What’s the best method to reduce calf disbudding pain?

By Kathryn Kroeze

University of Guelph researchers have found that a particular veterinary sedative may reduce indicators of pain during calf disbudding.

Dr. Charlotte Winder, professor in the Department of Population Medicine, and recent PhD graduate Cassandra Reedman have found that xylazine reduces behavioural indicators of pain in calves when used along with local anesthetic and non-steroidal anti-inflammatory (NSAID) pain-relievers.

“Essentially all dairy calves in North America are born with horn buds,” says Reedman. “Horns can pose an injury risk to the animals and the people working with the calves, which is why disbudding is a crucial step in the management of dairy cattle.”

Disbudding usually happens before six weeks of age as the horn-producing cells begin to grow. There are two common methods of disbudding: caustic paste (chemical burn) or cautery iron (thermal burn). These work by destroying the horn buds, which prevents any future horn growth.

In 2020, researchers carried out the study with two groups of calves at the Ontario Dairy Research Centre in Elora, Ont. Reedman sedated one group of calves with xylazine and left the other group untreated. Both groups received lidocaine nerve blocks and the NSAID meloxicam. Disbudding was done with a cautery iron for both groups.

After the procedure, the sedated calves showed more play behaviours and were less sensitive than their non-sedated counterparts. However, some results examining milk drinking behaviour suggested that the sedative had a hangover effect lasting up to 48 hours following the procedure.

More research is needed to determine if the positive benefits of sedation outweigh the possible negative consequences in feeding behaviour. Discretion over xylazine use should be left up to the farmer in consultation with their veterinary practitioner.

“Since disbudding is essential to safety in dairy cattle management, our research has pointed out a need for further work to be done to optimize calf welfare when disbudding with a cautery iron,” says Reedman.

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