

Tuesday 18 August 2015

Concurrent Session 3.3

C: Novel approaches to chemical and non-chemical control (endo and ecto-parasites)

Ref: O075/0375

**Gastrointestinal nematode infection of first grazing season dairy heifers: parasitological, clinical and grazing management indicators at individual and/or group levels for explaining daily weight gain**

Aurélie Merlin<sup>1,2</sup>, Alain Chauvin<sup>1,2</sup>, Aurélien Madouasse<sup>1,2</sup>, Sébastien Froger<sup>1</sup>, Nathalie Bareille<sup>1,2</sup>, Christophe Chartier<sup>1,2</sup>

<sup>1</sup>LUNAM Université, Oniris, Nantes-Atlantic College of Veterinary Medicine and Food sciences and Engineering, Nantes, France, <sup>2</sup>UMR INRA BioEpAR, Nantes, France

Gastrointestinal nematode (GIN) infection is of concern for first grazing season (FGS) cattle and may be responsible for clinical signs or growth retardation. Intensity of infection is depending on grazing management factors but also on individual response. The objective of our study was to explain the variability of daily weight gain (DWG) due to GIN infection for 291 non treated heifers from 12 independent groups using parasitological, clinical and grazing management indicators at individual and/or group levels. Animals were followed up during their FGS at three periods (2-3 months after turn-out, 1-2 months after the first sampling, at housing) and were regularly weighed. At individual level, the parasitological indicators were faecal eggs count (FEC), pepsinogen value (PEP), anti *O. ostertagi* antibody level (ELISA) and the clinical indicators were the diarrhoea score (DS) and the breech soiling score (BSS). At group level, a combined indicator based on grazing management practices-GMP- (supplementation, month of turn-out and grazing season time) was used to determine the level of GIN exposure in three categories (low/medium/high). Over the FGS, FEC decreased from 2-3 months after turn-out, PEP and ELISA increased gradually until housing while clinical indicators did not show any seasonal variation. In bivariate analysis, FEC was negatively correlated with ELISA and PEP, but not with clinical indicators or DWG. PEP, ELISA as well as clinical indicators were positively correlated to each other and negatively with DWG. In the multivariate analysis, DWG was significantly explained by two individual indicators (ELISA, DS) and by the group indicator (GMP). DWG losses due to GIN exposure (ELISA) were estimated up to 39 kg per heifer for the overall grazing season. For groups with low GIN exposure level the difference between animals with low (<0.7 kg/day) and high (> 0.7 kg/day) DWG was explained by clinical indicator (DS) whereas for groups with medium and high GIN exposure levels the difference was explained by parasitological indicator (ELISA). This study highlighting the differences of the responses among heifers confirmed the possibility of targeting treatment on animals with the lowest DWG. Moreover, the association with a group indicator based on GMP could allow a better discrimination of animals to be treated.

ABSTRACT  
BOOK



LIVERPOOL

25<sup>th</sup> International Conference of the World Association  
for the Advancement of Veterinary Parasitology.

16-20 August, 2015

[www.waavp2015.com](http://www.waavp2015.com)



PLATINUM  
SPONSOR



GOLD  
SPONSORS

