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Environmental Toxicology Newsletter

"Published Occasionally at Irregular Intervals"

~ Dr. Arthur L. Craigmill ~
Extension Toxicologist

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~~~ NOTE FROM THE EDITOR ~~~

Many readers of our newsletter are aware that the state of California has suffered a huge budget deficit this year. One of the impacts of this has been a 35% reduction of funding for Cooperative Extension programs at the University of California. Such cuts have impacted our programs significantly, and will impact the future publication of the *Environmental Toxicology Newsletter*. For the foreseeable future, publication of the Environmental Toxicology Newsletter will be more "occasional" and "irregular" until new sources of funding can be identified and secured.

Dr. Terry Miller who directs the National Pesticide Information Center at Oregon State University, and the EXTOXNET website at OSU, sent us statistics on the number of accessions (hits) that the newsletter portion of the EXTOXNET website received during the the 2002 calendar year. There were 59,955 hits on the "newer" newsletters and 133,103 total hits (which included the archives of past issues). Your continued support by reading and accessing the newsletter will help us to maintain

this high impact factor.

Thank you,
Art Craigmill and *Sandy Ogletree*

Environmental Exposure Report

Pesticides

Final Report

Many veterans of the Gulf War have expressed concern that their unexplained illnesses may have resulted from their experiences in that war. In response to veterans' concerns, the Department of Defense established a task force in June 1995 to investigate those incidents and circumstances relating to possible causes. The Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses took over responsibility for these investigations on November 12, 1996. Effective April 5, 2001, the Special Assistant to the Under Secretary of Defense (Personnel and Readiness) for Gulf War Illnesses, Medical Readiness, and Military Deployments assumed continued responsibility for Gulf War issues.

Environmental Exposure Reports are reports of what the Department of Defense knows today about certain events that took place during Operations Desert Shield and Desert Storm of 1990 and 1991. This [environmental exposure report](#) focuses on the use of pesticides by US military personnel and the resulting exposures to these compounds. The Department published the initial report on January 12, 2001. This is a final report because no new information has been received to change the findings and assessments of the previous report. As always, if you believe you have information that may change this environmental exposure report, please call: 1-800-497-6261.

REF: US Department of Defense, April 17, 2003.



FDA Statement on "Scientific Criteria to Ensure Safe Food," a Report by the National Academy of Sciences

The National Academy of Sciences' report, "Scientific Criteria to Ensure Safe Food," commissioned by FDA and the U.S. Department of Agriculture, reinforces the progress FDA has already made in reducing and preventing food borne illness. The report ([FDA Talk Paper](#)) specifically attributes some of this progress to the adoption of the Hazard Analysis and Critical Control Point (HACCP) approach to food safety - which FDA has already applied to seafood, fresh juice, and is voluntarily applied in the dairy industry.

The report also calls for clearer links, in the overall U.S. food safety system, between food safety standards and public health outcomes. FDA supports this general goal as a sound public health approach, and has already made progress in reducing the incidence of food borne illness in collaboration with Healthy People 2010 and CDC's FoodNet

and Pulsnet. Programs such as these are instrumental in reduction of food borne illness and in promoting of preventive controls such as HACCP.

FDA has set a goal of reducing food borne illness associated with *Salmonella enteritidis* in shell eggs by establishing regulations including labeling, refrigeration and other preventive controls.

FDA's strong system for regulating food safety and security is based on sound and up-to-date science, including the science of risk assessment. Its collaboration with the U.S. Centers for Disease Control and Prevention and the USDA on such innovative food borne illness tracking systems as FoodNet and PulseNet have greatly strengthened the Federal government's ability to manage outbreaks of food borne illness.

FDA is committed to continuing its close collaboration with its public health partners at all levels of government to make the current food safety system as effective as possible. The agency remains open to new solutions and approaches to ensuring food safety and security.

To the extent that the NAS report calls for new legislative authority and additional resources, FDA will work closely with the Administration and the Congress to evaluate any innovations designed to make the U.S. food supply even safer.

REF: FDA Talk Paper, April 25, 2003.



Use of Agricultural Pesticides and Prostate Cancer Risk in the Agricultural Health Study Cohort

The authors examined the relation between 45 common agricultural pesticides and prostate cancer incidence in a prospective cohort study of 55,332 male pesticide applicators from Iowa and North Carolina with no prior history of prostate cancer. Data were collected by means of self-administered questionnaires completed at enrollment (1993-1997). Cancer incidence was determined through population-based cancer registries from enrollment through December 31, 1999. A prostate cancer standardized incidence ratio was computed for the cohort. Odds ratios were computed for individual pesticides and for pesticide use patterns identified by means of factor analysis. A prostate cancer standardized incidence ratio of 1.14 (95% confidence interval: 1.05, 1.24) was observed for the Agricultural Health Study cohort. Use of chlorinated pesticides among applicators over 50 years of age and methyl bromide use were significantly associated with prostate cancer risk. Several other pesticides showed a significantly increased risk of prostate cancer among study subjects with a family history of prostate cancer but not among those with no family history. Important family history-pesticide interactions were observed.

Odds ratios for prostate cancer increased sharply with age, and cases were more likely to have a family history of prostate cancer. Nineteen percent of prostate cancer cases reported a family history of prostate cancer among first-degree relatives, compared with 8.6 percent of noncases. A nearly significant positive association was observed for cigarette smoking.

In conclusion, farmers and commercial pesticide applicators have a small but significantly higher rate of prostate cancer than the general population of Iowa and North Carolina. Occupational use of a widely used halogenated

fumigant, methyl bromide, was shown to be significantly associated with a risk of prostate cancer in the Agricultural Health Study cohort among those with the highest exposure. A pattern of chlorinated pesticide use may also be related to prostate cancer risk. A family history of prostate cancer appeared to significantly modify the prostate cancer risks among those using several widely used insecticides, including chlorpyrifos, coumaphos, fonofos, phorate, and permethrin for animal use, and a herbicide, butylate. The methyl bromide and family history findings are novel and unexpected and need to be confirmed in later follow-up periods in this cohort and in other studies of prostate cancer in farmers.

