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Analysis of Weed Flora in Traditional Vineyards of Malayer

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Abstract

In Malayer city (West Iran) grape (*Vitis venifera L.*) is the most important horticultural crop and the area under grape cultivation is more than 10000 ha. There are many factors that affect yield and quality of grape, one of these is weed management. Vineyard weed management is critical for controlling competing weed with young vines, particularly within the first years after planting. Weed growth and propagation depends on many factors such as climate, soil physico-chemical properties, training system of vines and irrigation system. Weed identification is important to identify the proper weed control options. In order to identify weed flora and study weed species diversity in vineyards of Malayer a survey was conducted. Collected data were clustered by hierarchical complete linkage method. Based on the results weeds belonged to 22 families and 51 species. The majority of weed species were dicotyledonous (43 species). Poacea family was the dominant family with a relative frequency of 17.4 %, and was closely followed by Fabaceae family with a relative frequency of 15.2 %. Among all 51 species, field bindweed (*Convolvulus arvensis*) showed the highest frequency in weed flora, followed by wild lettuce (*Lactuca virosa*) and red-root amaranth (*Amaranthus retroflexus*). Field bindweed showed also the highest plant density (19 plants m^{-2}) while the mean density of 28 species was less than one plant per square meter. In general, annual C3 weeds were dominant. The identification of numerous weed species means that different weed control methods must be selected. The higher number of dicotyledonous weeds means that special attention for the use of chemical herbicides is necessary as many recommended herbicides for broadleaf weeds can result in serious damages to the vineyards.

Keywords: Grape, relative frequency, species diversity, weed management

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