

CURRENT SCIENCE

Volume 59 Number 12

25 June 1990

CORRESPONDENCE

Bamboo benefits

The editors deserve the congratulations of plant scientists for presenting the report of Nadgauda *et al.* in proper perspective and publishing the abstract of Rao and Rao presented at the International Bamboo Workshop held in 1988 (see *Curr. Sci.*, 1990, **59**, 346). Balaram has raised the question, 'Would we (as editors) have recognized the importance of the paper and highlighted it in our News column?' He also provides the answer 'probably not', implying that we (editors or plant scientists) fail to recognize significant findings. None in the plant science community recognized the importance of the earlier report of Rao and Rao.

Any new scientific development is of greatest interest to those likely to obtain maximum benefit from it. Who would benefit from *in vitro* flowering of bamboo? Obviously, plant breeders engaged in bamboo improvement programmes. But where are the bamboo breeding programmes in India, or, for that matter, anywhere else in the world? My survey of *Plant Breeding Abstracts*, published by the Commonwealth Agricultural Bureau (CAB International), for the last ten years under *Bambusa* and *Dendrocalamus* could not provide a single reference to breeding of bamboos. These abstracts cover a wide range of plant breeding journals. Flowering is not essential for the improvement of vegetatively propagated plants like bamboo, sugarcane, potato, cassava and grapes—some of the important crops

that are propagated vegetatively, yet have been improved by selection.

We can also examine the possibilities for the improvement of bamboos assuming that routine flowering of all stocks can be obtained *in vitro* and hybrid seeds can be harvested (following the report of Nadgauda *et al.*) This provides two breeding options: (i) exploitation of heterosis (hybrid vigour) in the F_1 hybrids, as in maize and sorghum, and (ii) selection of superior individual plants in the F_2 and later generations, as practised in crops like wheat and rice. Both alternatives would need extensive field evaluation of the hybrids/selections. There are no alternative technologies to replace this long procedure. Normally, for annual crops it takes about 10–12 years for a new cultivar to reach the farmer after the appropriate crosses are made. The period can be reduced by growing two or at times three generations in a year. Further, positive selections are obtained only from a few crosses out of hundreds/thousands made each year. For bamboos it would take, at least, the full working life of a scientist (30–35 years). No private company would be interested in investing in long-term research. In the past, even publicly funded agencies have shied away from such projects in our country. It will also not attract any bright plant geneticist. Who is willing to wait that long?

Looking at it pragmatically, it appears that there has been an overreaction to an important scientific paper at all levels. *In vitro* flowering of bamboo, by itself, is an important and a small step

towards breeding of better bamboos in future, and we should be proud of this development.

C. R. BHATIA

Bio-Medical Group
Bhabha Atomic Research Centre
Bombay 400 085

I am very much impressed by your treatment of 'bamboo flowers'. I enjoyed reading every bit of it and benefitted by getting to know a spectrum of views.

From my own long years of experience in industrial research and association with academia in India and abroad, I feel that our academic researchers are not well oriented towards ascertaining and protecting the potential commercial importance of their discoveries. On the other hand, practitioners of the purest sciences in the West are in constant touch with their industrial counterparts and, recognizing the value of their work, protect it before they publish. Of course, as Mascarenhas points out, NCL is quite patent-conscious. However, patenting and protecting a technique of the kind that he has published is very tricky and I hope that NCL has been properly advised.

K. NAGARAJAN

Searle (India) Limited
25 MIDC Land
Thane-Belapur Road
Thane 400 061