REF: [Am J Epidemiol](#) 2003; 157:800-814.



DPR Announces Restrictions to Protect Compost

The California Department of Pesticide Regulation (DPR) has announced new pesticide restrictions to protect commercial compost from potential contamination. DPR will restrict sales of the herbicide clopyralid ("clo-PEER-ah-lid") to lawn and turf professionals, instruct those licensees to assure that green waste stays onsite when the herbicide is used, and require dealers to provide written notice of the restrictions when they sell some clopyralid products. DPR will immediately begin drafting regulations to enforce those restrictions, based on concern that clopyralid residue in grass clippings could make compost toxic to non-target vegetation.

DPR expects its restrictions to affect about 15 clopyralid products used in parks, playing fields, and cemeteries. Golf courses were exempted after DPR determined that grass cycling onsite is a standard industry practice, and clopyralid product labels prohibit use on tees and greens. Clopyralid products labeled for farm, rangeland, and forest use are not affected. DPR took initial action against residential uses in March 2002.

Used to control broadleaf weeds, clopyralid is a low-toxicity chemical that poses little hazard to people, animals, and most vegetation. However, even low levels of clopyralid in compost may damage some plants. Some commercial compost facilities in California have detected clopyralid residues, but no cases of non-target vegetative damage have been documented in the state.

"This action underscores our commitment to California's environment in general and to the compost industry in particular," said DPR Director Paul Helliker. "Clopyralid is a useful pesticide, but some applications could cause a problem if residues accumulate in the green waste stream. We've worked closely with the Integrated Waste Management Board to protect the green waste stream while preserving beneficial uses of this herbicide," said Helliker.

"Using organic material to make compost is an essential part of our efforts to prevent valuable resources from ending up in landfills, a major reason why California's statewide diversion rate has grown to 48 percent," said Linda Moulton-Patterson, Chair of the Integrated Waste Management Board (IWMB). "We are very pleased with the Department's determination to further limit the use of clopyralid. It is a crucial step in protecting the viability of compost markets and the continued success of our waste diversion efforts."

In March 2002, DPR announced it would seek cancellation of 15 clopyralid products registered for residential lawn use, citing a potential hazard to compost. Dow AgroSciences, which registered the herbicide in California, subsequently asked the U.S. Environmental Protection Agency for product label changes to address DPR's concerns. Since U.S. EPA

allowed Dow time to clear existing stocks from dealer shelves, products with the new labels are expected to appear in the market later this year.

DPR's action fulfills a charge by Assembly Bill 2356 (Keeley), passed in 2002. It directed DPR to assess the possibility that clopyralid residues could persist in compost and either impose restrictions or cancel registration of those uses.

Clopyralid was initially registered for use in California in 1997 to combat yellowstar thistle, a noxious weed that can kill livestock.

DPR and IWMB began investigating clopyralid residues in compost about 18 months ago. The two Cal/EPA agencies co-sponsored a workgroup that included compost industry representatives, Dow, and other interested parties. The group held four meetings in the past year to explore how clopyralid residues enter the green waste stream, what residue levels may pose a risk to non-target vegetation, and other relevant information. Among the findings:

- - Compost monitoring data varied. While the frequency of residue detections declined, low levels of clopyralid continued to show up in some samples.
- - Sales data from DPR's pesticide assessment database and Dow AgroSciences suggested sales of turf products declined in the past 12 to 18 months.
- - Dow AgroSciences has made significant efforts to educate its product dealers and users about compost issues, and Dow advised users to discontinue residential lawn uses of clopyralid after DPR initiated cancellation action for that use.
- - Professional lawn and turf associations and the University of California Cooperative Extension Service raised awareness of the issue in meeting presentations, magazine articles, newsletters and Web postings.
- - No phytotoxicity resulting from clopyralid in compost has been reported to DPR during the last 18 months. A recently submitted study examined the phytotoxicity of clopyralid to sensitive plants under defined conditions of soil/compost and compost/peat combinations with varying levels of clopyralid. The Dow-funded study suggested a low probability of phytotoxicity on sensitive plants, given detected levels in California compost. Members of the compost industry reviewed a summary of the study and discussed it with DPR.

However, AB 2356's definition for persistent residues in compost covered a broad range of characteristics with potential toxicity: "residues of an herbicide in compost at levels and in a form with the potential to be toxic or injurious to plants." Based on the law and the joint investigation with IWMB staff, DPR acknowledged the potential diverse uses of compost in commercial agriculture, the nursery industry, and home gardens. Under the law's criteria, DPR determined it was possible that persistent residues in compost could occur from turf uses of clopyralid.

REF: California Department of Pesticide Regulation News, April 2, 2003 (03-08).



Multistate Outbreak of *Salmonella* Serotype Typhimurium Infections Associated with Drinking Unpasteurized Milk Illinois, Indiana, Ohio, and Tennessee, 2002-2003

On December 10, 2002, the Clark County Combined Health District and the Ohio Department of Health (ODH) were notified of two hospitalized children infected with *Salmonella Enterica* serotype Typhimurium. Initial investigation implicated consumption of raw, unpasteurized milk purchased at a local combination dairy-restaurant (dairy) during November 27-December 13, 2002, as the cause. This report summarizes the subsequent investigation. Because 27 states still allow the sale of raw milk, and organizations continue their efforts to allow marketing and sale of raw milk to the public directly from the farm consumer education about the hazards of raw milk and a careful review of existing policies are needed.

