

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## DAIRY FARMERS IN HORIZONTAL ARRANGEMENTS AND THE TIPOLOGY OF PRODUCTION SYSTEMS IN PARANÁ STATE, BRAZIL

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Dairy producers who participate in horizontal arrangements, cooperatives and associations, among others, may have broader access to information and tend to benefit from the economies that are scope and scale based. In the medium and long term, they tend to have systems with higher production structure and higher productivity. In this work, we sought to analyze structural and productive characteristics of milk production systems in Paraná State, Brazil considering the participation of dairy farmers in horizontal arrangements. A total of 203 dairy production systems (DPS) were analyzed in three mesoregions of the State of Paraná: Central North, Midwest, and West. The DPS were separated into two groups: group 1 (G1), consisting of members who participate in horizontal arrangements, formed by 150 DPS, and group 2 (G2), consisting of members who do not participate in horizontal arrangements, formed by 53 DPS. Groups 1 and 2 were compared to structural and productive variables according to descriptive statistics analysis and Tukey's mean test. It was concluded that G1 presented higher values ( $P < 0.05$ ) than G2 for the following farm area (ha), ( $G1 = 50.53 \pm 86.15$  and  $G2 = 14.34 \pm 10.17$ ), area used to milk production ( $G1 = 25.94 \pm 35.32$  and  $G2 = 10.03 \pm 7.033$ ), number of lactating cows (head) ( $G1 = 54.09 \pm 81.10$  and  $G2 = 20.49 \pm 28$ ) and annual average production (liters of milk/day) ( $G1 = 1,381.78 \pm 2,942.86$  and  $G2 = 355.28 \pm 436.90$ ). For some variables, there were no found differences ( $P > 0.05$ ) productivity per animal (liters of milk/head), ( $G1 = 18.84 \pm 7.17$  and  $G2 = 15.87 \pm 6.60$ ) and productivity by area (liters of milk/ha) ( $G1 = 45.75 \pm 34.79$  and  $G2 = 39.99 \pm 30.91$ ). It is concluded that producers who participate in horizontal arrangements (G1) have structural characteristics superior to those that do not participate in those arrangements (G2). For productive characteristics, no differences were identified between the groups (G1 and G2).

**Keywords:** cooperatives, family agriculture, milk production, producers association