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**The Thesis Submitted for the Degree of M.Sc  
in Agroecology**

**Emergy Analysis of Mozafati and Rabi Date Production in Mirjaveh and  
Determination of Product's Market Value**

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## **Abstract**

In order to identify sustainable production systems in order to achieve food security while providing environmental services, the most economical product, this research was conducted using energy analysis and examining diverse indicators with the aim of identifying the most sustainable production system based on the years 1400. 1401. This research includes information related to the area under cultivation, date yield, the amount of product production, and environmental and economic inputs for product production, which have been collected by two documentary and survey methods. To analyze the research systems, Mozafati and Rabi dates were collected in Mirjaveh city. Inputs to the system were converted into energy equivalents. Total Energy supported the production systems of Mozafati and Rabi dates for  $3.33 \times 10^{16}$  and  $2.92 \times 10^{16}$  MJ per hectare per year, respectively. The largest share of the total inputs of both systems is related to the purchased inputs, the share of which was 69.92% for Mozafati date systems and 68.71% for Rabi dates. Based on EISP, ESI, ESI\*, ELR and ELR\* indicators, both systems cause environmental pressures related to non-use of renewable resources and extensive use of non-renewable inputs. Reducing the consumption of these inputs is necessary and inevitable for both systems. A higher EER index and a lower EMR index were more favorable for the Mozafati date system, which is economically more stable. But due to the high EYR rate for Rabi dates, it was more stable than the production of Mozafati dates. However, from the economic, commercial and ecological point of view, the Mozafati date system has a slight advantage over the Rabi production system.

**Keywords:** Transect, Energy value of money, Export, Environmental inputs, Sustainable agriculture