Abstract 22511
Session 28
Poster 3

Effect of breed, housing, milking system, farm dimension and season on milk production and quality

Carla Lazzaroni and Davide Biagini
Department of Agricultural, Forest and Food Science
University of Torino, Grugliasco, Italy

AIM

To point out differences in amount and quality of milk production in the North-West of Italy (Saluzzo's plain).

INTRODUCTION

Milk amount and quality are the parameters taken into account for the payment, but both are affected by several factors that can impact heavily on the profitability of the production. Knowledge on the effects of these factors may allow farmers to keep them under control and thereby reduce the negative effects or exploit the positive ones, always taking into account the cost-benefit relation.

MATERIALS AND METHODS

- **farms**: 200 dairy farms
- **studied effects**: breed (Holstein, Piemontese, crossbred Piemontese x Friesan, mixed), housing systems (tied stall or loose system), milking systems (hand or machine), farm dimension (small: < 50 cows; medium: 50-100 cows; large: > 100 cows), production season and month (over the whole year)
- **analysed parameters**: milk production (t/head/year), content of fat (%), crude protein (%), somatic cells count (n*1000), and bacterial count (CFU)
- **data analysis**: GLM ANOVA procedure

RESULTS

Differences in productive parameters were found for all studied effects

- **breed**: higher milk production in Holstein, followed by mixed breed, crossbred Piemontese x Holstein, and Piemontese cows (6.0 *vs.* 3.5 *vs.* 2.7 *vs.* 1.4 t/head/year, $P < 0.000$)
- **housing systems**: higher milk production in loose system (7.5 *vs.* 3.1 t/head/year, $P < 0.000$; but lower quality: 3.7 *vs.* 3.8 % fat, $P < 0.001$, and 3.2 *vs.* 3.3 % crude protein, $P < 0.05$)
- **milking systems**: higher milk production with milking machine (3.9 *vs.* 1.8 t/head/year, $P < 0.000$)
- **farm dimension**: higher milk production in larger farms (4.5 t/head/year, $P < 0.000$; with higher fat 3.6 %, $P < 0.000$; but also higher somatic cells count 577.0 n*1000, $P < 0.05$)
- **production season and month**: higher quality in autumn than in summer (3.9 *vs.* 3.7 % fat, $P < 0.000$; 3.4 *vs.* 3.2 % crude protein, $P < 0.000$; but not for somatic cells and bacterial count)