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Effect of Photoperiod On Yield, Antioxidant Potential And Secondary Metabolites In Wheatgrass Juice Of Indian Wheat Varieties.

The present study was conducted to compare the effect of photoperiod durations (16 h light: 8 h dark vs 22 h light: 2 h dark) on yield, antioxidant potential and secondary metabolites of wheatgrass from different wheat varieties. The increase in total chlorophyll, TPC, TFC, DPPH inhibition and FRAP values were observed for the wheatgrass grown under prolonged photoperiod. The average height of the wheatgrass was also increased under the prolonged photoperiod. The higher chlorophyll content was positively correlated with higher antioxidant potential. Comprehensive non-targeted metabolite analysis was also carried out by LC-MS to investigate the different classes of compounds in wheatgrass juice powder. The metabolomics revealed 516 features in positive mode, which includes organic acids, terpenoids, phenolic acids, flavonoids, alkaloids, vitamins, cyanogenic glycosides, nucleic acids, fatty acids, sugars, peptides and derivatives. The results showed that the wheatgrasses contain diverse compositional makeup and nutrient distributions. The volume of most of the metabolites increased under prolonged photoperiod. The study also provides the glimpse of metabolomics of wheatgrass which may be helpful in nutrition and health aspect.

Biography

Arun Kumar, Ph.D Research Scholar at Guru Nanak Dev University, Amritsar, Punjab and research interests are Plant extracts, wheatgrass, Phenolic profile in the department of Food Science and Technology.

arun.foodtechh@gmail.com



Arun Kumar

Guru Nanak Dev University, India

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