3rd experts meeting on
Plant, Cellular & Molecular Biology
Nov 15-16, 2022 | Webinar
Volume: 10

The genetic control of endo-dormancy break in potato: Re-analysis of transcriptomic data, phytohormonal effect and expression analysis of genes deriving sprouting vigour

Madhuri Gupta

Department of Biotechnology, College of Agriculture, SVPUAT, Meerut, U.P., India

Statement of the Problem: BPA (Bisphenol A) is a useful chemical yet possesses myriads of toxicity targeting different levels of organization of life to unleash metabolic syndrome. Plant bioactive possess limitless therapeutic potential. In this study, we investigated the chemical compositions as well as the tendency of CMSO (Cucumeropsis mannii seed oil) to reverse the dysregulations of fertility hormones, glucose level, and kidney function indices in rats exposed. Methodology & Theoretical Orientation: Thirty-six male Wistar rats (180±5g) were randomly clustered into six groups (A-F) and studied for six weeks following oral administration. Groups: A (Olive oil: 1 ml), B (BPA: 100 mg/kg.bw), C (CMSO: 7.5 ml/kg.bw), D (BPA+ 7.5 mg/kg.bw), E (BPA+ 5 ml/kg.bw), and F (BPA+ 2.5 mg/kg.bw). The chemical constituents and biochemical parameters were determined by standard laboratory procedures. Findings: Results showed that CMSO contains nutraceuticals in the increasing order of phytoconstituents: phenols>tannins>flavonoids>terpenoids>glycosides>alkaloids>HCN; mineral compositions: Mg>K>Ca>Na>Fe>Zn>P; and vitamins: Tocopherol>retinol>niacin>cobalamin>thiamine>phylloquinone>riboflavin>pyridoxine>calciferol. The in-vivo study showed that BPA significantly ($p<0.05$) dysregulated the fertility hormone levels [elevated follicle-stimulating hormone (FSH) and reduced luteinizing hormones (LH), testosterone, and estradiol], elevated the serum glucose level, and Kidney function indices (urea and creatinine levels). However, the concurrent administration of BPA together with CMSO significantly, reversed the fertility hormones, serum glucose level, and kidney function indices. These phytoconstituents, vitamins, and minerals found in CMSO are nutraceuticals widely reported with several therapeutic effects. Conclusion & Significance: Therefore, we reported that CMSO is a novel nutraceutical intervention annulling several degrees of Bisphenol A-induced toxicity.

Biography

I am Dr. Madhuri Gupta working as Assistant professor (Plant Biotechnology) at Meerut Institute of Engineering and Technology, Meerut, India. I am having expertise in the field of Genomics, Bioinformatics and Plant physiology. I have a passion to improve the plant health and identify the potential needs of agriculture sector worldwide. I am also working as Head- Women Entrepreneurship Nurturing and Networking cell of MIET for the women of nation to grow and bloom for their own lives

madhuri05april@gmail.com