

Abstract:

Efficiency of energy use in agriculture should be increased due to reduce dependency on non-renewable energy sources. The objectives of this study were to evaluate the energy consumption of inputs and outputs used in the grape production system and to analyse economic return in Sistan. To achieve these objectives, data were collected from 152 grape garden using questionnaire in 2012. The greatest energy quota for grape production in this region was electricity, irrigation water and manure. Approximately 92.04% of the total energy inputs used in sugar beet production was direct energy, while the remaining 7.96% was indirect. In addition, the quota of renewable and non-renewable energy was 76.96% and 23.04%, respectively. Average yield was 10195 kg ha⁻¹ and energy use efficiency was 1.53. Econometric assessment indicated that total cost for grapes was 27265798 Iranian Rials per ha. Benefit-to-cost ratio was 6.57. Observed great energy productivity in grape production suggested that grape production resulted in lower production cost, more gross value of production and net profit. As a result of the grape production system is economically affordable.

Keywords: energy, energy efficiency, economic indicators, grapes



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Study of energy use efficiency and economic Indices in grape production

systems of Sistan

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