

Tropentag, September 9-11, 2020, virtual conference

"Food and nutrition security and its resilience to global crises"

Development of Bio-fortified Foods: A Natural Strategy Towards Food Security

Umar Farooq, Afshan Shafi

Mns University of Agricuitture, Food Science and Technology, Pakistan

Abstract

Malnutrition is a major problem all over the world with the highest incidence in South Asian region where minerals deficiencies are more prevalent and significant cause of various diseases. In such circumstances, it is of great significance to find ways to naturally fortify foods with micronutrients, and to increase the bioavailability of naturally present minerals to cope with the problems related to nutritional insecurity. The current idea is based on adaptation of new methods for the development of naturally bio-fortified foods to combat malnutrition. Genetically modified crops with elevated levels of essential nutrients; reduced levels of anti-nutritional factors; and increased levels of factors to enhance bioavailability and utilisation of essential nutrients are providing the solution but with certain acceptability issues. In such situations, natural bio-fortification by the use of specific microbial strains in product development could be the potential and safe way to minimise malnutrition and the risk of chronic disease in the developing countries. In current research, attempts were made to enhance the mineral levels in fermented dough especially the iron contents by using lactic acid bacteria. The results indicated significant improvements in iron as well as other mineral contents. On the basis of results it was concluded that the use of sour dough could be the suitable strategy not only to combat anemia due to iron deficiency but it could also be most effective and safest way to eliminate hidden hunger (micronutrient deficiency). This natural bio-fortification will be an attractive alternative to alleviate micronutrient malnutrition using selective microbial flora in fermented products.

Keywords: Biofortification, fermentation, malnutrition, microbial strains