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Growth retardants at ultra-high dilutions enhance plant growth and yield

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The extensive use of chemical fertilizers for increasing crop production has hardened the soil, decreased fertility, strengthened pesticides, polluted air and water and released greenhouse gases, thereby bringing hazards to human health and environment as well. Though organic fertilizers are biodegradable, sustainable and environment friendly they are rather expensive and they break down according to nature's rules. Thus, their effectiveness is limited seasonally and nutrient ratios are often unknown. In this situation it is desirable to find out suitable agents, which would increase plant growth and yield without compromising with the quality of food and of soil. We have observed that the ultra-high dilution of plant growth retardants, chlorocholine chloride (CCC) and maleic hydrazide (MH) can enhance growth and yield in *Cajanus cajan* (L.) Millsp., *Abelmoschus esculentus* (L.) Moench., *Vigna unguiculata* L. and *Oryza sativa* L. As the drugs were prepared by succussion with 90% ethanol, before application each potentized drug was diluted with sterile water (1:500). Morphometric as well as biochemical studies were done to see the growth effect. In all the cases significant increase in morphometric as well as biochemical parameters were observed. The FPLC study of cow pea leaf protein revealed some new proteins. The aim of this work was to see the effect of growth retardants at ultra-high dilution on plant growth and yield.

Biography

Soma Sukul is working as an Assistant Professor in the Department of Botany, Visva-Bharati (A Central University), India since 2003. She has been awarded PhD degree in 2007 and qualified National Eligibility Test (NET) in 1999. Her research interests are: Diversity, phytochemistry, ethnobotany and heavy metal accumulation of pteridophytes; high dilution effects on plant models.

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