From: jean&pablo mendoza <jmen@bentonrea.com>
Sent: Friday, December 25, 2009 8:24 PM
To: ATR-Agricultural Workshops <agriculturalworkshops@usdoj.gov>
Subject: Comment
Attach: Chart Number of Cows II.xls

Dear Policy Makers:

In early 2009 three scientists from Cornell University, J.L. Capper, R.A. Cady and D.E. Bauman, published a research paper entitled *The Environmental Impact of Dairy Production: 1944 Compared with 2007,* in the Journal of Animal Science. They boldly stated, "Modern dairy practices require considerably fewer resources than dairying in 1944 with 21% of animals, 23% of foodstuffs, 35% of water, and only 10% of the land to produce the same 1 billion kg of milk."

In the Yakima Valley of Washington State water is precious. Vital discussions over water allocation consume a huge amount of time, energy and public resources. We rely on sound scientific evidence in order to make informed decisions.

Capper, Cady and Bauman lied about water use when they made this statement and they have broadcast this mis-information on the world wide web and in leading journals. I respectfully ask the National Academy of Science to repudiate this claim.

Modern dairy practices involve confinement of dairy cows to small areas where they eat sleep and defecate. In order to manage the large amounts of manure produced by these ruminants, dairies must flush the manure to outside areas where the slurry is stored in large lagoons until it can be spread onto cropland. The amount of water required to accomplish this removal ranges between 46 and 260 liters per day per cow. (Falk, 2004). The United States Geological Survey states that the average (total) water requirement per dairy cow in 1950 was 15 liters per day (MacKichan, 1951). In 2005 the U.S.G.S. estimated requirements of 15 to 65 liters per day per cow with an average of 35 liters per day. (Lovelace, 2005).

Capper, Cady and Bauman used only free water intake for dairy cows in their calculations and arrived at the 35% estimate based on the smaller number of dairy cows in the United States in 2007 compared to an all time high number in 1944. When the water requirements for managing manure are included, the amount of water required by modern dairies lies between 90% and 157% of the 1944 useage. It may exceed 200%. My figures are attached. Please note that none of these calculations takes into account the increased use of irrigation water since 1944.

Thank you very much for your consideration. If we cannot count on true science as a common ground for discussion in the real world, there is little hope for rational debate on these vital issues.

Sincerely,

Jean Mendoza

Jean Mendoza

3142 Signal Peak Road
White Swan, WA 98952

cc. Everyone who will listen

Capper, J.L., Cady, R.A., & Baughman, D.E. (2009). The Environmental Impact of Dairy Production: 1944 Compared with 2007. *Journal of Animal Science 87:* 2160-2167. Retrieved from www.jas.fass.org/cgi/content/abstract/jas.2009-1781v1

Falk, D.E., (2004). Fresh Water Needs for Dairy Farms *Idaho Association of Soil Conservation Districts*. Retrieved from http://www.oneplan.org/Stock/DairyWater.asp

Holter, J.B. & Urban, W.E. (1992). Water Partitioning and Intake Prediction in Dry and Lactating Holstein Cows. *Journal of Dairy Science. 75 (6):* 1472 – 1479 Retrieved from www.jds.fass.org/cgi/reprint/75/6/1472

Lovelace, J.K. (2005). Method for Estimating Water Withdrawals for Livestock in the United States, 2005. *United States Geological Survey*. Retrieved from http://pubs.usgs.gov/sir/2009/5041/pdf/sir2009-5041.pdf

http://pubs.usgs.gov/circ/1951/circ115/htdocs/text.html

MacKichan, K.A. (1951) Estimated Use of Water in the United States – 1950. *U.S. Geological Survey.* Retrieved from http://pubs.usgs.gov/circ/1951/circ115/htdocs/text.html