some influential scientists in public institutions in India may have used public money to obtain/obtaining US patents as an easy alternative to publications just to enhance their biodata – I would better call such patents as 'biodata patents'. Such patents are hardly supported by peer-reviewed publications to satisfy the slogan 'patent, publish and prosper', because in many instances they cannot be published, and in others they are found to be non-sustainable to scientific scrutiny. Although, only a specific situation with respect to US patents on plants is covered here, the same could hold true with most US patents granted to public-funded institutions to a reasonable extent. Could we transform the hype for indiscriminate patenting into real property.

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Bt cotton for pest management or pest management for *Bt* cotton?

The first biotechnological tool in Indian agriculture is the *Bacillus thuringiensis Cry IAc* gene incorporated cotton, and has been commercially cultivated since 2002. Ever since the release of *Bt* cotton hybrids, there have been debates on the environmental issues and *per se* field efficacy at farm level of the released cultivars. Today we have 14, 29 and 25 *Bt* genotypes for North, Central and South zones, respectively among a total of 59, approved for cultivation. The very fact that the area under *Bt* cotton is on the rise, from 38038 ha in 2002 to 37.1 lakh ha in 2006–07 season, spells out obviously yield maximization at one hand and cost savings on the other. It is a feel-good factor of the *Bt* cotton, and we have been adopting it for socio-economic welfare of our country. Conscious of the anticipated field level problems such as resistance development by bollworms and secondary pest problems in the given Indian cotton insect pest scenario, research entomologists are on their toes to develop pest management practices/packages, without however drawing clear-cut demarcations between the role of *Bt* cotton in minimizing the losses due to bollworms wherein *Bt* cotton becomes a component of pest management, and as a genotype that requires pest management on the production side. These differences need to be kept in mind for micro and macro-level analyses of the impact of *Bt* cotton. Assessing the bio efficacy and the quantification of loss minimization by the *Bt* cotton genotype against the bollworms *per se* needs its evaluation against its non-*Bt* counterpart. In this way we get a clear picture of the efficacy or otherwise in a given season with low or moderate or high levels of one or other bollworms. Also such an approach allows a fair comparison of the efficacy among *Bt* genotypes. However, agronomic performance of *Bt* cotton and development of a suitable protection package for *Bt* cotton cultivars require their comparison with any other cotton conventional cultivar(s) other than their non-*Bt* counterparts. This is because, there are situations wherein yield levels of conventional cultivars are on par or even better than *Bt*, depending upon the soil and seasonal conditions, apart from the level of bollworm incidence. Such a situation, when combined with equal or more number of sprays against sucking pests depending upon the genotype, does not even prove the effectiveness of the *Bt* in terms of limited plant protection cost. Therefore care needs to be exercised while we discuss the efficacy and performance of *Bt* cotton wherein the approaches to comparison need to be different. From the entomological perspective, *Bt* cotton as a component of pest management fits under host plant resistance as well as the applied biological control and technically it pre-empts the use of other bioagents, viz. *Trichogramma chilonis* and *Helicoverpa armigera* nuclear polyhedrosis virus (HaNPV), mechanical control, use of pheromones and insecticides against bollworms. Therefore, the need of the hour is to rationalize the bollworm resistance development and formulate highly optimized sucking pest management, both from a production system viewpoint. For example, the limited economic returns accruing in rainfed farming systems rarely carry economic justification for pesticide use, even on conventional cotton not to defend for *Bt* cotton. From the ecological perspective, there would be a changing pest scenario and the associated native entomofauna which we need to harness to our advantage. On the extension front that assesses *Bt* technology *per se* and of the other management interventions on *Bt*, it is prudent to compare the yields only when growing conditions are kept similar or else, the variations would be so wide that an extremely poor and a better performance at a single farm could mislead the performance *in toto* and misrepresent the common man and the policy planners alike. Be it the *Bt* cotton for pest management or the pest management for *Bt* cotton, the sole objective should be gains in reduction of production costs, more economic access of benefits to the growers, and conservation of the resilience and integrity of the ecosystem.

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