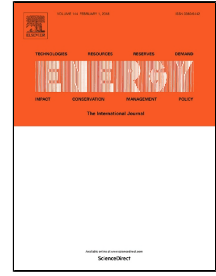


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A Comparison of Energy Use Efficiency and Economic Analysis of Wheat and Sunflower Production in Turkey: A Case Study in Thrace Region

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Abstract

Main objectives of this study were to define total amount of input usage and do the economic comparison of wheat and sunflower production in Thrace Region in Turkey and to determine the energy equivalent of these inputs. The data of this study was collected by survey method which was carried out face to face with 169 wheat and sunflower producers in Thrace Region. The total energy inputs in wheat and sunflower production were determined to be 23,231 MJ ha⁻¹ and 10,139 MJ ha⁻¹ and based on the energy output, it was noticed that energy outputs in wheat (including straw) and sunflower production were determined to be 81,720 MJ and 38,250 MJ, respectively. Energy use efficiency, energy productivity, specific energy and net energy in wheat production were calculated as 3.52, 0.19 kg MJ⁻¹, 5.16 MJ kg⁻¹ and 58,489 MJ ha⁻¹ respectively in wheat production and 3.77, 0.15 kg MJ⁻¹, 6.63 MJ kg⁻¹ and 28,111 MJ ha⁻¹ respectively in sunflower production. Benefit-cost ratios were calculated as 1.20 for wheat and 1.02 for sunflower, by dividing the gross value of production by the total cost of production per hectare in wheat and sunflower production.

Keywords: Energy efficiency, renewable energy, economic analysis, wheat, sunflower, Turkey

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