



**RESEARCH** By Matt Hawes

# Natural solutions

## Controlling fly populations can help reduce stress on cows and improve milk production

**T**urning to natural methods to help control flies around your cattle and dairy barn could help you solve this pesky problem and reduce the stress they cause for your cows, improving milk production.

Flies are more than a mere nuisance. They can also transmit viruses and bacteria like pink eye. Keeping them under control is a constant battle. Using essential oils, other insects, or a combination of methods may provide effective fly control.

University of Guelph researcher Simon Lachance, Organic Dairy Research Centre, Alfred Campus, is studying what effect natural, physical, biological and mechanical factors have on reducing flies.

“We’re trying to develop methods to control flies that would be acceptable in dairy production,” says Lachance. “What we’re aiming for is a more natural solution.”

Lachance and his research team are investigating four primary types of flies—house and biting stable flies, commonly found inside barns, and horn and face flies, usually found in the pasture. Researchers are trying to figure out how these flies react to different control techniques. Determining what method to use for which type of fly is critical for success, says Lachance.

The researchers have been using essential oils from various aromatic plants to con-

trol the flies. The oils are mixed into a cow’s bedding and directly applied to its skin or on area surfaces.

In the last two years, Lachance and his team have tested 18 different essential oils, and found many were effective. Now, they’re focusing on six specific oils: lemongrass, geranium, peppermint, basil, pine and lavender.

The oils vary in their effectiveness depending on whether they’re used as a toxic solution or as a repellent. For instance, lemongrass, peppermint and pine are toxic to flies, while basil, geranium and lavender oils repel them.

“We’re really trying to pinpoint which essential oils are the best. We hope to recommend one or a mixture of essential oils,” says Lachance, who worked alongside graduate student Pradeep Nampoothiry throughout the study.

Lachance and his team are also investigating bio-control methods by using other insects to control the flies. He wants to reduce fly populations by releasing tiny parasitic wasps called *Spalangia cameroni* in the barn. The wasps lay their eggs in the flies’ pupae, which kills the young flies before they reach adulthood. Instead of more adult flies, new wasps are born. Researchers feel this approach is effective and adaptable to local environments.

Lachance believes further research is needed to draw concrete solutions producers can implement. He and his research team will examine different approaches for controlling flies outside the barn over the next few months. They plan to complete their study at the end of summer.

In the meantime, Lachance advises farmers to keep their barns well ventilated and clean through manure removal, since both conditions inhibit flies. Proper sanitation is key to keeping flies at bay, regardless of control method used, says Lachance. *mh*



*Researchers have found using essential oils from various aromatic plants helps keep flies at bay.*

*Matt Hawes is a student writer with the University of Guelph’s office of research. This research is funded by the Ontario Ministry of Agriculture, Food and Rural Affairs, Organic Meadow Co-operative, Dairy Farmers of Ontario and Harmony Organic.*