

## Plight of Indian Ayurveda journals

We read with much interest about the plight of Indian research journals in a Guest Editorial in *Current Science* by Lakhota<sup>1</sup>. He has precisely pointed out the schizophrenic aptitude of Indian scientists when it comes to publishing their research articles. It is highly relevant to see how we prioritize the journals to publish our work. Publishing in journals that are considered 'international' or at least non-Indian seems more attractive compared to journals with Indian or national names. It is highly relevant to analyse the impact and consequences of this practice to the whole research process. First, this deprives Indian journals from articles of high impact which may be relevant for the growth of science within the specified domain of knowledge in the country. At one end, this lessens the chances of native journals to improve against more established non-native publishing houses. At the other end, it also deprives native researchers to get easy full-text access of material which is often available free or at a no-

minal charge in Indian journals. A large interest in journals sounding international has also created a genre of bogus and predatory journals that lure scientists.

For journals on traditional healthcare systems, particularly Ayurveda published from India, the situation is more alarming<sup>2</sup>. The subject area is already suffering both qualitatively and quantitatively; and not submitting articles in the field to Indian journals, where one is expected to get maximum readership pertinent to the subject area, is really worrying. I remember, when as senior editor of an Ayurveda journal, I requested a renowned researcher, physician and scientist of modern medicine also working with Ayurveda, to submit his work to the journal. He enquired if ours was a PubMed indexed journal. We were actually not and so, I modestly replied that unless people like him start submitting their work in such journals, how can we get indexed in PubMed?

We have seen Ayurveda researchers publishing in journals where there are ac-

tually hardly any serious readers. Unless, the article has some effective keywords, there is the possibility that it will be lost in the plethora of research emerging every now and then. Eventually such works are not going to have any impact on the society for which it should have been of great importance.

A good work not reaching the hands of the ultimate readers is a great loss on many counts. Making it so premium that it can be handled only by a chosen few is also a drawback. Research is of no use unless it benefits the society at large.

1. Lakhota, S. C., *Curr. Sci.*, 2018, **115**, 2187–2188.
2. Rastogi, S., *Ann. Ayurvedic Med.*, 2018, **7**, 75–78.

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## Bt-cotton hybrids

In an article on 'hybrid Bt-cotton', Gutierrez<sup>1</sup> concludes that government agencies should encourage development of high-density short-season (HDSS) varieties as a straightforward solution to stabilize cotton production in India which, in his view, has suffered due to the many ills of cultivating Bt-cotton hybrids since 2002. While HDSS varieties of *Gossypium hirsutum* could provide another option to the Indian cotton farmer under subsistence farming conditions, technology stakeholders need to be watchful and factor in the hard lessons learnt from the pre- and post-Bt cotton eras. Some of the watch outs could be:

First, cotton bollworm management in India should not rely solely on chemical insecticides. We have learnt bitter lessons in the past. Undeniably, Bt traits in cotton have been key to the management of bollworm complex till pink bollworm evolved field resistance to Bt-cotton in Central and South India<sup>2</sup>. Even today, Bt-

cotton (stacked version with two Bt genes) is effective in managing *Helicoverpa armigera*, the most dreaded bollworm, *Earias* spp., and *Spodoptera litura* and pink bollworm in North India. Hence any new cotton variety or hybrid to be developed should have stacked Bt genes in them, different from those expressed by Bollgard II<sup>®</sup>, for effective bollworm management and as a resistance management tool for extended efficacy of the variety.

Well aware of the indispensability of Bt technology, the Central Institute for Cotton Research (CICR), Nagpur has adopted a strategy to revive cotton varieties, but with Bt traits, so that suitable Bt varieties could be extended to rainfed and resource-poor farmlands. CICR has further announced a long-term plan to stack three Bt genes in a collaborative effort with several public institutions<sup>3</sup>.

It could be argued that HDSS varieties can be managed with Integrated Pest

Management (IPM), with need-based use of insecticides as an integral part. However the hard fact is that in spite of well-formulated packages<sup>4,5</sup> and best extension efforts, IPM has never been adopted by cotton farmers on a large scale, even in the pre-Bt-cotton era when insecticides on cotton constituted ~50% of the total insecticides used in agriculture and costed the cotton farmer 45% of the variable price<sup>6</sup>. No cotton farmer wants to return to that era when his cotton fields had to be sprayed 15–20 times with chemicals<sup>6</sup>, followed by resistance breakout.

Secondly, the author<sup>1</sup> has stated that HDSS would escape the peak infestation window of pink bollworm as it is generally a late-season pest. This could be no longer true. Due to large carryover between seasons, the population levels of Bt-resistant pink bollworm in Central and South India are sufficiently high resulting in infestation of Bt-cotton during