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September 7, 2011

Mr. Fethi Benjemaa  
California Department of Water Resources  
Water Use Efficiency Branch  
SBX7-7 Program  
P.O. Box 94236-001

Subject: Comments on Potential Methods Presented at August 31, 2011 ASC-A1  
Subcommittee Meeting for Quantifying the Efficiency of Ag Water Use

Dear Mr. Benjemaa:

At the August 31<sup>th</sup> meeting of the Agricultural Stakeholder Subcommittee (ASC) Efficiency of Agricultural Water Use Subcommittee (A1) there was a long discussion on the potential methods being considered for Quantifying the Water Use Efficiency of Agricultural Water Use. Following are my comments:

1. As stated at the meeting, there is a need to introduce the purpose of the methodology so there is an understanding of what you are trying to do.
2. There is a need to simplify the presentation of methods. There is too much verbiage without any presentation of an equation for the calculation of water use efficiency. The head of the first table states "all methods are defined as fractions,  $Y/X$ ", yet there is no equation or fraction presented to clarify the fraction. Manucher mentioned the goal was to simplify the presentation of the methods. I believe this should be done by presenting one equation with variables representing the different variations which need to be considered. All of the terms of the equation need to be clearly defined. If in a given region of the state one of the variables is not a factor then that variable would be zero and the calculation of the fraction could proceed.
3. It is reasonable to show that a calculation of an agreed to efficiency methodology can be prepared at a Field Scale, but in reality, a field scale quantification of water use efficiency will only provide an estimate of the water use efficiency on one farm and will not allow an overview of the

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current agricultural water use in a region. This type of analysis would also be very costly and time consuming to obtain the needed data to calculate and it would not be acceptable in meeting the provisions of SB X7-7 to quantify the efficiency of agricultural water use. It would only show the efficiency of one farm.

4. A Regional Scale analysis or methodology for the determination of WUE would also be costly and time consuming but would be the easiest and simplest to implement if the farmers and water suppliers in a region have a good working relationship with each other.
5. SBX7-7 requests the development of "... a methodology for quantifying the efficiency of agricultural water use." It specifies the development of efficiency for agricultural water use and not the economic efficiency of a given crop. The economic value of a crop is driven by market forces and is unrelated to water use efficiency. It would be inappropriate to include "economic efficiency" calculation requirements in any proposed method.
6. When a final methodology is developed we will provide estimates on the implementation costs.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Roger L. Reynolds". The signature is fluid and cursive, with a large initial "R" and "L".

Roger L. Reynolds