

Safe Pesticide Use Consultancy: Peaches, Plums and Nectarines

PROJECT LEADER: Dr. Robert Krieger

In the first year we have critically reviewed the status of peaches, nectarines, and plums as numbers 1, 5, and 18 in the Environmental Working Group “Dirty Dozen” using the current Shopper’s Guide To Pesticides In Produce (2007). The ranking system is frequently repeated in television and print media. Although it is called “scientific” by EWG, it is neither verifiable nor transparent and hence is unscientific, at best.

Of particular relevance are chemicals used in California 2001, 2002, 2003, 2004, 2005, and 2006. Residue analysis is most complete for peaches in the PDP database advocated for risk assessment use by EPA. Plums and nectarines are represented by data for 2 years only during a 10-year period. This is a very significant limitation with respect to the ranking claims made by EWG.

1. Rankings of peaches, nectarines, and plums by year were reviewed. Data are not uniform and extensive only for peaches. As noted above, a relative ranking as published year after year is not possible with published residue data, but that does not prevent EWG claims that accompany “Dirty Dozen” listings.
2. Specific pesticides used in California will be identified in the U.S. residue programs by seasonal occurrence from Pesticide Use Reports. California Use Reports can be used to strengthen the claim that *California Select* is a distinct superior product. This represents a marketing issue that should be thoroughly discussed with Tree Fruit Agreement representatives.
3. The characteristics of California pesticide use practices that most strongly influence the EWG residue classification scheme (Dirty Dozen) system cannot be objectively determined. Market Basket data and PDP data alone do not lead to the conclusions reached by EWG. They routinely make claims about the amount of residue associated with crops on their listing—the EWG listing is independent of an index that can lead to a relative ranking of crops based upon amount.
4. Potential improved means to communicate to consumers and regulators that pesticide residues are a trace constituent of produce, far below levels of concern for synthetic AND natural chemicals also found in the same produce. A vitamin-based exposure limit or a calorie-based limit might be a more suitable means to address the pesticide tolerance issue. If such a measure were used maximum amounts of

consumption of produce could be discussed for both organic and conventional foods since the natural products would be the limiting values (rather than pesticides in ppb-ppm).

5. Rigorous characterization of the peach, plum and nectarine consumption pattern of children with respect to fresh, processes, and frozen produce. The impact of production standards and pesticide residue monitoring on potential exposure assessments for children in programs and databases used by the USEPA, FDA, and activist organizations such as the Environmental Working Group. The unevenness of pesticide residue databases require that generalizations about residues to be made by informed investigators. This is the hallmark of the service we provide in our Peach, Plum, and Nectarine Consultancy.

These specific objectives will guide the initial studies, but the project should not be viewed as a simple pesticide residue review. To be more effective our consultancy must have continual contact between industry liaison and UCR PCEP to assure that our work is meaningful to the Tree Fruit Agreement. The residue work has been our first big push, but other opportunities for understanding and service must be developed. How are residue questions going to be integrated into overall marketing of nutritious fresh produce in a strategy that meets the needs of people who buy and ship produce to local, national, and international markets? It seems likely that pesticide policy will have to be part of a successful, comprehensive scheme to sell peaches, plums, and nectarines.

We have submitted a 2-year budget commitment to make it very clear that our commitment is not to a “one issue” program. Other commodity research that we are prepared to address concerns classification of work tasks and potential handler and harvester exposure as well as specific residue issues unique to tree fruit.

An in-depth review of pesticide use practices and current foliage and produce residue studies in strawberries (part of a PhD dissertation that includes worker biomonitoring) is demonstrating the importance of preformed pesticide biomarkers in produce. That work in this laboratory at UC Riverside has far-reaching implications for human biomonitoring, the primary way regulatory agencies and advocacy groups determine human pesticide exposure.

In total, our food residue work evaluates and documents safe pesticide use. Specific, details about various projects will emerge as priorities are developed and interest is expressed in our studies. Our website should be useful to cooperators <http://faculty.ucr.edu/~krieger/index.htm>. We would like to make it more useful in the future by featuring *PCEP Perspective* on selected topics.

If there are questions about any of the subjects discussed above, please do not hesitate to call on me.