

Nutritional Advantages of Millet (*Panicum Miliaceum L*) and Opportunities for Its Processing as Value Added Foods

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Abstract : *Panicum miliaceum L* is a plant from the genus Gramineae, In the world, millets are regarded as a significant grain, however, they are very little exploited. Millet grain is abundant in nutrients and health-beneficial phenolic compounds, making it suitable as food and feed. The plant has received considerable attention for its high content of phenolic compounds, low glycemic index, the presence of unsaturated fats and lack of gluten which are beneficial to human health, and thus, have made the plant being effective in treating celiac disease, diabetes, lowering blood lipids (cholesterol) and preventing tumors. Moreover, the plant requires little water to grow, a property that is worth considering. This study provides an overview of the nutritional and health benefits provided by millet types grown in 2 areas Iraq and Iran, aiming to compare the effect of climate on the components of millet. In this research, millet samples collected from the both Babylon (Iraqi) and Isfahan (Iranian) types were extracted and after HPTLC, the resulted pattern of the two samples were compared. As a result, the Iranian millet showed more terpenoid compounds than Iraqi millet, and therefore, Iranian millet has a higher priority than Iraqi millet in increasing the human body's immunity. On the other hand, in view of the number of essential amino acids, the Iraqi millet contains more nutritional value compared to the Iranian millet. Also, due to the higher amount of histidine in the Iranian millet, compared to the lack of gluten found from previous studies, we came to the conclusion that the addition of millet in the diet of children, more specifically those children with irritable bowel syndrome, can be considered beneficial. Therefore, as a component of dairy products, millet can be used in preparing food for children such as dry milk.

Keywords : HPTLC, phytochemicals, specialty foods, *Panicum miliaceum L*, nutrition

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