

Hydrol. Earth Syst. Sci. Discuss., 6, C2009–C2011, 2009

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Comment

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

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The manuscript is quite interesting and it brings up a new dimension to the discussion about water stress and virtual water. As far as I know, there are - so far - no published studies with detailed calculations about the water implications from losses and waste (I&w) of food and hardly any detailed studies on other types of costs related to I&w. Estimates of the green house gas emissions from I&w have been made and published, though. Considering the magnitude of I&w and the presumably poor understanding of their size among the public (as shown by the most detailed study done in this regard, i.e. by WRAP, UK), it is most relevant that studies are published that can show, black on white, what quantities and values we are losing out. Mangos in Australia are, of

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course, a special case, but it is not argued that the case is of general validity.

Above, I have suggested it can be published as it is. Anyway, I like to make a few suggestions that may improve the contents:

p. 5087, l. 15-16. figures used on the consumptive water use must be regarded as gross figures and include grazing areas. In other texts, the consumptive water use for food production is often given at about 7,000 km<sup>3</sup> or a bit higher. To me it seems that an important point is whether the water that evapotranspires from grazing areas could have been used for alternative crops/biomass (the same principle question refers to other food production, i.e.cereals). If that is not the case, the evapotranspiration from grazing areas does not say more than the obvious: water does return back to atmosphere.

p. 5088, l. 26 - 28. it is mentioned that the expenses to reduce waste may not always be justified. This is an important point, which I would have liked to see more of in the discussion and conclusion. On line 30, it is mentioned that the environmental costs are externalised, Yes, that is true - can they be internalised? How?

p. 5089 interesting examples from industry -how representative are these?

p. 5090 ff. OK methodology

p. 5092 l. 28/29. True: a cup of coffee may "cost" more or less

p. 5093 l. 6-8. could mango orchards not revert to other uses?

p. 5054, l. 28. evapotranspiration 50 - 81% sounds high?

A general comment: L&w occur in many steps and over days/weeks. This is probably one reason why the knowledge and understanding is poor. It is also why little effort is made to reduce them. While overall l&w are substantial, the fraction in each step at each point in time may be limited. What are the policy implications from this? Will more details from studies pave the way for investments that may reduce l&w, more careful

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handling of food items, etc. Who are the target groups for such information?

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