

## **Abstract**

This study was conducted to evaluate the effects of land management (intensive, semi-intensive and extensive) and physicochemical characteristics of wheat monoculture farm soil of Birjand on biodiversity and species structure of weed communities. In this study cultivated land area, yield and production tonnage of wheat in Birjand was collected, then all agricultural activities such as land preparation, seeding rate, irrigation water, fertilizers, pesticides and chemicals, and required labor used in the various products were recorded and data regarding input and output in systems was collected using face to face questionnaire. Then, based on the intensity of agricultural activity and amount of used inputs was categorized to low-input, medium-input and high-input. A number of farms were chosen randomly from each group and used for sampling of weed communities. In this study diversity of weed communities was conducted using Shannon's diversity index, Simpson's diversity index and margalef's diversity index. Species diversity only was observed within Chenopodiaceae family. In addition to, soil sample was collected in each soil management from 0-30 cm soil depth and used for determination of physicochemical characteristics of soil. In order to evaluation of correlation among diversity of weed community vs input used, energy efficiency and physicochemical characteristics of soil software of Excel and SPSS was applied. The results of this study suggests that low-input farms have richer species diversity and type and amount of inputs and weed managements have considerable effects on weed species diversity and population density.

Keywords: physicochemical characteristics of soil, Agricultural biodiversity, Weeds, Birjand



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**The effect of crop management and soil physico chemical  
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