The dairy comprised a working dairy farm, restaurant, snack bar, and petting zoo with goats, cows, calves, lambs, and pigs. At the time of the epidemiologic investigation in December 2002, the workforce comprised 211 workers, including 16 members of the owner family. In 2002, the dairy was the only place in Ohio that sold raw milk in jugs and served raw milk and milk shakes made with raw milk legally to customers. In 2001, approximately 1,350,000 customers visited the dairy.

During November 30, 2002-February 18, 2003, ODH laboratory received 94 *S. Typhimurium* clinical isolates for pulsed-field gel electrophoresis (PFGE) testing. Of these, 60 had an indistinguishable pattern. In addition, patterns from Illinois, Indiana, and Tennessee matched the Ohio pattern.

A total of 62 persons had illness consistent with the case definition, including 40 customers, six household contacts, and 16 (7.6%) of 211 dairy workers; patients were from four states (Illinois, Indiana, Ohio, and Tennessee); the median age was 18 years (range: 1-70 years), and 34 (54.8%) were females. Of the 62 patients, 54 (87.1%) reported signs and symptoms of illness, including diarrhea (52 [96.3%]), cramps (41 [75.9%]), fever (37 [68.5%]), chills (29 [53.7%]), body aches (29 [53.7%]), bloody diarrhea (27 [50.0%]), nausea (25 [46.3%]), vomiting (24 [44.4%]), and headache (21 [38.9%]). A total of 50 (80.6%) exhibited more than one symptom. Disease onset occurred during November 30, 2002-January 14, 2003.

A case-control study was conducted to verify the initial findings implicating raw milk and to identify other potential sources of infection. A total of 40 case-patients and 56 controls were eligible for the case-control study. In the univariate analysis of potential risk factors, only consumption of raw milk was associated significantly with illness. Among 39 case-patients and 55 controls for whom date of milk purchase was known, 37 (94.9%) and 16 (29.1%), respectively, consumed raw milk. Consumption of other food items, visiting the petting zoo, and petting animals were not associated with illness.

Of the 32 food samples tested, five were positive for *S. Typhimurium*, including three raw skim milk samples, one sample of butter made from raw milk purchased by a customer, and one sample of cream. Skim milk samples were taken from milk either bought or bottled on November 29. The 31 animal stool samples collected from cows providing milk and the 23 environmental samples taken from dairy equipment and storage sites were negative for *S. Typhimurium*.

The review of the dairy operation and results of worker screening tests revealed that four barn workers had asymptomatic *S. Typhimurium* infection. Barn workers milked the cows, bottled the milk, and made ice cream.

On December 13, 2002, following an order from local health authorities, the dairy discontinued the sale of all raw milk products. On January 13, 2003, the Ohio Department of Agriculture (ODA) recommended that the sale of all dairy products made with raw milk, including bottled raw whole milk, skim milk, and cream, be discontinued permanently. Several sanitation improvements, primarily for the barn workers, also were recommended, including more frequent hand washing, replacement of some of the equipment and utensils (e.g., mixing bowls), and enhanced general

cleaning in the entire property.

Editorial Note: Each year in the United States, foodborne disease causes an estimated 76 million illnesses. Of these, an estimated 1.4 million are caused by *Salmonella*, resulting in approximately 16,000 hospitalizations and 580 deaths. Raw bulk tank milk can contain one or more species of pathogenic bacteria, including *Salmonella* spp. During 1972-2000, a total of 58 raw milk-associated outbreaks were reported to CDC, of which 17 (29%) were caused by *Salmonella* spp.

This report describes a large multistate outbreak of *S. Typhimurium* transmitted through consumption of raw milk and milk products. Although animal and environmental samples were negative for *S. Typhimurium*, four barn workers were infected with *S. Typhimurium*. The source for contamination was not determined; however, **the findings suggest that contamination of milk might have occurred during the milking, bottling, or capping process.**

In 2002, intrastate sale of raw milk for human consumption was legal in 28 states, including Ohio. As of October 1997, Ohio law did not allow the sale of raw milk except for dairies that were engaged continuously in the business of selling or offering for sale raw milk directly to consumers before October 31, 1965. The dairy in this outbreak had been in operation since 1958 and was the only place in Ohio selling raw milk legally. After ODA issued its recommendations, the dairy voluntarily relinquished its license for selling raw milk. As a result, no businesses now sell raw milk to the public legally in Ohio.

Despite the known association of raw milk with disease-causing organisms, some consumers believe that raw milk is of better quality than pasteurized milk. In several states, producers circumvent regulations and provide raw milk to consumers by establishing cow-leasing programs in which farmers keep and milk cows owned by individuals. Consumer education about the hazards of raw milk consumption is needed. Retail milk regulations should be reviewed and strengthened, if needed, to minimize exposure of the public to the hazards of raw milk consumption.

Editorial Note: This case is of interest because it was not the cows who were responsible for the contamination, but asymptomatic workers who were carriers and who were not taking proper steps to prevent contamination of the milk.

REF: Centers for Disease Control and Prevention, *Morbidity and Mortality Weekly Report*, July 4, 2003, 52(26);613-615.



Suspected Moonflower Intoxication - Ohio, 2002

During October 11-November 20, 2002, the Cincinnati Drug and Poison Information Center (DPIC) received notification of and offered treatment advice for 14 adolescents in the Akron/Cleveland, Ohio, area who became ill after intentional exposure to toxic seeds that DPIC identified as *Datura innoxia* (see Figure). All became ill shortly after eating the seeds or drinking tea brewed using the seeds. All patients recovered fully after treatment. This report summarizes these cases, discusses the characteristics of the various plants known commonly as "moonflowers," and underscores the need for awareness of the potential toxicity from recreational use of a plant.

