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Production of cost effective iron fortified tomato and derived products using ferrous and ferric compounds as fortifying agents: A solution to curb anemia among rural women in AP, India

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ajority of Indian women in rural areas suffer from anemia and related consequences. Illiteracy, lack of awareness and poor financial status are the main reasons behind this. In the case of pregnant women, fetal mortality and premature deliveries that lead to feeble off springs are the adverse consequences of anemia. For women lying below poverty line, a low cost, iron fortified food vehicle is required to substitute expensive iron tablets. Tomato is a versatile vegetable associated with many health benefits. It contains adequate amount of Vitamin-C which can promote the absorption on iron through intestinal gut. It is the most widely cultivated crop in several areas of Andhra Pradesh State, India. The surplus crop is targeted for fortification using and Sodium Iron (III) EDTA as fortifying agents. Different concentrations of these Ferrous Fumarate salts solution are experimented with foliar spray technique to know the foliar absorption tendency and corresponding increase in quantity of iron among tomatoes. The concentrations applied are 0.02, 0.04, 0.06, 0.08 and 0.1 N of both the salts selected. The yield from all these groups is converted into powder and is analysed spectrophotometrically to know the improvement of iron among fortified tomatoes via foliar spray technique. 0.08 N concentration of ferrous fumarate has shown significant impact in increasing iron quantity by 3 folds whereas this increase is 2.5 times with 0.1 N concentration of sodium iron (III) EDTA. Based on the diagnosis data among selected anemic women, fortified tomato products are included in their diet for 90 days. The improvement in anemia is verified for twice during study period and the results described the effectiveness of fortified tomato products in controlling anemia, based upon the consequences then it is diagnosed.

Biography

Satya Sree Nannapaneni has been working as Assistant Professor of Chemistry since 11 years in S&H Department, VFSTR University, Vadlamudi, Guntur (Dist) and promoted as Associate Professor from 1st October, 2017. Also worked as Senior Lecturer in A.S.N. Degree & P.G College, Tenali from 1998-2006 and discharged duties as HOD,PG Department of Organic Chemistry from 2000-2003(8 Years). Having worked as Junior Lecturer in Vignan Co.op Junior College, Vadlamudi from 1996-1998.(2.5Years).