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Host Preference and Nutrition Efficiency of the Gypsy Moth, *Lymantria dispar* L. (Lymantriidae: Lepidoptera), on Different Poplar Clones

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Abstract: Poplar is a tree species with a considerable growth rate and the ability to produce high yield in a short period of time, and is one of the main sources of wood in Iran. Considering its importance, the identification of poplar pests could have a significant effect on improving production and forest management. The gypsy moth, *Lymantria dispar* L. (Lymantriidae: Lepidoptera), is an important pest of forest trees in Guilan province, northern Iran. Therefore, host preference of this pest on the clones of *Populus deltoids* Bartram ex Marsh., *P. euramericana* (Dode), and *P. caspica* (Bornm.) was analyzed. The host preference of the pest was analyzed by olfactometric analysis, and the multiple choice method was also utilized to determine the rate of feeding and its effect on different clones. Some nutritional indices of 4th instar larvae, such as consumption rate (CR), frass production rate (FR), approximate digestibility of food (AD), growth rate (GR), and efficiency of conversion of ingested and digested food (ECI and ECD) were measured on these clones. The data obtained demonstrate that 4th instar larvae had the greatest host preference for *P. e. triple* ($P > 0.5$). Additionally, the lowest level of larval preference was for *P. caspica* and *P. d. 72/51* clones, as the highest feeding level was observed on *P. e. triple*. The results show that the local species *P. caspica* not only has low palatability for this pest, but also due to an interruption in larval food intake, low larval biological performance.

Key Words: Host preference, gypsy moth, *Lymantria dispar*, olfactometric analysis, *Populus* spp., poplar clones

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