FIGURE. *Datura innoxia*, one of several plants known commonly as "moonflowers"



Photo/R Goetz, Cincinnati Drug and Poison Information Center

moonflower exposures reported to DPIC might represent a new form of substance abuse in the Akron/Cleveland area. The illicit use of this plant might be related to the increasing knowledge of moonflower's hallucinogenic properties combined with the local availability of this plant.

Plants with large fragrant flowers that bloom at dusk are referred to as moonflowers. Poisindex® lists two species as moonflower: *Ipomoea muricata* (purple moonflower) and *I. alba* (white moonflower). Ingestion of *I. muricata* might cause hallucinations and cholinergic effects such as diaphoresis, salivation, lacrimation, and diarrhea. Neither hallucinations nor other anticholinergic effects occur with *I. alba* poisoning.

The clinical features of cases reported to DPIC are most consistent with the anticholinergic properties of *Datura* species. Scopolamine and hyoscyamine, both of which are major constituents of *Datura* species, are most concentrated in the seeds and can cause anticholinergic poisoning in exposed persons.

Symptoms of *Datura* toxicity occur typically within 60 minutes after ingestion and continue for 24-48 hours. Ingestion of *Datura* manifests as a classic anticholinergic syndrome comprising central and peripheral signs and symptoms. Central toxic effects include confusion, agitation, anxiety, hallucinations, seizures, and coma. Peripheral toxic effects include dry mucous membranes, thirst, flushed face, blurred vision, hyperthermia, urinary retention, and decreased gut motility.

D. innoxia is a plant with large white flowers that blooms at dusk; it has a bushy growth habit with up to 200 seeds borne in pods with closely spaced thorns. *D. innoxia* is related to another commonly abused plant, *D. stramonium* (jimson weed). *D. stramonium* has clinical features of toxicity similar to *D. innoxia*. The plant features described by the parents of the exposed adolescents are consistent with *D. innoxia* but not *D. stramonium* or the other moonflower plants.

Of the 14 patients, 12 (86%) were male; median age was 17 years (range: 12-19 years). All 14 patients reported to the emergency department (ED) with anticholinergic signs and symptoms, including dilated pupils, tachycardia, hallucinations, and urinary retention. Signs and symptoms typically lasted 24-48 hours, and the illness resolved with supportive care and benzodiazepine administration. No long-term effects were documented.

On November 5, a local newspaper described some of the cases of "toxic seed" exposure. Use of the common name moonflower had led to some confusion about which of the several moonflower plants were involved in these exposures. Parents of several adolescents who ingested these seeds as a group reported that the seeds were from a moonflower plant, specifically *D. innoxia*, and noted that this plant was cultivated widely and available in local garden stores. On the basis of clinical presentations and a photograph taken of a plant submitted to the ED by one of the parents, a toxicologist at DPIC agreed that *D. innoxia* was the source of these illnesses.

Editorial Note: Moonflower is not on the U.S. Drug Enforcement Agency's list of controlled substances, but local law enforcement measures in the Akron/Cleveland area prohibit selling seedpods for illicit use. The cluster of

This report highlights four important points. First, the clinical effects of recreational use of a plant might vary drastically from the desired effects. Adolescents and parents should be aware of the potential toxicity from recreational use of a plant and the need for medical attention if an exposure occurs. Second, gardening practices in a community might provide novel opportunities for experimenting with intoxicating substances. Because *D. inoxia* is used as an ornamental plant in the Akron/Cleveland area, local garden suppliers should discuss the potential toxicity of the plant at the time of purchase. Third, because toxicity differs for various plants of this type, use of the common name moonflower can be misleading clinically and might complicate identification of some species. Finally, poison control centers can detect new trends in drug abuse or poisonings and provide information that local and state health departments can use to inform the public.

REF: Centers for Disease Control and Prevention, *Morbidity and Mortality Weekly Report*, August 22, 2003 / 52(33);788-791



Application of Pesticides to U.S. Waters

Interim Statement and Guidance on Application of Pesticides to Waters of the United States in Compliance with FIFRA

SUMMARY: In a July 11, 2003, memorandum, the Environmental Protection Agency (EPA) issued, as an Interim Statement and Guidance, an interpretation of the Clean Water Act (CWA) to resolve jurisdictional issues pertaining to pesticides regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) that are applied to waters of the United States. **The interpretation addresses two sets of circumstances for which EPA believes that the application of a pesticide to waters of the United States consistent with all relevant requirements of FIFRA does not constitute the discharge of a pollutant that requires a National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act: the application of pesticides directly to waters of the United States in order to control pests (for example mosquito larvae or aquatic weeds that are present in the water) and the application of pesticides to control pests that are present over waters of the United States that results in a portion of the pesticide being deposited to waters of the United States (for example when insecticides are aerially applied to a forest canopy where waters of the United States may be present below the canopy or when insecticides are applied for control of adult mosquitoes).** EPA issued this statement pursuant to its authority under Section 301 of the Clean Water Act. EPA is soliciting and will consider comment on this interim statement and guidance before determining a final Agency position.

EPA will continue to review the variety of circumstances in which questions have been raised about whether applications of pesticides to waters of the U.S. are regulated under the CWA. As EPA determines the appropriate response to these circumstances, we will develop additional guidance. This memorandum addresses two sets of circumstances for which EPA believes that the application of a pesticide to waters of the United States consistent with all relevant requirements of FIFRA does not constitute the discharge of a pollutant that requires an NPDES permit under the Clean Water Act:

- (1) The application of pesticides directly to waters of the United States in order to control pests. Examples of such applications include applications to control mosquito larvae or aquatic weeds that are present in the waters of the United States.

