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Fermentation of Shalimar Wheat by different Probiotics, its Amino Acid Profiling before and after Fermentation

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Abstract—*Different fermented products are consumed throughout the world, as nutritive value of food products are increased after fermentation. Wheat is a staple cereal consumed worldwide, but in different places particularly in the hilly areas of India. Fermented wheat is consumed for maintaining bone health because different nutritive components are increased but there is no scientific data available for its use. The objective was to increase the nutritive value of fermented shalimar wheat by using probiotics. Probiotics were used for the fermentation of Shalimar wheat and effect of microbes on nutrition value were analysed. After that extraction, sample was used for proximate analysis, antioxidant activity by2,2-diphenyl-1-picrylhydrazyl(DPPH) and* ***fluorescence recovery after photobleaching****(FRAP) and amino acid profiling by using High-performance thin-layer chromatography (HPTLC).Based on the resultsit was found that fermentation of Shalimar wheat with Lactobacillus casei and Lactobacillus rhamnosusincreased its nutritional value. Protein content was found to increase from 9% to 16% which in turn increased essential amino acids. After fermentation some essential and non-essential amino acids are also biosynthesized .it was observed thatantioxidant activity of Shalimar wheat was also increased by fermentation in comparison with unfermented shalimar wheat.*

Conclusion: Fermentation of Shalimar wheat change the amino acid profile of the product with enhanced the antioxidant properties.

Keywords*: Shalimar wheat, HPTLC, FRAP, DPPH, Fermentation.*