

Effect of production area, season and farm dimension on milk production and quality



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AIM

To point out differences in amount and quality of milk production in two areas of North-West of Italy characterised by different land morphology.

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. This is particularly important in areas where there is the higher milk production, as in the Po Valley where more than 75% of Italian milk is produced.

MATERIALS AND METHODS

- **farms:** 10 located in the irrigated plain, and 14 located on the not irrigated hill
- **studied effects:** production area, production season and month (over the whole year), farm dimension (small: < 50 cows; medium: 50-100 cows; large: > 100 cows), and farm management
- **analysed parameters:** milk production (kg/d/head), fat (%), crude protein (%), lactose (%), and somatic cells count (n*1000)
- **data analysis:** GLM ANOVA procedure

RESULTS

Differences in productive parameters were found for all studied effects

- **production area:** higher milk production and quality in farms on the plain (30.4 vs. 24.9 kg/d/head, $P < 0.000$; 3.79 vs. 3.68 % fat, $P < 0.01$; 3.35 vs. 3.31 % crude protein, $P < 0.05$; 4.86 vs. 4.76 % lactose, $P < 0.000$; 230.75 vs. 318.42 n*1000 somatic cells count, $P < 0.000$)
- **production season and month:** higher quality in winter than in summer (3.82 vs. 3.67 % fat, $P < 0.05$; 3.39 vs. 3.26 % crude protein, $P < 0.000$; 246.02 vs. 342.06 n*1000 somatic cells count, $P < 0.05$)
- **farm dimension:** higher milk production and quality, except for crude protein, in larger farms (30.82 kg/d/head, $P < 0.000$; 4.85 % lactose, $P < 0.000$; 253.47 n*1000 somatic cells count, $P < 0.001$)