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Milk Production on Small-Scale Farms in the South of Rio Grande Do Sul, Brazil

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Abstract

Market liberalisation and fierce competition within the dairy sector provoked a continued decline of small-scale dairy farms in Brazil since the 1990s. However, small-scale family enterprises still prevail in southern Brazil. Therefore we studied factors influencing choice of milk marketing channel, milk production, and contribution of milk production to farm income in 200 small-scale dairy farms in the south of Rio Grande do Sul state. A structured questionnaire was administered to the randomly selected farms in summer 2010.

Factors determining choice of marketing channel were identified using logistic regression analysis. While area (ha) devoted to subsistence crops ($p < 0.001$), total pasture area (ha/cow; $p < 0.01$) and investments (Reais) in dairy production during the past 10 years ($p < 0.05$) were decisive variables on farms delivering milk to producer cooperatives, area of subsistence crops ($p < 0.001$) and cumulative years of schooling of family members ($p < 0.05$) were influential on farms selling milk to private companies. Multiple linear regression analysis showed that only the cow numbers influenced daily milk output on cooperative farms ($p < 0.001$; $r^2=0.68$), while cow numbers ($p < 0.001$), daily amount of concentrates offered (kg/cow; $p = 0.01$) and summer pasture area (ha/cow; $p < 0.05$) determined daily milk output ($r^2=0.83$) on farms selling milk to companies. Daily milk production of the individual cow depended on fodder maize area (ha/cow; $p = 0.001$, $r^2=0.28$) on cooperative farms, and on summer pasture area (ha/cow; $p = 0.001$) and daily amount of concentrates offered (kg/cow; $p < 0.01$) on farms selling milk to companies ($r^2=0.55$). The contribution of the dairy unit to overall farm income (%) was positively related to winter pasture area (ha/cow; $p < 0.01$) and negatively related to hiring of labour ($p < 0.05$) on cooperative farms ($r^2=0.66$), while on farms selling milk to companies only the summer pasture area (ha/cow) had an influence ($p < 0.05$, $r^2=0.55$) on this variable.

We conclude that irrespective of the milk marketing channel the area available for fodder cultivation is key for milk production on small-scale dairy farms in southern Brazil, while concentrate feeding plays only a secondary role even for ‘business-oriented’ farms. This must be accounted for when exploring options for increasing milk production on such farms.

Keywords: Companies, cooperatives, dairy cows, farm income, pasture area