The Effect of the Food Quality Protection Act on Cranberry Production

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What is the FQPA?

The Food Quality Protection Act of 1996 (FQPA) was signed into law by President Clinton on August 3, 1997 after passing through both houses of Congress without a dissenting vote. It amends the two major pesticide laws: The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act (FFDCA).

Under FIFRA pesticides are labeled for use on specific crops following specific rate, timing and application guidelines (the label's the law) to prevent unreasonable negative human health and environmental effects. The FFDCA establishes tolerances (maximum permissibly legal residues) of pesticide residues in foods.

The FQPA includes rules that dramatically change how levels of pesticide residues in foods are set and includes special provisions to ensure a safe food supply for infants and children. In addition, the FQPA provides that pesticide exposure from sources other than foods, including structural pest control, lawn care and drinking water, must be considered when setting food pesticide tolerances.

The EPA, whose mandate is to protect public health and safeguard and improve the natural environment, must review all pesticides (approximately 9,300 tolerances) under the new FQPA guidelines by 2006. They will begin by reviewing the products of most concern including organophosphate and carbamate insecticides and probable carcinogens.

FQPA provisions in a nutshell

- Review on all pesticide tolerances must be completed by August 2006
    - 33 percent of all existing tolerances must be reviewed by August 1999
    - 66 percent of all existing tolerances must be reviewed by August 2002
- The riskiest pesticides must be assessed first
    - Organophosphate insecticides (39 chemicals; 1,800 tolerances)
    - Carbamate insecticides (12 pesticides; 670 tolerances)
    - Probable (B-2) carcinogens (688 tolerances)
- When reassessing tolerances EPA must consider:
    - the aggregate exposure from a pesticide
    - the cumulative effects from other pesticides with a common mode of activity
    - whether there is an increased susceptibility from exposure to the pesticide to infants and children
    - whether the pesticide produces an effect in humans similar to a naturally-occurring estrogen hormone
- EPA is mandated to provide pesticide-related pesticide information for supermarkets (supermarkets, however, are not required to display these)
- Establishment of a USDA-EPA Minor Use Office to deal specifically with the issues minor crops (e.g., cranberry) face through FQPA implementation
- EPA is encouraging the registration of EPA-determined "reduced-risk" pesticides

Cranberry growers will be effected by FQPA

FQPA has just begun to be implemented at this writing (l/98) and the net impact on the cranberry commodity is clouded by a great deal of *uncertainty* However, the law clearly changes the rules about pesticide use in the US and those rules will, in our opinion, alter the pesticides growers have available to control pests.

The bottom line is that cranberry growers are heavily dependent on pesticides the EPA and the FQPA are most concerned about. These include the following products:

Pesticides on the FQPA "hit" list

Organophosphate and carbamate insecticides

Chlorpyriphos (Lorsban), acephate (Orthene), diazinon, carbaryl (Sevin), and azinphos-methyl (Guthion)

Probable carcinogens

Maneb, mancozeb and chlorothalonil (Bravo)

If organophosphate and carbamate insecticides are treated as "one pesticide" under the *common mode of activity* provision cranberry growers are at great risk of losing one or all of these key products. Based on what we have heard about the status of EPA's decision-making process, this is a real possibility.

It is clear that our most important pesticides are at great risk for loss of registration. Minor crops, such as cranberry, are more vulnerable than higher acreage crops (e.g., potatoes, citrus, apple, grapes, etc.) because chemical companies will protect registrations based on market profitability. Although an important niche market for some companies, cranberry does not compare to the acreages offered by other horticultural and agronomic crops.

CI and cranberry commodity progress towards solutions

In 1997, the majority of the Cranberry Institute's $170,000 research budget was spent on identification, evaluation and registration of alternative pesticides or biological control alternatives. Many of the chemical pesticides tested have unique modes of action and several are "reduced-risk" pesticides. Several products are showing very good promise in terms of efficacy and crop safety.

Approximately 30 different products were tested in 1997 by the following researchers (with full or part CI funding):

- ***Insecticides***
  - Dr. Sridhar Polavarapu; Rutgers,
  - Dr. Lynell Tanigoshi and Dr. Steven Booth, WSU
  - Dr. Anne Averill, UMass
  - Dr. Don Weber, Oceanspray Cranberries, Inc.

Some of these pesticides will be labeled for commercial use in cranberry as early as 1999 while others are just beginning their 4 to 5 year journey. The Cranberry Institute may be sponsoring part of the IR-4 process (through 1998 research dollars) during 1998 to reduce the time it takes to get key products labeled.

In conclusion

The FQPA, which was passed unanimously by Congress in 1996, is likely to cause the cranberry commodity to lose several key pesticides as early as 1999. New pesticide evaluation, sponsored by CI and the commodity at large, is finding replacements for these older at-risk pesticides. There are currently 12 pesticides in the "IR-4 pipeline" that will be registered in one to 5 years. The commodity must continue to work with EPA, IR-4, and chemical companies to fashion a practical and economically viable bridge between the loss of current key pesticides (e.g., Lorsban, Guthion, etc.) and the registration of new generation reduced-risk pesticides. Biological controls, with implementation through IPM, will become an increasingly important tool in pest management.

- *Herbicides*
  - * Dr. Herb Hopen, UW-Madison
  - * Dr. Brad Majek, Rutgers
  - * Susan Butkewich, Oceanspray Cranberries, Inc.
  - * Dr. Rim Patten, WSU
  - * Dr. Tom Bewick, UMass

- *Fungicides*
  - * Dr. Jonathan Smith, Northland Cranberries, Inc.
  - * Dr. Patty McManus, UW-Madison
  - * Dr. Peter Bristow, WSU
  - * Dr. Peter Oudemans, Rutgers'
  - * Dr. Frank Caruso, UMass

- *Researchers investigating biological-based insect controls (with full or partial CI funding)*
  - * Dr. Sheila Fitpatrick, Ag Canada (BHFW mating disruption)
  - * Dr. Sridhar Polavarapu, Rutgers (Sparganothis mating disruption)
  - * Dr. Steven Booth, WSU (Insect-pathogenic fungus *Metarhizium* on cranberry girdler)
  - * Dr. Deborah Henderson, E.S. Cropconsult, Ltd., Vancouver, BC *(Trichogramma* parasitism on BHFW)
  - * Drs. Ralph Berry & Jie Liu, OSU (Indigenous insect-pathogenic nematodes on cranberry girdler)

Organizations other than CI are also contributing money and or personnel towards the search for alternative methods of pest control, including biological controls and reduced-risk pesticides. These include, but are not limited to, the Wisconsin Cranberry Board, Oceanspray Cranberries, Inc., New Jersey Blueberry and Cranberry Research Council, Cape Cod Cranberry Growers Association, Massachusetts Cranberry Research Foundation, Oregon Cranberry Growers Association, Pacific Coast Cranberry Research Foundation, Washington State Cranberry Commission, Washington State Commission on Pesticide Registration and British Columbia Cranberry Growers Association.

New pesticide identification, evaluation and registration is the number one priority for CI research dollars in 1998.

IR-4 cranberry projects going forward

In addition to early-stage identification and evaluation of pesticides, the cranberry commodity has pesticides further along in the registration "pipeline" through the Office of IR-4. IR-4 is the vehicle for registration of pesticides on minor crops.

These projects include:

- four herbicide projects (for control of dodder, grasses, sedges, asters, wild bean, beggarticks)
- five insecticide projects (grubs, fireworms, cutworms, fruitworms, tipworm, mites, other leps)
- three fungicide projects (phytophthera, cottonball, fruit rots)