

M.S. SWAMINATHAN CALLS GM CROPS A FAILURE, CENTRE'S ADVISER FAULTS PAPER

Relevant for: Indian Economy | Topic: Major crops, Cropping patterns in various parts of the country incl. Various Agriculture Revolutions

A research paper co-authored by leading agriculture scientist M.S. Swaminathan, which describes Bt cotton as a 'failure,' was criticised by India's Principal Scientific Adviser (PSA), K. VijayRaghavan as 'deeply flawed'.

The paper, 'Modern Technologies for Sustainable Food and Nutrition Security', appears in the latest issue of the peer-reviewed journal *Current Science*. It is authored by P.C. Kesavan and Dr. Swaminathan, who are both senior functionaries of the MS Swaminathan Research Foundation (MSSRF). The article is a review of crop development in India and transgenic crops — particularly Bt cotton, the stalled Bt brinjal as well as DMH-11, a transgenic mustard hybrid. The latter two have been cleared by scientific regulators but not by the Centre.

"There is no doubt that GE (genetically engineered) Bt cotton has failed in India. It has failed as a sustainable agriculture technology and has therefore also failed to provide livelihood security for cotton farmers who are mainly resource-poor, small and marginal farmers," according to the paper, "...The precautionary principle (PP) has been done away with and no science-based and rigorous biosafety protocols and evaluation of GM crops are in place."

The piece also raises questions on the genetic engineering technology itself on the grounds that it raises the cost of sowing, and the insertion of foreign genes (in the plant) could lead to 'molecular and cellular events not precisely understood.'

"The Kesavan and Swaminathan 'Review' (sic) is deeply flawed and full of errors. Needs scientific rebuttal," Mr. VijayRaghavan tweeted from this personal account. Before being appointed the PSA, Mr. VijayRaghavan, a biologist, was Secretary, Department of Biotechnology, which funds a variety of molecular biology projects. Mr. Kesavan, who is the lead author of the piece, told *The Hindu* that he was unaware of Mr. VijayRaghavan's comment but was expecting a "scientific, point-by-point response (of any flaws)."

"I'm not on Twitter but I believe a senior scientist shouldn't be making such irresponsible comments," he said.

The Hindu reached out to Dr. Swaminathan's office and was told that the paper had raked up "a lot of controversy."

"We'll likely soon be holding a press conference or a discussion on some of the points raised since the paper was published," a spokesperson for the MSSRF said.

Mr. VijayRaghavan said in a text message that he wouldn't be immediately elaborating on his criticism but would in a "few days."

Mr. Swaminathan, credited with leading India's Green Revolution, has in recent years advocated 'sustainable agriculture' and said the government should only use genetic engineering as a last resort. "...Swaminathan emphasised that genetic engineering technology is supplementary and must be needbased. Only in very rare circumstance (less than 1%) may there arise a need for the use of this technology," according to the paper.

However, the MSSRF also dabbles in GE research. It has a programme on developing drought-resistant GM rice by using genes from mangroves to potentially protect rice varieties grown along the coasts from being affected by higher saline content — a consequence of warming seas from climate change. “The programme is ongoing but isn’t aimed for the present. Genes from salt-tolerant plants too aren’t ideal...however GE may be deployed to manage against abiotic stresses,” said Mr. Kesavan. Abiotic stresses refer to environmental factors that could meddle with plant yield, as opposed to ‘biotic’ stressors such as insects.

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