(2) The application of pesticides to control pests that are present over waters of the United States that results in a portion of the pesticides being deposited to waters of the United States; for example, when insecticides are aerially applied to a forest canopy where waters of the United States may be present below the canopy or when insecticides are applied over water for control of adult mosquitos.

It is the Agency's position that these types of applications do not require NPDES permits under the Clean Water Act if the pesticides are applied consistent with all relevant requirements of FIFRA. Applications of pesticides in violation of the relevant requirements of FIFRA would be subject to enforcement under any and all appropriate statutes including, but not limited to FIFRA and the Clean Water Act. This interpretation also does not preclude or nullify any existing authority vested with States or Tribes to impose additional requirements on the use of pesticides to address water quality issues to the extent authorized by federal, state or tribal law.

For the full text of the Memorandum go to: [Federal Register](#) (and scroll down to Environmental Protection Agency)

REF: *Federal Register*: August 13, 2003 (Volume 68, Number 156)



Surveillance for Acute Insecticide-Related Illness Associated with Mosquito-Control Efforts - Nine States, 1999-2002

Ground and aerial applications of insecticides are used to control populations of adult mosquitoes, which spread such diseases as West Nile virus-related illness, eastern equine encephalitis, and dengue fever. This report summarizes investigations of illnesses associated with exposures to insecticides used during 1999-2002 to control mosquito populations in nine states (Arizona, California, Florida, Louisiana, Michigan, New York, Oregon, Texas, and Washington) (estimated 2000 population: 118 million). **The findings indicate that application of certain insecticides posed a low risk for acute, temporary health effects among persons in areas that were sprayed and among workers handling and applying insecticides.** To reduce the risk for negative health effects, public health authorities should 1) provide public notice of application times and locations and appropriate advice about preventing exposures, 2) ensure that insecticide handlers and applicators meet state-mandated training and experience requirements to prevent insecticide exposure to themselves and the public, and 3) implement integrated pest management control strategies that emphasize mosquito larval control, reduction of mosquito breeding sites, and judicious use of insecticides to control adult mosquito populations.

Cases of insecticide-related illness or injury were classified as either definite, probable, or possible, depending on the certainty of exposure and whether health effects were signs observed by a health-care provider or symptoms reported by a patient. Of the 133 cases of acute insecticide-related illness associated with mosquito control that were identified, two (1.5%) were classified as definite, 25 (18.8%) as probable, and 106 (79.7%) as possible. Of the 132 cases for which work-relatedness could be assessed, 36 (27.3%) were work-related and 96 (72.7%) were not work-related; 31 (86.1%) of the 36 work-related cases occurred among males, and 66 (68.8%) of the 96 cases that were not work-related occurred among females.

Of the 49 cases identified in 2001, a total of 29 (59.2%) were related to a single event at a softball game in which workers operating a mosquito-control truck inadvertently sprayed 29 persons (16 spectators, 12 players, and one coach)

with Fyfanon ULV®, which contains malathion. All 29 persons were treated in emergency departments (EDs).

Of the 133 persons with acute insecticide-related illness associated with mosquito control, 35 (26.3%) were identified from monitoring media reports (including 34 reported subsequently by health-care providers), 32 (24.1%) were reported by poison-control centers, 27 (20.3%) were self-reported, and seven (5.3%) were reported by state health departments. Physicians and EDs were responsible for initial reporting of five and three cases, respectively. The remaining cases were reported initially by friends or relatives (n = seven), government agencies (n = five), employers (n = four), laboratories (n = two), and other sources (n = six).

Of the 85 persons with reported illness who were known to have sought medical care, 45 (52.9%) were treated in EDs, 35 (41.2%) were treated in physicians' offices, four (4.7%) were treated in employee health centers, and one (1.2%) was hospitalized. An additional 16 persons received advice from a poison-control center, and 15 did not seek medical care; information about medical treatment was not available for 17 persons.

Of the 133 reported cases of pesticide-related illness, 95 (71.4%) cases were associated with organophosphates, primarily malathion. Malathion alone was associated with 64 (67.4%) of the 95 cases; 37 (27.8%) cases were associated with pyrethroids, primarily sumithrin (24 cases) and resmethrin (10 cases).

Illness severity was categorized for all cases. **One exposure was associated with illness of high severity. When her neighborhood was sprayed, a woman aged 54 years was exposed to sumithrin, which passed through operating window fans and a window air conditioner. She had exacerbation of her asthma and chronic obstructive pulmonary disease. The majority of the remaining cases were of low (65.4%) or moderate (33.8%) severity.**

The majority of cases were associated either with respiratory (66.2%) or neurologic (60.9%) dysfunction. Other systems affected were gastrointestinal (45.1%), ocular (36.1%), dermal (27.1%), cardiovascular (12.0%), renal-genitourinary (3.0%), and miscellaneous (28.6%).

Of 36 persons who were exposed at their workplaces, 14 (38.9%) were insecticide applicators, and 22 (61.1%) were performing tasks that did not involve pesticide application. Seven (50.0%) of 14 applicators were exposed to sumithrin; of the other 22 workers, 11 (50%) were exposed to malathion, and five (22.7%) were exposed to resmethrin. Illness of moderate severity was more frequent among applicators (42.9%) than nonapplicators (27.3%).

Editorial Note: The findings in this report indicate that serious adverse outcomes potentially related to public health insecticide application were uncommon. **When administered properly in a mosquito-control program, insecticides pose a low risk for acute, temporary health effects among persons in areas that are being sprayed and among workers handling and applying insecticides.** In this analysis, adverse health effects were identified in a small percentage of the population in the nine states.

