

Interactive comment on “Consumptive water use associated with food waste: case study of fresh mango in Australia” by B. G. Ridoutt et al.

B. G. Ridoutt et al.

brad.ridoutt@csiro.au

Received and published: 22 September 2009

We thank this team of reviewers for acknowledging that our research addresses an important topic.

However, we take objection to statements made in the review which are false.

Moreover, we take objection to language used in the review which is harsh and disrespectful.

The reviewers write, “The paper claims to introduce a more advanced version of the water footprint (WF) methodology.”

C2113

We would like to state very clearly that we make no such claim.

One of the methods we employ is the revised water footprint methodology of Ridoutt and Pfister (2009). This revised methodology is particularly suited to water footprinting at the product level. One particular advantage is that it enables a quantitative comparison between products and production systems in terms of their potential to contribute to water scarcity.

As such, we have calculated the water footprint of fresh mango using a recognised methodology which has been accepted for publication in an international peer-reviewed science journal of high ranking. This is a respected methodology which is also now being used in industry by some of the largest global food companies.

Approaches to water footprinting, such as that described by Chapagain and Hoekstra (2004), are useful for certain kinds of analyses. However, forms of water footprinting that do not include a quantitative impact assessment have been found to be problematic when applied at the product level as a driver of sustainable production and consumption. (Ridoutt et al. 2009). The revised water footprinting calculation method of Ridoutt and Pfister (2009) has particular advantages in this respect.

Therefore, we do not claim that the approach to water footprinting used in this research is more advanced. Indeed, such language does not appear in our manuscript.

What the reviewers fail to acknowledge is that the water footprint concept is in a state of evolution in order to meet the diversity of applications being proposed. With a variety of international initiatives currently addressing water footprinting methodologies, including an ISO work programme, further refinement and redefinition of the concept is likely. We regard this activity as healthy and an example of the scientific process at work.

Any criticism the reviewers have of the revised water footprint calculation method of Ridoutt and Pfister (2009) would be better directed toward the publication where it appears rather than the current case study of mango food chain waste. In focussing so

C2114

particularly on the water footprinting method, the reviewers take the focus away from the actual purposes of the research and the importance of the findings.

We would argue that for the purposes of our research, we have used the most appropriate form of water footprint calculation. However, that said, we also report the virtual water content of the mango products and waste. Therefore, if other authors wish to evaluate our findings using other water footprint methods (either existing methods or those which may be developed in future) our paper will permit this.

The reviewers claim that our research ignores, “. . .the primary and established role of the WF in water resources management.”

We do not wish to debate what is primary and what is secondary. However, in our experience, the greatest interest in the water footprint concept to date has come from the private sector, particularly food and beverage manufacturers, and this has been in relation to Corporate Social Responsibility reporting and supply chain risk management. In our experience, the water footprint concept has had little application to date by catchment managers or those responsible for water supply.

That said, we repeat our earlier remark that the water footprint concept is in a state of evolution in order to meet a diversity of applications: some product-oriented, some watershed-oriented and others which are national or regional in scope.

References

Chapagain, A. K., and Hoekstra, A. Y. 2004. Water footprints of nations, Value of Water Research Report Series No.16, UNESCO-IHE, Delft, The Netherlands, 2004.

Ridoutt, B.G. and Pfister, S. 2009. A revised approach to water footprinting to make transparent the impacts of consumption and production on global freshwater scarcity. *Global Environmental Change*, in press, DOI:10.1016/j.gloenvcha.2009.08.003.

Ridoutt, B. G., Eady, S. J., Sellahewa, J., Simons, L., and Bektash, R. 2009. Water footprinting at the product brand level: case study and future challenges, *J. Clean*

C2115

Prod., 17(13), 1228–1235.

Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, 6, 5085, 2009.