Effects on milk supply of different systems of livestock feeding

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Introduction

Determining the competitive position of dairy farms depends on several technological, economic and institutional variables. Among them, those related to animal feeding, the main item of dairy farm costs, are remarkable. The particularity of livestock feed is the possibility of either being purchased in the market or self-produced on the farm by taking advantage of the provision of a specific factor as land.

This study focuses on the case of the European Union, where the process of trade liberalization and abolition of quotas will be accomplished in 2015. In this new institutional scenario, the competitive position of farms and its relation to livestock feed will be crucial to assess the effects on production, trade and welfare.

Objective

In this context, the aim of our study is to analyze milk supply and the competitiveness of dairy farms. To that end, dairy farms are distinguished based on different models of animal feeding and land intensification, with greater reliance on market purchases or self-production of livestock feed. The opportunity of this study is emphasized by the current context of high variability in the prices of livestock feeding products.

Methodology

This study is based on an econometric approach to a variable cost function of dairy farms. The econometric model is based on a system of input demand equations variables on the basis of a Multiproduct Symmetric Generalized McFadden cost function.

Results

The main results on the supply of milk are presented below.

Conclusions

The study showed a flexible milk farm supply with respect to the price of milk and dependent on the evolution of feed prices. This aspect has been emphasized by the restructuring of farms, characterized by strong size increases and productivity gains based on a greater reliance on purchases of animal feed. In high variability in feed prices conditions, these effects can decisively affect the farm economic results.

The provision of grazing land plays an important role in determining the average variable costs and farm profitability. In addition, the grazing land resources enable greater exploitation of economies of scale present in the dairy sector.

To sum up, the degree of farms dependence on purchased or self-produced feed play an important role in milk supply and in competitive position of dairy farms.

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