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adapted to the duck sector as strong, positive relationship can be scientifically verified between the indicator and average cost.

Keywords: duck production, production parameters, EPEF, costs and income

HUNGARIAN DAIRY AND BEEF PRODUCTION SECTOR TECHNICAL EFFICIENCY COMPARING USING DEA

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The world milk production has shown a continuous rising trend in the last three decades, world milk production has increased by more than 50 percent, from 500 million tonnes in 1983 to 802 million tonnes in 2014. (FAOSTAT 2014). The biggest milk producer in the world is Asia (39%) The second largest milk producer is Europe (28%) followed by the American continent (North-, Central-, South America and the Caribbean) which represents 23% of the total milk production in the world (FAOSTAT 2014). Hungary accounts for 1880949 Tonnes of milk which is 0.84% of total Europe production (FAOSTAT 2014).

Beef is the third most widely consumed meat in the world, accounting for about 25% of meat production worldwide, after pork and poultry at 38% and 30% respectively. It is interesting to see India is the largest producer and exporter of buffalo meat in the world. The biggest Beef Meat producer in the world is the American continent (North-, Central-, South America and the Caribbean (45%) The second largest Beef Meat producer is Asia (26%) followed by the Europe which represents 15% of the total Beef Meat production in the world (FAOSTAT 2014). Hungary produces 25800 tonnes of beef meat which accounts for 0.25% of total Europe production (FAOSTAT 2014).

As noted by Bauer et al. (1998), policy makers are mainly interested in the potential impact of their decisions on firms Performance. A firm that is inefficient is wasting inputs because it does not produce the maximum attainable output, given the quantity of inputs used, and hence the possibility of reducing average costs. Irrespective of whether a developed or developing economy is under consideration, findings from the study of technical efficiency have far-reaching policy implications. Studying farm efficiency and the potential sources of inefficiency are therefore important from a practical and a policy point of view. On the one hand, farmers could use this information to improve their performance. On the other hand, policymakers could use this knowledge to identify and target public interventions to improve farm productivity and farm income (Solís et al., 2009).

This research focuses on estimating and comparing the levels of technical efficiency (TE) among dairy farms industry and beef industry in Hungary. The estimation of technical efficiency will be carried using Data Envelopment Analysis (DEA). The results produced will help us to determine which of the two industry is more profitable and effective.

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The first objective of the research is to measure dairy farms industry efficiency and beef industry efficiency in Hungary. The second objective is to compare parametric methods of efficiency measurement in practise for both the sectors.

OPPORTUNITIES OF ENERGY PRODUCTION AND -USAGE IN LARGE-SCALE WASTEWATER TREATMENT

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The economic development and increase in living standards result in an increased amount of produced wastewater and energy usage. In the developed countries, the produced wastewater is primarily treated in large-scale wastewater treatment plants. The wastewater treatment activity is such an obligation for both the settlements and agricultural and industrial plants, in which besides the proper purification effect it is important to strive for effective operation and to minimize operating costs and/or maximize revenues. In our presentation, we introduce the potential traditional and innovative energetic opportunities of the compulsory waste management activities at large-scale operational level, covering national and international examples and good practices. Besides the presentation of the different energetic opportunities and their economic characteristics, the wastewater-based biomethane production and the certain plant's energy self-sufficiency are highlighted topics as well. In the former case, it is possible to utilize the wastewater-based biomethane as fuel (and even to operate own vehicle fleet), while the latter one gives the opportunity for the internal usage of produced electricity and waste heat, which can also result in significant cost-savings. In our presentation, we describe the economic and energetic characteristics, advantages and disadvantages of these two energy utilization options.