

Economic evaluation of longevity in organic dairy cows

M. Horn · W. Knaus · L. Kirner · A. Steinwider

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Abstract Over the past few decades, the main focus in dairy cow breeding in Europe and North America has been on maximising milk yield per lactation, but more and more, dairy farmers are faced with severe declines in fitness traits and therefore reduced longevity. This is not only questionable from a sustainability perspective but also from an economic point of view. The aim of this study was to highlight the economic importance of longevity in organic dairy cattle husbandry. To this end, performance and reproductive data of 44,976 Austrian organic Simmental dairy cows were grouped according to longevity and milk yield and analysed by applying a bio-economic model.

Profit per year was calculated using full cost accounting. Two farm scenarios were modelled and assessed: limited milk quota and limited stocking rate, as well as different market situations (abolition of milk quota and varying concentrate and milk prices). Cows reached maximum annual milk yield in the 5th lactation. Overall costs declined with increasing longevity due to dropping replacement costs. Annual profit was influenced considerably by milk yield and longevity. It reached its peak in the 6th lactation. Short-lived animals needed substantially higher annual milk yields than long-lived animals to achieve equal annual profits. The market scenarios applied showed an increasing importance of longevity in situations of increasing economic pressure (+20 % of concentrate and –20 % of milk price). It has been clearly proven that extending longevity allows lower milk yield levels without decreasing profitability. Considerable lower use of concentrates and reduced dependence on off-farm inputs and market fluctuations are further benefits.

M. Horn (✉) · W. Knaus
Division of Livestock Sciences, Department of Sustainable
Agricultural Systems, University of Natural Resources and
Life Sciences,
Gregor Mendel-Strasse 33,
1180 Vienna, Austria
e-mail: marco.horn@boku.ac.at

L. Kirner
Division of Market and Food Economics,
Federal Institute of Agricultural Economics,
Marxergasse 2,
1030 Vienna, Austria

A. Steinwider
Agricultural Research and Education Centre
Raumberg-Gumpenstein, Institute of Organic
Farming and Farm Animal Biodiversity,
Trautenfels 15,
8951 Pürgg-Trautenfels, Austria

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Introduction

Dairy farming plays a key role in Austrian agriculture due to the country's high percentage of permanent grassland. Especially in alpine areas, the conversion of forage to milk and meat by ruminants is the most