

Whitefly lessons

Proliferation of unregulated hybrids, not Bt, is to blame for the pest damage to cotton this year

Widespread damage to cotton from whiteflies in large parts of North India has led many to blame it on Bt gene technology. Environmental activists like Vandana Shiva have held largescale cultivation of Bt cotton responsible for creating new pests — a conclusion backed by farmers who grow non-Bt or desi varieties through organic practices and apparently do not suffer whitefly attacks. But as director of Nagpur's Central Institute for Cotton Research K.R. Kranthi has pointed out, these claims are misleading. The problem, he has told this newspaper, is not in Bt technology per se, but in the cotton hybrids into which the genes — coding for proteins toxic to the *Heliothis* pest — have been introgressed. Over 90 per cent of cotton hybrids planted in states like Punjab are susceptible to whitefly and leaf-curl virus. That being so, the havoc wreaked by whitefly shouldn't have surprised, especially in a year when the conditions — delayed sowing and persistent drought, coupled with hot and cloudy weather — were most hospitable for an epidemic. But the larger point raised by Kranthi is about regulation. Prior to Bt cotton's introduction in 2002, farmers mostly grew public sector-bred varieties that were screened and certified for resistance against whiteflies or leaf curl virus. This system broke down when private-sector hybrids incorporating Bt genes took over more than 90 per cent of India's cotton area. Free from government certification schemes, their quality attributes "truthfully labelled" by the producers themselves, most hybrids were commercialised without any rigorous process of testing for whitefly or leaf curl virus tolerance. Such hybrids even became hosts for the whiteflies to survive and proliferate. Either way, Bt wasn't the villain; these genes, in any case, control only for *Heliothis* or bollworm and not sucking pests such as whiteflies, aphids and mealybugs. Bollworm larvae were a huge menace during the 1980s and '90s; the success of Bt cotton in controlling yield losses from them is well-established.

The real lesson from the recent whitefly epidemic is that the country needs a regime of compulsory registration and uniform certification of all seed varieties and hybrids, whether bred by government or private enterprise. Only those meeting minimum standards relating to germination, purity and resistance to pests and diseases specific to the concerned crop should be allowed to be commercialised. Ultimately, farmer interest is what matters, not whether a particular seed has been bred by a private firm or a public research institution.