Malathion, naled, sumithrin, and resmethrin were associated with the majority of reported cases of acute insecticide-related illness. Malathion is an organophosphate insecticide that is classified as an acute toxicity category III compound*. Although it is less acutely toxic than many other organophosphates, adverse health effects have been reported by exposed persons. Naled is an acute toxicity level I organophosphate. When combined with piperonyl butoxide, resmethrin and sumithrin are highly effective insecticides that are of low-order toxicity to mammals, including humans; these pyrethroid products are classified as acute toxicity category III compounds and have been associated with adverse health effects in humans.

(* The U.S. Environmental Protection Agency classifies pesticide products into one of four acute toxicity categories on the basis of certain criteria, with category I comprising pesticides with the greatest toxicity and category IV those with the least toxicity.)

These insecticide formulations are registered by the U.S. Environmental Protection Agency for use in urban areas for mosquito control and benefit the public by controlling populations of mosquitoes that transmit diseases that affect humans. Reported symptoms associated with these insecticides were temporary and included dermal, ocular, and upper

and lower respiratory tract irritation and exacerbation of conditions such as asthma. These health effects might represent irritant or allergic responses, to either the insecticide or its carrier. Anxiety about insecticide use for mosquito control also might have been responsible for symptoms in some persons.

To reduce potential risks from insecticide exposure, CDC recommends the use of integrated pest management strategies for mosquito-control programs that emphasize mosquito larval control, reduction of breeding sites (e.g., human-made collections of stagnant water such as unchlorinated swimming pools, discarded tires or other containers, and bird baths), and judicious use of insecticides to control adult mosquito populations when quantitative measures suggest an elevated risk for human infection or in community settings when extensive immature mosquito larval habitats cannot be controlled. When insecticides are used, public health agencies should inform the public when and where spraying will occur and communicate how to reduce the likelihood of exposure. To avoid direct exposure from passing spray trucks, public health agencies should ensure that visible and audible warnings are made before spraying. Persons with exposure-related health concerns should consult their health-care providers. To prevent exposures from improper application methods, insecticide handlers and applicators should be trained in proper insecticide handling and application methods and in the use of appropriate personal protective equipment.

REF: CDC, *Morbidity and Mortality Weekly Report*, July 11, 2003 / 52(27);629-634.



◆ TOXICOLOGY TIDBITS ◆

Herbal Database

The Memorial Sloan-Kettering Cancer Center has posted a [free database](#) with more than 300 entries about herbs, dietary supplements, and "alternative" cancer treatments. The entries contain a clinical summary for each agent and provides details about constituents, adverse effects, interactions, and potential benefits or problems. Both "professional" and consumer versions are provided, but most of the professional information is readily understandable by laypersons.

REF: www.mskcc.org



Website Offers Information, Insight on Foodborne Illnesses

If you find yourself suffering from what you think is a foodborne illness, there's a Website that can not only offer you some help, but also help health officials determine if there is a public health problem to consider. Whether it's potato salad left out in the sun, hamburger that has seen better days, or a steak that wasn't cooked enough, a long holiday weekend can create some gastrointestinal problems if you're not careful.

Developed by the Michigan State University National Food Safety and Toxicology Center (NFSTC), the Web site is

at <http://www.RUSick2.msu.edu>. People who are experiencing sudden vomiting and diarrhea -- strong symptoms of food poisoning -- can go to the Website to see if others have reported eating the same foods or are experiencing the same symptoms.

Believed to be the first of its kind in the nation, the Website allows users to fill out an online survey to determine how many other forum users with the same symptoms ate the same foods from the same source at the same time. The survey has been adapted to take as long as the visitor wishes -- he or she can enter just symptoms, or continue and enter a food history, and maybe even food sources, if time permits.

Originally launched in November 2002, the Website was designed to detect clusters of suspected food poisoning cases in Michigan's Ingham, Eaton and Clinton counties. Since then, the site has expanded its scope.

Symptoms of foodborne illness can include nausea, diarrhea and abdominal cramps. Stomach and abdominal pain, cramps and spasms are the No. 1 reason people go to a hospital emergency room or urgent care clinic.

There are an estimated 76 million foodborne illnesses and as many as 5,000 deaths every year in the United States, according to the Centers for Disease Control and Prevention.

REF: FSnet June 30/03.



ATSDR Toxprofiles 2003™ Cd-Rom

The Agency for Toxic Substances and Disease Registry (ATSDR) announces its release of the ATSDR ToxProfiles 2003™ CD-ROM, featuring updated toxicologic information and new navigational tools that allow the user to quickly hyperlink to important topics within the CD-ROM.

The information in the ATSDR ToxProfiles 2003™ CD-ROM focuses on health effects from exposure to specific hazardous substances, as well as other toxicologic and epidemiologic information. Each profile is peer-reviewed and includes an easy-to-read section on public health information in non-technical language.

The CD-ROM contains 161 toxicological profiles and nine interaction profiles, that cover more than 250 total substances and makes toxicological information more accessible and convenient for health care workers, toxicologists, occupational health physicians, public health personnel, communities, and ATSDR's environmental health partners.

The ATSDR ToxProfiles 2003™ CD-ROM includes:

Five draft profiles, including three updated profiles, ammonia, copper, PBBs/PBDEs (polybrominated biphenyls/polybrominated diphenyl ethers) and two new profiles, chlorine dioxide and synthetic vitreous fibers.

Seven finalized profiles that were previously "draft for public comment" profiles, aldrin/dieldrin, beryllium, creosote, DDT, DEHP (di (2-ethylhexyl) phthalate), hexachlorobenzene and methoxychlor.

The profiles also are accessible on the ATSDR Web site at www.atsdr.cdc.gov

REF: ATSDR announcement, June 3, 2003.



