective and humane vole control.

Billions in benefits
Other crop pests include insects which are a food source for bats. According to Danielle Dagenais, regional coordinator for the South Coast with the BC Community Bat Program, bats are the primary animals consuming arthropods at night. Studies from the US indicate that bats provide billions of dollars in benefits to farmers.

"Farms with bat colonies and that have bats feeding over their crops have reported that they do not need to use pesticides, or the level of pesticide application is reduced," says Dagenais. The South Coast Bat Conservation Society is awaiting data from a similar study in the Lower Mainland.

Dagenais says farms can become a more desirable habitat for bats by providing roosting and foraging habitat.

"Barns, garages, equipment shelters can provide day-roosting habitat for bats," she says. "Artificial day roosts, bat boxes, can also be built to encourage bats to become summer residents."

The South Coast Bat Conservation Society sells bat boxes, but natural alternatives include trees, which provide day and night roosting. Bats are also attracted to fields or hedgerows near water. They make good neighbours, roosting quietly and without causing damage to property or impacts to livestock.

Rabies not an issue

"There have been no accounts in BC of livestock transmitting rabies from bats," says Dagenais. "Bats can share barn space with farm animals and help farmers by feeding on insects over their crops at night."

Dagenais recommends that farmers who purchase bat boxes from other sources contact the BC Community Bat Program to ensure compatibility with local bats and access installation assistance.