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Comparative compositional analysis of different varieties of wheat straw with special reference to Bioactive constituents

Tabussam Tufail, Farhan Saeed

Government College University Faisalabad, Pakistan


The core objective of current study was to characterize the wheat straw for its nutritional and bioactive profile. For the purpose, four different wheat straw varieties i.e. Ujala-16, Johar-16, Gold-16 and Galaxy-13 were procured from Ayub Agriculture Research Institute, Faisalabad, Pakistan. The whole research was conducted in two different phases. In 1st phase, nutritional composition and mineral profile of wheat straw were probed through their respective methods. In 2nd phase, wheat straw was characterized for its important bioactive constituents such as lignin, cellulose and hemicelluloses, phytosterol, policosanol content. The data obtained for each parameter was subjected for appropriate statistical design to determine the level of significance. Results elucidated that nutritional profile and bioactive components varied widely in different varieties. Chemical composition and mineral profile revealed that different wheat straw varieties contained 7.75-9.24%, 3.98-5.06%, 3.43-

3.98% and 1.60-2.24% moisture, ash, protein and fat contents respectively, whereas, potassium, calcium, phosphorus and magnesium were 1.19-2.03ppm, 0.10-0.79 ppm, 0.10-0.98 ppm, 0.03-0.98 ppm, respectively. Moreover, lignocellulosic mass: cellulose 37.75-38.18%, lignin 15.67-16.07%, hemicelluloses 28.25-28.98% was present in wheat straw and varied significantly among different varieties. Conclusively, wheat straw is an excellent source of many important bioactive moieties especially lignocelluloses that make it more functional and more useful.

Speaker Biography

Tabussam Tufail has very good experience in the field of food science & particularly food processing & preservations, his area of research is cereal sciences and community nutrition. He love to work in a professional environment where he can act as an active member of a research scholars team and apply his knowledge and technical skills to play an active part in the researches & projects and at the same time learn new and emerging methodologies and enhance practical, professional and decision-making skills.

e: tabussamtufail@gcuf.edu.pk

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