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***In vitro* propagated Hi-Tech planting material of potato: Novel strategy to augment potato production**

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India will have a population of 1.3 billion by 2020 and will need to produce about 49-50 million tonnes of potato. Significantly, potato crop produces more edible energy per unit area and time (3 kg of protein/ha/day) vis-a-vis wheat (2.5 kg/ha/day), maize (1.2 kg/ha/day) and rice (1.0 kg/ha/day). Though potato productivity in India (22 tons/ha) is better than world average (16.6 tons/ha), it stands far lower than that of European countries (e.g. Netherlands=42.4 tons/ha). Among major inputs in potato cultivation, seed is the costliest input accounting for about 50% of total expenditure and loss in potato yield due to poor quality of seed cannot be compensated even with all the essential inputs put together. Thus, there is an urgent need to redesign cultivation of potato by adopting novel technologies to overcome traditional yield barriers. It is estimated that the application of healthy potato seed tubers/planting material will lead to at least 30% increase in potato yield. Rapid *in vitro* propagation of clonal material for commercial seed production has moved potato from test tube to the field. Successful integration of *in vitro* propagated hi tech planting material of potato in INFORMAL seed production of potato by farmers is discussed.

Biography

Atul Kumar is presently working as Professor and Head, Department of Plant Physiology. He has four Text-cum-Reference books in the area of Plant Biotechnology and Tissue Culture and eight chapters in edited books to his credit and has published over 30 research papers in journals of repute.

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