

GUELPH RESEARCHER EVALUATES ANIMAL BEHAVIOUR AND PREFERENCES TO GAUGE WELFARE

Figuring out what animals want

By Mihiri De Silva

Product yield is a common on-farm measure of animal health and happiness. But, for one researcher, that measure just doesn't make the grade.

With over 40 years dedicated to animal welfare research, Prof. Ian Duncan of the Department of Animal Nutrition Science at the University of Guelph, is an expert in the field. His current work rejects using product yield to measure animal health. Instead, he evaluates well-being by asking animals what they want, and observing behavioural cues for their answer.

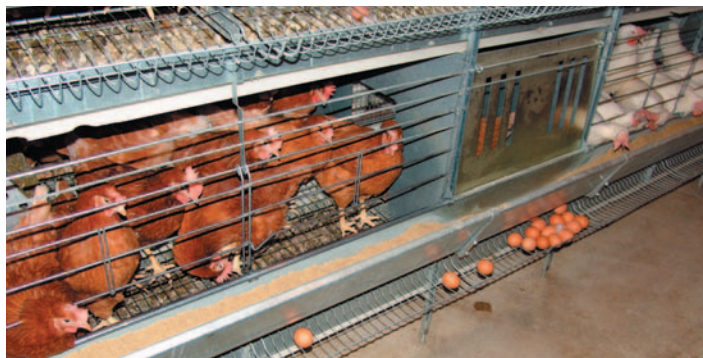
"I develop methods to ask animals how they feel," says Duncan. "By looking at how hard they are willing to work to obtain or avoid certain stimuli, we get an idea of their preferences."

Duncan uses preference tests in the poultry, cattle, swine and aquaculture industries to ask animals questions. These assessments involve presenting animals with options to observe their choice and response. This way, farmed animals can speak for themselves, instead of depending on yield or stress indicators to convey feelings.

For example, Duncan's approach has uncovered rearing options sure to improve housing conditions in the poultry industry which is his area of specialty. Caged hens provided with a nesting site opted to carry out nest-building behaviour one hour before laying eggs. In comparison, hens without a nesting site showed elevated signs of restlessness and distress during the same period. Duncan also found the hens exerted



Prof. Ian Duncan with research assistant



Furnished cages



the same amount of force to get to a secluded nesting place as they did to gain access to food when they were extremely hungry, emphasizing the importance of this comfort behaviour.

His findings prompted the poultry industry to take action. In parts of Europe, cages now come equipped with nests. Although providing furnished cages has no proven benefit on egg quality or quantity,

it obviously makes for more content, and consequently healthier, hens.

In addition to tackling welfare issues in well-established livestock industries, Duncan is evaluating preferences in the aquaculture sector. He hopes to separate reflexive from stress-related responses to negative stimuli, to illustrate the ability of fish to experience fear, stress and frustration. Once confirmed, doubts about a fish's capacity to feel can be put to rest, and their welfare appropriately protected on fish farms, says Duncan. He has shown that if rainbow trout are given a warning that they are going to be frightened, they calmly swim to a safe place and avoid being frightened

Once methodologies for preference tests and behaviour evaluation are fine tuned, Duncan hopes to investigate pleasure among farm animals, taking animal welfare to a whole new level.

Duncan has published more than 150 scientific papers relating to animal behaviour and well being. He currently holds the oldest North American university chair in animal

welfare. Duncan is hailed as one of the first researchers to bring scientific perspective to animal welfare studies.

Duncan's research is funded by Natural Sciences and Engineering Research Council. i