EPA Finalizes Voluntary Cancellation of Virtually All Residential Uses of CCA-Treated Wood

On March 17, EPA granted the voluntary cancellation and use termination requests affecting virtually all residential uses of chromated copper arsenate (CCA) treated wood. Under this action, affected CCA products cannot be used after Dec. 30, 2003 to treat lumber intended for use in most residential settings. This transition affects virtually all residential uses of wood treated with CCA, including play structures, decks, picnic tables, landscaping timbers, residential fencing, patios and walkways/boardwalks. This action was proposed in February 2002 by the registrants of CCA-pesticide products used to treat wood.

Phase-out of the residential uses will reduce the potential exposure risks to arsenic, a known human carcinogen, thereby protecting human health, especially children's health and the environment. The current action follows up on the February 2002 publication of a notice of receipt of voluntary cancellation/use termination requests, which also provided an opportunity for public comments to be submitted to EPA. A notice of the cancellation order will be published in the *Federal Register*, and that document will include the Agency's response to comments. Consumers may continue to buy and use the treated CCA wood for as long as it is available. The transition to using the new generation treatment products is well underway. **The Agency is deferring any action on two uses involved in the termination requests, therefore wood used in permanent wood foundations and fence posts for agricultural uses may continue to be treated with CCA at this time.** EPA is working with the registrant community and other stakeholders to ensure that safer, comparable alternatives will be available. EPA is continuing its work on an ongoing comprehensive reevaluation of CCA-treated wood that has been underway as part of the Agency's effort to reevaluate older pesticides to ensure that they meet current health and safety standards. More information on CCA treated wood is available at: <http://www.epa.gov/pesticides/factsheets/chemicals/1file.htm>

REF: [EPA OPP Press Release](#).

Snakes Beware



The EPA has granted a registration to the Animal and Plant Health Inspection Service (APHIS) for the new active

ingredient acetaminophen, to be used to control the invasive brown tree snake in Guam and the Commonwealth of the Northern Marianas Islands. The brown tree snake, a species that originated in New Guinea, is a significant and invasive exotic pest that was introduced on Guam during World War II, presumably by military transport. Native wildlife on Guam and the Marianas Islands have been under severe predation pressure by this pest for years. If the brown tree snake were to reach Hawaii or enter the continental United States, the potential for damage by this invasive species is high. Since the early 1990s, the Department of Defense has spent over \$1 million yearly to combat the brown tree snake and prevent its movement to other locations. The brown tree snake is also responsible for numerous power outages in Guam, deaths of pets, and bites (venomous) of humans, especially infants. Research and use of acetaminophen under quarantine exemptions has shown excellent results in reducing brown tree snake populations, with consumption of only one baited mouse needed to kill a brown tree snake.

REF: ([EPA OPP Pesticide Program Update](#)).



Safe Swimming

Swimming, one of the most popular activities in the country, is a fun, active, and healthy way to spend leisure time. Every year, millions of people visit “recreational water” sites, such as swimming pools, water parks, hot tubs, lakes, rivers, or the ocean.

Over the past century, the use of modern disinfection systems in pools and environmental improvements in our lakes, rivers, and oceans has improved the quality of recreational water. Despite this, there has been an increase over the past decade in the number of outbreaks of illness associated with swimming.

This Website [Healthy Swimming](#) provides information for swimmers, pool operators, and public health professionals to improve the swimming experience by raising awareness about the spread of recreational water illnesses (RWIs). Practicing "Healthy Swimming" behaviors should reduce the risk of getting ill.

REF: Centers for Disease Control website.



FDA'S Response to Food, Dietary Supplement, and Cosmetic Adverse Events

A child's throat swells up after she eats a piece of fruit. A man gets short of breath after he takes a dietary supplement. A woman gets an eye infection after she uses mascara. Are these allergic reactions? Effects of chemical properties or contaminants? Or just coincidences? Determining the cause of incidents like these and helping to prevent their recurrence is the focus of a new system within the Food and Drug Administration's Center for Food Safety and Applied Nutrition (CFSAN).

The center is launching its CFSAN Adverse Event Reporting System (CAERS) to help track and monitor adverse

events related to foods, dietary supplements, cosmetics, food additives, and color additives -- the five types of products regulated by CFSAN.

An adverse event is any illness or injury that may be associated with a product or ingredient. Adverse event reporting systems typically detect only a small proportion of the events that actually occur, according to an April 2001 report from the Health and Human Services Office of Inspector General. For example, according to one estimate, the FDA receives reports of less than 1 percent of all adverse events associated with dietary supplements.

Consumers can play an important public health role by reporting to the Food and Drug Administration any adverse events or other problems with FDA-regulated products. Timely reporting allows the agency to take prompt action. Report what happened as soon as possible. Have the following information ready:

- Description of the adverse event
- Name, address, and phone number of the doctor or hospital if emergency treatment was provided
- Name of product and manufacturer
- Any codes or identifying marks on the product label or container
- Name and address of the store where you purchased the product and the date of purchase.

To report an emergency that requires immediate action, such as a case of foodborne illness or a drug product that has been tampered with, call the FDA's main emergency number, staffed 24 hours a day: 301-443-1240.

To report a non-emergency adverse event, contact the FDA district office nearest you. Look up the FDA's phone number under the Department of Health and Human Services in the blue U.S. government section of the telephone directory. Or check the phone numbers listed by state at www.fda.gov/opacom/backgrounders/complain.html.

Adverse events regarding medical products may also be reported to the FDA's MedWatch program at 1-800-FDA-1088 (1-800-332-1088) or www.fda.gov/medwatch.

Also report the problem to the manufacturer or distributor shown on the product label and to the store where you purchased the product.

REF: [FDA Consumer magazine](#), July-August 2003 Issue.



National Pesticide Information Center Brochure Available

The National Pesticide Information Center (NPIC), the toll-free pesticide information help line co-sponsored by EPA and Oregon State University, recently released its newly designed free brochure for distribution to the general public. The brochure contains important information about [NPIC](#) and its valuable, free services. EPA has a limited number of copies available. If you would like a copy call 1-703-305-5017; for more than 10 copies, contact NPIC at: 1-800-858-7378; email: npic@ce.orst.edu.

