



Newsletter Extension

Volume 3, No. 5
February 25, 1999

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Calendar

March 6: Fruit Tree Pruning Clinic, Rouster's Apple House, 1980 St. Rte. 131, Milford, OH, 10:00 - 1:30. Anyone with an interest in how to prune fruit trees, grapes, blueberries, and brambles will find this to be a very beneficial seminar. There is no program fee and no pre-registration is required. For information contact Dr. Gary Gao or Dawn Spitznagel at (513) 732-7070.

March 19: Raspberry School, Rosby's Berry Farm & Greenhouse, 50 E. Schaaf Rd., Brooklyn Hts., OH, 5:30 P.M. Millcreek Row Mulcher demonstration, herbicide application update with Dr. Richard Funt. Receive « hour of ODA pesticide credits. For more information and to RSVP call Charles Behnke at (440) 322-0127. \$5.00 registration per family payable at the door.

March 23-24: Kentucky Farmers Direct Marketing Conference, Capital Plaza Holiday Inn, 405 Wilkinson Blvd., Frankfort. The conference will feature workshops on beginning and expanding farmers' markets, value added products, agritourism, business plans, regulations, direct marketing, livestock, and aquaculture. Contact Alason Duncan (606) 233-7845.

Phase-out of Ronilan (Virclozolin) Fungicide for Use on Strawberries & Stonefruit

Source: Mike Ellis, Dept. of Plant Pathology, OARDC

In August 1998, BASF began a phase-out of flowable formulations of Ronilan fungicide (Ronilan FL fungicide) and removed Ronilan usage on stonefruits and strawberries from product labeling.

Phase-out Procedure:

Distributors and dealers can continue to sell all currently packaged product until June 30, 1999. Growers can use currently labeled Ronilan on crops until January 30, 2000. All uses of Ronilan on strawberries and stonefruits must cease before January 30, 2000.

Tolerances for stonefruits and strawberries will be revoked on January 30, 2000; however, after this date, food or feed products derived from strawberries or stonefruits legally treated with Ronilan during the existing stocks phase-out period (August 1998 - January 2000) will be allowed into the channels of trade and legal for consumption before or after January 30, 2000.

Note: The registration for use of Ronilan on raspberry has not changed.

Rovral (iprodione) Label Changes Fungicide for Use on Strawberries and Stonefruit

Rhone-Poulenc has changed the label for Rovral on strawberries to increase the pre-harvest interval (PHI) from 0 days to up to but not after first flower. Rovral can not be applied on strawberry after the first flower appears. On stonefruit (apricots, cherries, nectarines, plums, and prunes) the pre-harvest interval has been increased from 7 days up to but not after petal fall (45-90 day PHI). Therefore, Rovral cannot be applied to any stonefruit after petal fall.

These label changes for Rovral were expected to be on new labels by February 1999. All labeled material can be sold to and used by growers until existing stock run out. Rovral with the old labels (0-day PHI on strawberry and 7-day PHI on stonefruit) should be available to growers during this (1999) growing season.

Note: The use of Rovral on brambles has not changed.

The loss of Ronilan and Rovral for Botrytis control on strawberry is serious. These fungicides are currently the most effective fungicides available for Botrytis control. Once these fungicides can no longer be used, the only remaining materials are Benlate, Topsin-M, captan and thiram. In the absence of Ronilan and Rovral, the best alternative chemistry currently available would be a combination of Benlate or Topsin-M combined with either captan or thiram. At present, some new fungicides with good activity against Botrytis are close to being registered for use on strawberry. Hopefully, these new materials will be registered by the year 2000 when existing supplies of Ronilan and Rovral are gone. If the new materials do not get registered, we will attempt to obtain section 18 registration for their use within Ohio.

The loss of Ronilan and Rovral on stonefruit is serious; however, we still have a good arsenal of fungicides available for control of brown rot fruit rot on stone fruit. The sterol-inhibiting fungicides (Indar, Orbit, Elite), the benzimidazole fungicides (Benlate and Topsin-M), and the broad spectrum protectants (captan and ziram) are still available for preharvest control of brown rot fruit rot. Rovral can still be used for control of brown rot blossom blight control (can be applied up to petal fall).

