



Fe and Zn content of grain in wheat (*Triticum aestivum* L.) landraces

Nahid Niari Khamssi *

Assistant Professor, Faculty of Agriculture, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran.

*khamssi@gmail.com

Abstract . In This research, two Iraqi wheat landraces (Aba 99 and Alrashid) were investigated in terms of iron (Fe) and zinc (Zn) content the wheat kernels. A field experiment was carried out at the research farm of Vaset province, Iraq. Each of the cultivars were planted in thirty experimental units during the cropping season 2021-2022 under rain-fed conditions. Seven samples of the each wheat landraces were used to measure iron (Fe) and zinc (Zn) content the wheat grains. T tests based on unpaired observations were carried out using SPSS software version 22. Fe contents of the grans in the two wheat landraces were significantly different at $P<0.001$.

Keywords: Fe, kernel zinc content, rain-fed conditions, wheat.

Introduction The human population in the developing world, particularly children and women, continue to suffer from under nutrition. The poor specially, often suffer from a basic lack of protein and energy, the adverse health effects of which are frequently compounded by deficiencies in micronutrients. These components required by the human body in small amounts, are vital to development, disease prevention, and wellbeing. Regarding the importance of the grain characters, this study was aimed to evaluate Fe and Zn content of wheat grains in two Iraqi wheat landraces.

Results and Discussion Fe contents of the grans in the two wheat landraces were significantly different at $P<0.001$. Grain Fe content of Alrashid cultivar (35 mg/kg) was more than that of Aba 99 (28 mg/kg). (Table 1). The grain Zn contents of the two wheat landraces were not significantly different. Grain Zn content of Aba 99 was 19.16 mg/kg, while the Zn content in Alrashid cultivar was 19.02 mg/kg (Table 2). Iron and Zinc contents in grains also depend on the micronutrient uptake and translocation efficiency from root to grains (Velu et al. 2014).

References

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Materials and methods In This research, two Iraqi wheat landraces (Aba 99 and Alrashid) were investigated in terms of iron (Fe) and zinc (Zn) content the wheat kernels. A field experiment was carried out at the research farm of Vaset province, Iraq. Each of the cultivars were planted in thirty experimental units during the cropping season 2021-2022 under rain-fed conditions. Seven samples of the each wheat landraces were used to measure iron (Fe) and zinc (Zn) content the wheat grains (Aydinoglu, 2022). SPSS software version 22 was used for data analysis.

Table 1. T test for wheat grain Fe content

Cultivar	Mean (%)	n	SE of mean	t (df=12)	Prob
Aba 99	28	7	0.093	-67***	0.001
Alrashid	35	7	0.045		

Table 2. T test for wheat grain Zn content

Cultivar	Mean (%)	n	SE of mean	t (df=12)	Prob
Aba 99	19.16	7	0.003	1.08 ^{ns}	0.15
19.02	7	0.041	19.02		