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Interactive comment on “Estimation of crop water requirements: extending the one-step approach to dual crop coefficients” by J. P. Lhomme et al.

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This is an excellent and possibly seminal paper which has immediate scientific interest and value but potentially also broader practical value in the realm of irrigated agriculture. The paper exploits the authors' existing understanding of combining the sources of water vapor and heat in canopies and focuses this expertise on the goal of replacing the commonly used FAO two-step methodology for estimating crop water use with a one-step calculation based on a modification of the theoretically superior Penman-Monteith representation. There are approximations involved in doing this simply which on the basis of calculations made in the paper in typical conditions are demonstrated to involve only small error. The paper will be hard to understand by those not yet fa-

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miliar with the intricacies of multi-source representation of canopies, but those who are familiar will recognize that the algebra used in the paper is correct. Ultimately the paper outlines a methodology that might be used to update and improve the methods FAO recommends for estimating crop water use. It will no doubt take some time for this to occur but I am confident that ultimately progress will be made in this respect. Meanwhile the HESS should speedily publish this important paper.

Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, 12, 4933, 2015.

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