

Effect of Calving Season on the Economic and Production Efficiency of Dairy Production Breeds

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Abstract : The objective of this study was to evaluate the effects of calving season on the production and economic efficiency of dairy farms in Egypt. Our study was performed at dairy production farms in the Alexandria, Behera, and Kafr El-Sheikh provinces of Egypt from summer 2010 to winter 2013. The randomly selected dairy farms had herds consisting of Baladi, Holstein-Friesian, or cross-bred (Baladi × Holstein-Friesian) cows. The data were collected from production records and responses to a structured questionnaire. The average total return differed significantly ($P < 0.05$) between the different cattle breeds and calving seasons. The average total return was highest for the Holstein-Friesian cows that calved in the winter (29106.42 EGP/cow/year), and it was lowest for Baladi cows that calved in the summer (12489.79 EGP/cow/year). Differences in total returns between the cows that calved in the winter or summer or between the foreign and native breeds, as well as variations in calf prices, might have contributed to the differences in milk yield. The average net profit per cow differed significantly ($P < 0.05$) between the cattle breeds and calving seasons. The average net profit values for the Baladi cows that calved in the winter or summer were 2413 and 2994.96 EGP/cow/year, respectively, and those for the Holstein-Friesian cows were 10744.17 and 7860.56 EGP/cow/year, respectively, whereas those for the cross-bred cows were 10174.86 and 7571.33 EGP/cow/year, respectively. The variations in net profit might have resulted from variation in the availability or price of feed materials, milk prices, or sales volumes. Our results show that the breed and calving season of dairy cows significantly affected the economic efficiency of dairy farms in Egypt. The cows that calved in the winter produced more milk than those that calved in the summer, which may have been the result of seasonal influences, such as temperature, humidity, management practices, and the type of feed or green fodder available.

Keywords : calving season, economic, production, efficiency, dairy

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