anne lee

Study highlights lameness factors

arolina Diaz-Lira – looking at lameness.

A year-long study of 14 North Island dairy farms has found that walking cows up to distances of 3km/day did not increase the incidence of lameness, but stocking rate did.

Massey University Veterinary, Animal and Biomedical Sciences PhD student Carolina Diaz-Lira presented her findings at the Society of Animal Production conference held at Lincoln University in June. The paper was co-authored by Dr Jean Margerison and Nicolas Lopez-Villalobos, both also of Massey University, as well as Dr Jim Gibbs of Lincoln University.

Diaz-Lira collected data from July 2007 to July 2008 on farms in Hawkes Bay, Waikato, Bay of Plenty and Manawatu. All the farms regularly used supplements such as wheat or barley grain or potatoes with levels offered ranging from 0-2.5kg dry matter (DM)/cow/day, classified as low; 2.6-4kg DM/cow/day, classified as moderate supplementation; or 4.1-9kg DM/cow/day, classified as high.

Locomotion

Locomotion scores were noted monthly for each herd as was the type of lameness observed, whether it was hind or forefeet that were affected, herd productivity data, nutritional information and mean cow liveweight (LWT). Cows were also classified according to breed.

Diaz-Lira found there was a breed effect, with Holstein Friesian cows recording a significantly higher incidence of clinical lameness than Holstein Friesians crossed with Jerseys, who in turn had higher lameness incidence than pure Jersey animals.

The Holstein Friesian animals were 7.09 times more likely to become lame than Jersey cows. Most lameness, 52 percent, was due to sole bruising, with 22 percent classified as whiteline disease and 13 percent due to footrot. Overall, 84 percent of lameness was found in the hind foot.

Higher rates

She found that cows stocked at rates of more than 1750kg LWT/ha had significantly higher levels of clinical lameness and that the incidence of lameness was higher in winter and spring compared with autumn and that, in summer, the rate was significantly lower.

The first 110 days after calving had the highest incidence of lameness. During this period cows were 1.68 times more likely to be lame than cows during mid-lactation.

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Cows producing high milk yields of 21-31 litres/cow/day also had significantly more lameness than moderate-yielding animals of 14-21 litres/cow/day. Cows producing low yields of up to14 litres/day showed significantly lower levels of lameness.

Cows offered moderate and higher levels of pasture were 2.06 and 2.21 times more likely to be lame than cows with low pasture diets. But cows offered high levels of supplements had significantly more lameness than cows offered moderate levels of supplementary feeds.

There was no significant difference between moderate and low levels of supplementary feed.

Diaz said the results showed there was likely to be an interaction between different factors and work now aimed to determine the interactions, and their importance.

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