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RESEARCH PAPER

Effects of nutrients and compaction levels on amino acids and protein content in wheat (*Triticum aestivum* L.) grain

INDRA RAJ SINGH* **AND** S.P. MAJUMDAR[1]
College of Agriculture, Fisheries and Forestry, Fiji National University, KORONIVIA, FIJI

Abstract : A field experiment was conducted during the winter season on loamy sand soils of Rajasthan, India to study the effect of different levels of nitrogen, potassium and compaction on total amino acids (TAA), proline, lysine, methionine and total protein (TP) concentration in wheat grain. The experiment was laid out in Split Plot Design with three levels of nitrogen (40, 80 and 120 kg N ha^{-1}), three of potassium (20, 40 and 60 kg K_2O ha^{-1}) and four levels of compaction (0, 4, 8 and 12 passing of 500 kg manually driven iron roller). The results showed significant increases in total grain amino acid, lysine, methionine, and total protein concentration with increase in compaction levels, while proline content decreased. Increasing levels of nitrogen and potassium significantly increased in total amino acids, proline, lysine, methionine, and total protein content in wheat grain and improved the nutritional quality by increasing the protein and amino acids content.

Key Words : Sandy soils, Nutrients, Compaction, Amino acids, Protein

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*** Author for correspondence**
[1]S.K.N. College of Agriculture (R.A.U.), JOBNER (RAJASTHAN) INDIA