Milk Production by Small-scale Farmers in the South of Rio Grande do Sul, Brasil

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Abstract

In Brazil, a total of 807,587 farms are considered small-scale (family farm) establishments, where land property is less than 100 ha, work is supervised by the producer, and family labour prevails over hired labour. Milk production is a socio-economically relevant activity for many family farms and plays an important role for the regional development.

The performance of small-scale dairy farms differing in cattle management and milk marketing strategies was studied in the cities Cangucu (31°23'S 52°40'W), Pelotas (31°46'S 52°21'W), and Sao Lourenco do Sul (31°22'S 51°59'W) in Rio Grande do Sul state. A baseline questionnaire was administered to 200 farm households in summer 2010. Using categorical principal component analysis (CATPCA) and two-step cluster analysis (SPSS 19.0), baseline data on farm assets and activities were used to classify small-scale farmers into three groups: Group I milk producers; Group II cash crop and milk producers; Group III cash crop producers with surplus milk marketing.

The size of the cattle herd (heads) was largest in Group I, averaging 114 (SD 71.9, n=7), followed by Group II (31 SD 13.4, n=74), and Group III (12 SD 7.5, n=118). Milk production of cows in lactation at the time of interview (l/day) averaged 11 SD 10.3 in Group I, 7 SD 4.1 in Group II and 5 SD 4.3 in Group III. Group I farmers had more pasture land (ha) available for their animals, namely 51 SD 49.4, than Groups II and III (9 SD 8.9; 5 SD 8.1). The contribution of livestock husbandry to family income (%) averaged 71 SD 33.8 in Group I, 59 SD 25.1 in Group II and 16 SD 14.1 in Group III. A significant correlation was observed in Groups I, II and III between cattle herd size and pasture area (r=0.88; r=0.51; r=0.58). In Group III the income contribution of livestock was correlated with cattle herd size, pasture area and milk production (r=0.41; r=0.42; r=0.35). Overall, wide differences existed for the various variables between Groups I and III. Whether these affect the resource use efficiency and profitability of a farm's dairy unit will be determined by further bio-economic analyses.

Keywords: Cluster analysis, farm structure, farmer classification

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