Wash That Apple

Source: Julie Vorman, Reuters, February 12, 1999

On Friday, February 12, the Environmental Protection Agency began distributing a brochure to some 40,000 U.S. grocery stores that urges parents to wash, scrub, peel and trim fresh produce to remove pesticide residue before serving food to children. The title of the brochure is "Pesticides & Food: What you and Your Family Should Know." The agency was cited as saying youngsters' developing nervous systems and organs can be affected by the large amounts of pesticides typically found on apples, potatoes and other foods.

According to the new pamphlet, which can be found on the internet at <http://www.epa.gov/pesticides/>

[food](#), rinsing fruits and vegetables under running water has "an abrasive effect" that makes it better than soaking. The web site also provides a means for parents to check specific foods to find out the maximum amount of pesticides now allowed by law.

Another suggestion from the EPA was cited in the story: "Children should eat a variety of foods. This will give you a better mix of nutrients and reduce your likelihood of exposure to a single pesticide." The pamphlet mentions but does not endorse consuming organically grown foods to reduce exposure to chemicals.

The brochure was said to be ordered by Congress as part of the Food Quality Protection Act, passed three years ago, which requires the Environmental Protection Agency to reassess virtually all pesticides used on food.

The American Crop Protection Association, who represents pesticide makers, suggests that the new brochure wrongly implies that food is unsafe because of pesticides. Jay Vroom, president of the industry group, said, "the food is safe because the EPA requires 120 or more health, environmental and safety tests on each pesticide before it permits farmers to use them."

Ken Cook, head of the Environmental Working Group, was said to believe "(the pamphlet) completely downplays the risk of pesticides" and that he doesn't "think its mention of organics is courageous at all." Cook's group recently set up its own Web site, which allows parents to fill a grocery cart with typical items that a preschooler might eat during a day and then calculate the likely amount of pesticide residue consumed. The address is <http://www.foodnews.org>.

Consumer Union Reaction to EPA Brochure

Source: February 12, 1999 Consumer Union Press Release forwarded by William G. Smith, Pesticide Management Education Program, Cornell University

Consumers Union strongly criticized the Environmental Protection Agency (EPA) for "failing to give consumers even the most basic information about pesticides in food" in the pamphlet titled "Pesticides & Food: What you and Your Family Should Know."

"This brochure is a lost opportunity for the EPA and the Clinton/Gore Administration to extend their commitment to informing consumers about toxic hazards in their environments to the most fundamental level pesticide residues in the food they feed their families," said Jeannine Kenny, a policy analyst at Consumers Union US Washington D.C. Office. "Instead of telling consumers that pesticides are toxic poisons, that they are found on many foods, and that some foods contain multiple pesticides, this brochure fails to provide consumers with even the most basic understanding of what pesticides are and what risks they pose."

"The brochure is also badly misleading because it suggests that EPA is protecting consumers, particularly infants and children, from the harmful effects of pesticides," Kenny said. "In fact, that won't be true until the new pesticide safety law has been implemented. More than two years since the law has been enacted, EPA is still not protecting kids from the pesticides in their diets, in part because of pressure from the chemical industry to delay any action to reduce pesticide risk."

Deja Vu

Source: William G. Smith, Pesticide Management Education Program, Cornell University

Almost to the day of the 10th anniversary of the "Alar Scare", Consumers Union released a report titled "Do You Know What You're Eating? - An Analysis of U.S. Government Data on Pesticide Residues in Foods." (available online http://www.consunion.org/food/do_you_know1.htm)

Summary as provided by William G. Smith ("we" refers to Consumers Union).

We analyzed data collected by the U.S. Department of Agriculture's Pesticide Data Program (PDP) to compare the relative amounts and toxicity of pesticide residues in different foods. We obtained pesticide residue data on over 27,000 food samples tested by the PDP in 1994-97. We weighted the individual pesticide chemicals and computed a Toxicity Index (TI) for each food. Our TI integrates measures of the frequency of pesticide detection, the levels of residues present, and the relative toxicity of the detected residues, yielding an index of the "relative toxicity loading" of each food.

