Rashmi Yadav, J Food Process Technol 2015, 6:10
http://dx.doi.org/10.4172/2157-7110.C1.029

OMICS International
conferenceseries.com

7th Indo-Global Summit and Expo on
Food & Beverages
October 08-10, 2015 New Delhi, India

Rashmi Yadav
National Bureau of Plant Genetic Resources, India

Characterization and quantification of bio- active compounds in pseudo-cereals for Nutritional Security

Increased conscious for health foods and natural ecologies, the underutilized or traditional crops are returning to the food basket largely in the form of value added products. Small millets and pseudo-cereals constitute major portion of their staple food and among pseudo-cereals, grain amaranth and buckwheat are most important and common. Grain amaranth seeds are rich in dietary fibre content, thus an effective agent against cancer and heart disease. Grain amaranth besides possessing high lysine that is low in other grains, posses high anti oxidant properties and is free from gluten.

Therefore, the characterization of amaranth and buckwheat germplasm based on nutritional traits was carried out to determine the extent of variation and identify superior germplasm collections for the value added traits like total protein content, oil content, amino acid and fatty acid profile etc. in amaranth and buckwheat germplasm to establish genetic diversity and divergence. The results showed wide variation between varieties within the crop for antioxidant properties, protein content and other phyto-chemicals linked with glucose metabolism. The grain contains a high level of protein, averaging 13.46% in grain amaranth and 14.5% in buckwheat, with an excellent amino acid balance which can supplement a diet. Its protein contains around 5% lysine and 4.4% sulfur amino acids, which are the limiting amino acids in other grains. Total phenolics were found highest 2234.4 and 193.52 µg/100g in amaranth & buckwheat, respectively. Presences of high bioactive functionality relevant to type 2 diabetes management make these crops a valuable resource for the natives of Himalayan region.

These results provides current status of researches made in India specially focused to utilize these crops for making sustainable and acceptable future strategies which may need to include scientific rationale and understanding for designing functional foods targeted to provide nutritional security and management of new emerging health issues.

Biography

Rashmi Yadav has completed her PhD from GBPUA&T, Pantnagar. At present, she is the Senior Scientist at NBPGR, New Delhi working on characterization & evaluation of germplasm of different crop plants including underutilized plant species for their agronomic attributes and resistant to biotic and abiotic stresses. She has published more than 25 papers in reputed journals and has been serving as an editorial board member of repute.

rashmi@nbpgr.ernet.in

Notes: