



Written Public Comment: SBX2 Nitrate Expert Panel **Agricultural Expert Panel Comments**

Organic production is a set of BMP's that "maintain or improve ...water quality." 7 CFR 205

Science is ambiguous whether or not "organic" actually does that in respect to nitrate leaching.

The CVRWQCB orders tend to favor conventional BMP's and neglect Organic BMP's. [see my meta-analyses for an example]

Nitrate is an endocrine disruptor (with non-monotonic effects mostly) with NOAEL's in the range of nanograms/Liter in fish, frogs and birds.

Nitrate interacts with synthetic EDC's to form "complex mixtures" through "mixture-loading."

60% of herbicides are estrogenic EDC's. "Pesticide use in the U.S. and policy implications: a focus on herbicides" Toxicolog Ind Health 1999 Jan-Mar 15(1-2)240-75 ["It is possible that there are going to be more chemicals that are antiandrogenic than are estrogenic." Charles Taylor, DISCOVERY NEWS]

Organic production does not use these synthetic EDC's.

Agricultural Expert Panel Questions: "Regulatory programs ... are able to focus attention and requirements on those discharges and dischargers (.i.e. growers) that pose the highest risk or threat because of the characteristics of their discharge ..." page 2

The SBX2 nitrate expert panel is charged with answering the question "How can the risk to or vulnerability of groundwater best be determined in the context of a regulatory control program such as the ILRP?" Quite obviously, conventional agriculture fits this risk group in regard to endocrine-disrupting nitrate and pesticides. [cadmium, a taint of rock phosphate fertilizer, is a metalloestrogen – see "Cadmium levels in Europe: implications for human health" in Env. Geochemistry and Health 32(1)1-12 2010]

Agricultural Expert Panel Questions: "The Regional Water Boards have included specific management practices in their various orders ..." [page 3] Your panel is charged with answering the question: "What management practices are recommended for consideration by growers ...?" Those which increase soil carbon, humic substances and biological activity in the soil – organic farming does this, creates a sink for nitrate in the soil. [Fire Ecosystem Management and Water Yield symposium in Sac' May 2: 40% of water in streams comes from snowpack; 60% from subsurface seepage from the soil.] Organic farming answers the question; organic farming should be recommended by the SBX2 nitrate expert panel over conventional BMP's.