S02 O-06 | Anastasio Argüello-Henríquez | Spain | tacho@ulpgc.es

Goat's milk flow during milking and its relationship with somatic cell count and milk yield and quality: Implications for subclinical mastitis

Mario Salomone Caballero[1], Anastasio Argüello Henríquez[1], María del Rosario Fresno Baquero[2], Sergio Álvarez Ríos[2], Alexandr Torres Krupij[2].

1: Animal Production and Biotechnology Group, Institute of Animal Health and Food Security, Universidad de Las Palmas de Gran Canaria, Canary Islands, Spain.

2: Canary Agronomic Science Institute, La Laguna, Tenerife, Spain.

The aim of this study was to study the possible correlation between milk flow emission variables and biochemical parameters of the milk with somatic cell count, to determine if it is possible to use it as a diagnosis of subclinical mastitis, and so help to improve the Canarian economy and livestock sector, preventing the EU to apply somatic cell count as a value of quality on goat milk. Between March 2021 and November 2021, 44 dairy goats (multiparous) belonging to the different local breeds: Majorera (n=10), Tinerfeña (n=16) and Palmera (n=18) were enrolled in the study. Goats were milked once a day, in a double 12-stall parallel milking parlour equipped with recording jars and a low-line milk pipeline (42 kPa, 90 pulses/min, and 60/40 ratio. The milking routine included machine milking and stripping milking, done by the operator to remove the remaining milk from the udder before cluster removal; and teat dipping in an iodine solution. Kinetic milk samples were taken along the lactation using the LactoCorder® (WMB AG) A total of 352 samples were measured. For each sample was measured: total milk yield (MGG), total milking time (tMGG), maximal milk flow rate (HMG), amount of milk within the first minute (1MG), strip yield (MNG), time to reach 250 g (tS500), average milk flow (AvMF) and bimodality (bmod). The milk flow emission curve was determined by the following parameters: Time ascending (tAN), plateau and decreasing (tPL). Quality parameters were measured including milk yield (MY), fat (F), protein (P), lactose (L), total solids (TS), somatic cell count (SCC, DCC-DeLaval), and bacteriology (BC). There are correlations (Spearman) with significance ($p<0.05$), but Rho values between SCC and the other variables were very low. In conclusion, this study failed to identify important correlations between SCC and flow or milk quality parameters in Majorera, Tinerfeña or Palmera dairy goats. Therefore, future studies are essential to know how other parameters, like udder morphology, can affect the SCC and BC.