Larger TI values represent greater toxicity loading--that is, foods with high TI scores have greater amounts of pesticide residues, residues that are more toxic, or both, compared to foods with low TI scores. TI values for the foods tested by the PDP in 1994-97 range from 0.01 to 5,376. But the majority of foods have TI values between 10 and 300, and a few more have values between 300 and 600. That is, the relative toxicity loading of the widely consumed foods tested by the PDP spans a range of at least 60-fold. In our judgment, values greater than 100 on the TI scale show comparatively high pesticide contamination, and values less than 10 indicate that those foods are comparatively quite "clean." (Values in the range from 10 to 100 represent increasing degrees from "low" to "moderate" levels of pesticide contamination.) Our Toxicity Index does not measure "risk", per se; the degree of risk associated with pesticide residues in foods also depends on food intake and on personal factors like age, illness, exposure to other sources of pesticides, and so forth. There is no sharp line between "safe" and "unsafe" scores on our Toxicity Index. With some exceptions noted later, the residues detected by the PDP are within the established U.S. legal limits for those pesticides on those foods. However, legal limits do not define safety, and residues of some chemicals on some foods would frequently expose a young child to a dose greater than the U.S. government's official estimate of the "safe" daily intake of those pesticides.

Our TI values permit a variety comparisons among foods:

Which foods have the lowest TI values? Six foods had very low TI's (10 or less) each time they were tested: Frozen/canned corn, milk, U.S. orange juice, U.S. broccoli, bananas, and canned peaches. Not quite as low, but still relatively "clean", were frozen/canned sweet peas, U.S. and imported apple juice, frozen winter squash from Mexico, tomatoes from Canada, Brazilian orange juice, and U.S. wheat.

Which foods have the highest TI values? Seven foods consistently had high or very high TI's each time tested: Fresh peaches (both domestic and imported); frozen and fresh winter squash grown in the U.S.; domestic and imported apples, grapes, spinach and pears; and U.S.-grown green beans. Among these, U.S. peaches and frozen winter squash had TI values about 10-fold higher than even the other "high" scores.

How many residues? Some foods have residues of many more pesticides than others. Up to 37 different pesticide chemicals were detected in apples by the PDP, for example, and more than 20 are found in peaches, pears and spinach, while only 10 were found in broccoli, and fewer than that in apple juice, orange juice, bananas and corn. Individual food samples often have multiple residues on them. An apple grown in the U.S. typically contains four pesticides, and some have as many as 10 different residues. Peaches, winter squash, spinach, carrots and grapes are more likely than not to have two or more residues in a sample. One sample of spinach had residues of 14 different pesticides on it.

Are imported foods more contaminated than U.S. crops? No. Eleven of the 12 highest TI scores are for U.S.-grown foods. There are 39 cases with 10 or more samples of a food from a specific other country to compare with U.S. samples; in 26 cases (67 percent), U.S. samples had higher TIs. Some differences exist between importing countries, as well as between the U.S. and other countries. Cases where imports are worse include Chilean grapes, Canadian and Mexican carrots, Mexican broccoli and tomatoes, Argentine and Hungarian apple juice, and Brazilian orange juice. U.S. samples are worse than imports for fresh peaches, fresh and frozen winter squash, fresh green beans, apples, and pears. U.S. apple juice has a higher TI than apple juice from Germany or Mexico, and U.S. grapes have higher TIs than those from South Africa and Mexico. The size of the differences varies from food to food. In two cases with the highest TI's of any foods, U.S. peaches have 10 times the TI of Chilean imports, and U.S. frozen winter squash has a TI 143 times as high as Mexican winter squash has. Only two imported foods, Mexican broccoli and Brazilian orange juice, have TIs more than 10-fold larger than those of U.S. samples, but in each case the higher score is still comparatively low.

Do processed foods have less pesticides than fresh foods? Generally, yes. But there are exceptions. TI values for apple juice and orange juice are far lower than for the fresh fruits, and the TI for canned peaches is 1/1,000 that of fresh peaches. Canned spinach has a TI about half as high as that for fresh spinach. Canned/frozen corn and canned /frozen peas also have among the lowest TI values, but no data on the fresh crops are available. But frozen and canned green beans and frozen winter squash each had TI scores higher than those for the corresponding fresh crops.

