

Conclusion

India, which is the second largest producer of bamboo shoots after China, the food potential seems grossly underutilized. This may be primarily due to lack of awareness about the edible characteristics of the shoots. Consumption of tender shoots is confined mainly to the Northeastern states and few parts of Southern peninsula like Coorg, South Canara in Karnataka and in Wayanad, Kerala where they are part of the traditional cuisine during monsoon when the shoots emerge. In other parts, especially surrounding forest areas, shoots of species like *Bambusa bambos* and *Dendrocalamus strictus* which generally occur in the wild are consumed. Restrictions imposed by Forest department on the harvest of bamboo from the forests of Western Ghats have hampered the exploitation of bamboo shoots for edible purposes. Although multipurpose species like *D. stocksii*, *B. balcooa*, *D. asper*, *D. brandisii* and *D. hamiltonii* are widely cultivated, its potential as food is poorly recognized and there is a lack of awareness on sustainable management. The essential requirement for successful exploitation of shoot production technology is the availability of bamboo bioresource and technical and entrepreneurial skills in managing shoot-producing bamboo plantation. Awareness on the nutritional aspects and health benefits of bamboo shoots and the promoting edible bamboo species cultivable in peninsular India would expand scope for bamboo utilization. Also the industrially important species if cultivated with appropriate inputs will aid in the exploitation of the shoots for other industrial purposes as well as a potential nutrient source.

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References

- Association of Official Analytical Chemists. 2005. Official Methods of Analysis. 18th ed. Assoc. Anal. Chem., Arlington. VA.
- Association of Official Analytical Chemists. 1998. Official Methods of Analysis of AOAC International, 16th ed., 4th rev. AOAC International, Gaithersburg, MD.
- Bradbury MG, Egan SV, and Bradbury JH. 1999. Determination of all forms of cyanogens in cassava roots and cassava products using picrate paper kits. *Journal of the Science of food and agriculture* 49: 93–99.
- Decipulo, M, Ockerby, S and Midmore, D. 2009. 'Managing clumps of *Dendrocalamus asper* in Bukidnon, the Philippines' in D Midmore (ed.) *Silvicultural management of bamboo in the Philippines and Australia for shoots and timber*. Los Baños, The Phillipines, 22nd – 23rd November, 2006 (pp. 36-45). Australian Centre for International Agricultural Research (ACIAR), Canberra. <http://www.aciar.gov.au/publication/PR129> (Accessed on 29th October 2011)
- Julie Major. 2010. Guidelines on practical aspects of Biochar application to field soils in various soil management systems. http://biochar-international.org/sites/default/files/IBI%20Biochar%20Application%20Guidelines_web.pdf accessed on 17th September 2012.
- Kleinhenz, V., Gosbee, M., Elsmore S., Lyall, T. W., Blackburn, K., Harrower, K., and Midmore, D. J. 2000. Storage methods for extending shelf life of fresh, edible bamboo shoots [*Bambusa oldhamii* (Munro)]. *Postharvest Biol. Technol.* 19, 253-264.

Midmore, D. J., Walsh, K. B., Kleinhenz, V., Milne, J. R., and Leonardi, J. 1998. "Culinary Bamboo Shoots in Australia: Preliminary Research Results", RIRDC Publication No 98/45. Rural Industries Research and Development Corporation, Barton, Australia.

Muktesh Kumar, M. 2009. Establishment of a pilot scale bamboo stand for edible shoot production in Kerala. Report of Research Project. No.264/96. Kerala Forest Research Institute, Peechi, Kerala.

NMBA, Cultivating Bamboo TM 04 11/04. 2004. National Mission on Bamboo Applications, TIFAC, DST, GoI, New Delhi, India.

Nirmala, C., Sheena, H. and David, E. 2011. Bamboo shoots: a rich source of dietary fibres. In *Dietary fibres, fruit and vegetable consumption and health* (ed. Klein, F. and Moller, G.), Nova Science Publishers, USA, 2009, pp. 15–30.

Nirmala, C., Bisht, M. S. and Sheena, H., Nutritional properties of Bamboo shoots: Potential and prospects for utilization as health food. *Comprehensive reviews in food science and food safety*, 10, 153-169.

Viswanath, S., B, Dhanya and T.S. Rathore .2007. Domestication of *Dendrocalamus brandisii* (Burma bamboo) in upland paddy fields in Coorg, Karnataka. *Journal of Bamboo and Rattan*. 6: 215-222.