2. Scanlon, B. R., Keese, K. E., Flint, A. L., Flint, L. E., Gaye, C. B., Edmunds, W. M. and Summers, I., Global synthesis of groundwater recharge in semi-arid and arid regions. *Hydrol. Proc*., 2006, **20**, 3335–3370.
3. Yongxin, X. and Beekman, H. E. (eds), *Groundwater Recharge Estimation in Southern Africa*, UNESCO IHP Series No. 64, UNESCO Paris, 2003, pp. 3–4.
4. CGWB, Report of the group for suggesting new and alternate methods of groundwater resources assessment. Central Ground Water Board, Faridabad, Ministry of Water Resources, Government of India, 2009.
5. Anon., Ground water resource estimation in Andhra Pradesh. Groundwater Department, Government of Andhra Pradesh, 2002, pp. 123–139.
6. Singh, R. P. and Khan, M. A., *Fifty Years of Dry Land Agricultural Research in India*, Central Research Institute for Dryland Agriculture, Hyderabad, India, 1999, pp. 301–313.
7. Shivanna, K., Kulkarni, U. P., Joseph, T. B. and Navada, S. V., Contribution of storms to ground water recharge in the semi-arid regions of Karnataka, India. *Hydrol. Proc*., 2004, **18**, 473–485.
8. Sukhija, B. S., Nagabhushanam, P. and Reddy, D. V., Groundwater recharge in semi arid regions of India: an overview of results obtained using tracers. *Hydrogeol. J.*, 1996, **4**, 50–71.
9. Rao, M. S. R., Adhikari, R. N., Chittaranjan, S. and Chandrappa, M., Influence of conservation measures on ground water regimes in a semi-arid tract of south India. *Agric. Water Manage.*, 1996, **30**, 301–312.
10. Anuraga, T. S., Ruiz, L., Mohan Kumar, M. S., Sekhar, M. and Leijnse, A., Estimating groundwater recharge using land use and soil data: a case study in South India. *Agric. Water Manage*., 2006, **84**, 65–76.
11. Dourte, D. R., Cropping systems for groundwater security in India: groundwater responses to agricultural land management. A dissertation presented to the graduate School of the University of Florida, in partial fulfillment of the requirements for the Degree of Doctor of Philosophy, University of Florida, USA, 2011, pp. 16–17.
12. Adhikari, R. N., Singh, A. K., Math, S. K. N., Mishra, P. K. and Reddy, K. K., Response of water harvesting structures on ground water recharge in red soil of semi-arid region of Andhra Pradesh, *J. Indian Water Resour. Soc*., 2008, **28**, 1–5.
13. APHA, *Standard Methods for the Examination of Water and Waste Water*, American Public Health Association, Washington DC, 1995, 19th edn, p. 874.
14. Adhikari, R. N., Chittaranjan, S., Rao, M. S. R. and Husenappa, V., Hydrological data analysis for black soil small agricultural catchments in dry land zone of Karnataka. *Indian J. Dryland Agric. Res. Dev*., 2003, **18**, 95–99.
15. Sharda, V. N., Kurothe, R. S., Sena, D. R., Pande, V. C. and Tiwari, S. P., Estimation of groundwater recharge from water storage structures in semi-arid climate of India. *J. Hydrol*., 2006, **329**, 224–243.

ACKNOWLEDGEMENTS. We thank Dr R. S. Kurothe, Dr Sena and Dr Gopal Kumar for help. We also thank S. Manmohan and P. Mohan Kumar for collection and assistance in analysis of water samples.

Received 3 May 2012; revised accepted 22 March 2013

RETRACTION

Cotton leaf curl virus resistance transgenics with antisense coat protein gene (*AV1*)

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[*Curr. Sci.*, 2011, **101**(3), 300–307]

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