Were any of the residues illegal? Yes. About 1 percent of the residues detected by the PDP in 1994, 4 percent in 1995 and 1996, and 5 percent in 1997 violated U.S. tolerances. Most violations are not excessive residues of legally registered pesticides, but rather, low levels of chemicals that are not registered for use on that food. Some violations are attributed to persistent residues in soils or to wind dispersal of pesticides applied legally to nearby fields. But we believe the PDP data show widespread illegal use of several insecticides on both U.S. and Mexican spinach.

Our analysis of the data also enables us to explain WHY different foods have the Toxicity Indices they do. We can break the TI for a food down into the components contributed by each pesticide chemical detected in that food. Doing that shows that a comparatively small number of uses of a few highly toxic insecticides accounts for most of the toxicity loading in the crops with high TI values. For example, 22 different pesticides were detected in U.S. peaches in 1996, but one chemical--methyl parathion--accounts for more than 90 percent of the total toxicity load. Methyl parathion accounts for a large part of the TI values for apples, pears, green beans and peas, as well as peaches. The high TI's for winter squash (fresh and frozen) from the U.S. are almost entirely due to residues of dieldrin, a very toxic, carcinogenic insecticide that was banned 25 years ago, but persists in some agricultural soils. A handful of other widely used insecticides and a few fungicides consistently accounts for the greatest fraction of toxicity loading in most crops. We call pesticide uses that dominate the TI's for specific crops "risk drivers."

The fact that a few very toxic pesticides account for most of the toxicity loading in PDP-tested crops has important policy implications. The risks associated with pesticides in foods can be sharply reduced by focusing risk-management efforts on a few high-risk pesticide uses. Safer alternatives exist to manage most pests against which these high-risk chemicals are used (see "Worst First", Consumers Union, 1998).

In 1996, Congress passed a law, the Food Quality Protection Act, that requires pesticide tolerances to protect children. This law could require the U.S. EPA to ban or severely restrict many of the high-risk insecticide uses responsible for the greatest part of the toxicity loading revealed by the PDP data. Unfortunately, the EPA is making only slow progress in implementing the new law, and is faced with

fierce resistance from agricultural interests and pesticide manufacturers. While consumers await stricter government limits, there are steps they can take to minimize pesticide risks in foods they eat or feed their children. We DO NOT recommend eating less fruits and vegetables; the health benefits of these foods outweigh risks from the pesticides they contain. However, consumers can:

- Wash or peel fresh fruits and vegetables. Peeling apples, peaches and pears, in particular, can drastically reduce pesticide exposure from these foods, which have some of the highest Toxicity Indices.
- Try to buy organically grown peaches, apples, grapes, pears, green beans, winter squash and spinach, if they are available where you live.
- Choose a variety of foods; don't overdo it with any one fresh fruit or vegetable.
- Choose foods that have relatively low scores on CU's Toxicity Index. This includes considering the country of origin for foods where domestic and imported samples have very different scores (peaches, apples, grapes, tomatoes, winter squash), and choosing processed fruits and vegetables that have TI scores substantially lower than fresh equivalents, such as canned peaches.

Precision Weed Treatment

Several growers expressed interest in applying herbicide under brambles and blueberries during the growing season. Dr. Doug Doohan suggested that he had constructed a hand-held wipe-on applicator from a hockey stick. We have found several commercial units on the market designed to apply systemic herbicides only where you need them, on the weeds, without excessive drift or drip. Contact Indiana Berry & Plant Company at (800) 295-2226 or Gempler's at (800) 382-8473 for information about the Sideswipe applicator, which sells for under \$35. Forestry Suppliers, Inc. (1-800-647-5368) carries a unit called the "Swiper", priced similarly.

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Information presented above and where trade names are used, they are supplied with the understanding that no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears responsibility of consulting the pesticide label and adhering to those directions.

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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Keith L. Smith, Director, Ohio State University Extension.

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