REF: *Pesticides Notes*, June/July 2003.



Nationwide Campaign to Protect Children

In an effort to protect children from poisons, clinics, health department and hospitals around the country will begin receiving display posters urging consumers to store pesticides and other household chemicals up high in a locked cabinet. Storing pesticides and other chemicals out of children's reach, up high in a locked cabinet, can be a simple but effective means of poison prevention. For possible poisonings, consumers should immediately call the poison center at 1-800-222-1222. To view a copy of the poster, go to: http://www.epa.gov/oppfead1/cb/csb_page/publications/lockitup-poster.pdf.

REF: *Pesticides Notes*, June/July 2003.



EPA'S FY 2002 Annual Report Available

Promoting Safety for America's Future, the Fiscal Year 2002 Pesticide Program Annual Report is now available at: <http://www.epa.gov/oppfead1/annual/>. The report summarizes the Agency's testing requirements, reassessment of older products, strong partnerships with stakeholders, and outreach and communication efforts with the public. Highlights include the following:

- Registration of new active ingredients
- Registration of new uses
- Risk management decisions
- Increased communication with the public
- Stepping up Integrated Pest Management in schools

REF: *Pesticides Notes*, June/July 2003.



Household Products Database

The National Institutes of Health announced a consumer's guide that provides easy-to-understand information on the potential health effects of more than 2,000 ingredients contained in more than 4,000 common household products.

Some household products contain substances that can pose health risks if they are ingested or inhaled, or if they come in contact with eyes and skin. The National Library of Medicine's (NLM) Household Products Database (<http://householdproducts.nlm.nih.gov>) provides information in consumer friendly language on many of these substances and their potential health effects. For more technical information users can launch a search for a product or ingredient in TOXNET from the Product Page in the database.

"The Household Products Database is a natural outgrowth of the work that the Library has done in recent years, educating the public about environmental risks posed by chemicals in the air, soil and water," explained NLM Director Dr. Donald A.B. Lindberg. "Last year, we unveiled Tox Town (<http://toxtown.nlm.nih.gov>), a site that introduces consumers to the toxic chemicals and environmental risks they might encounter in everyday life, in everyday places. Tox Town looks at facilities like schools, office buildings and factories, and the chemicals likely to be in them. With the Household Products site, we go inside the user's home and provide information about common products and their potential health effects."

The Household Products Database enables users to learn what's in the products under the kitchen sink, in the garage, in the bathroom, and on the laundry room shelf. It is designed to help answer questions such as:

- What chemicals are contained in specific brands and in what percentage?
- Which products contain specified chemicals?
- Who manufactures a specific brand? How can I contact the manufacturer?
- What are the potential health effects of the chemical ingredients in a specific brand?
- What other information is available about such chemicals in the toxicology- related databases of the National Library of Medicine? For example, a homeowner trying to decide which algae-killing product to use in her swimming pool could select the "Landscape/Yard/Swimming Pool" category in Household Products and click on "algaeicide." She then could choose several brands to examine for chemical content and possible health hazards. The record for each product would show her the ingredients from something called the Material Safety Data Sheet (MSDS). Designed to provide workers and emergency personnel with the proper procedures for handling or working with a particular substance, these sheets are produced by the manufacturer of the product as required by Federal law.

REF: National Institutes of Health National Library of Medicine Release, August 1, 2003.



FDA Pesticide Program: Residue Monitoring: 1993-2001

This document is the fifteenth annual report summarizing the results of the [Food and Drug Administration's \(FDA\) Pesticide Residue Monitoring](#) Program. This report includes findings obtained during FY 2001 (October 1, 2000 through September 30, 2001) under regulatory and incidence/level monitoring. Selected Total Diet Study findings for 2001 are also presented. Results in these reports continue to demonstrate that **levels of pesticide residues in the U.S. food supply are well below established safety standards.**

REF: EdNet Update, May 2003



What Would You List as the Top Seven Concerns for Food Safety?

What would you list as the top seven concerns for food safety? According to an Ohio State University study, the top seven perceived safety risks (in order of concern): pesticide residues, drinking water contamination, growth hormones in meat or milk, bacterial contamination, bioterrorism, mad cow disease, and biotech foods. Additionally, consumers who are regularly exposed to print, radio, or television news are more likely to have concerns about food safety. (*CropLife America Spotlight*, 6-20-03 via *Chemically Speaking*, 7-03). Which of the perceived food risks actually causes the greatest risk? Bacterial contamination probably outweighs all of the other risks combined.

REF: *Georgia Pest Management Newsletter*, August 2003/Volume 26, No. 8.



Pesticide Development Time Lines and Dollars

CropLife America and the European Crop Protection Association released results of a study that shows that the average discovery, development and registration costs to bring a crop protection product to market have increased from \$152 million in 1995 to \$184 million in 2000, a cost eight times higher than 20 years ago. The consulting firm conducting the study attributed the increase primarily to the adoption of new technology, stricter regulatory standards instituted to ensure environmental and consumer protection, and a rise in the amount of data required by regulatory authorities. Also, the development period for a new product (from first synthesis to commercialization) has increased from 8.3 years in 1995 to 9.1 years in 2000, and the average number of molecules screened leading to the introduction of each new product increased from 52,500 to >139,000 for these same respective years. (*CropLife America Spotlight* via *Chemically Speaking*, June 2003, *University of Florida*)

REF: *The Label*, July 2003 Vol. 15 , No. 7.



VETERINARY NOTES



USP Closes Its Veterinary Practitioners' Reporting Program

The United States Pharmacopeia (USP) has decided to close its Veterinary Practitioners' Reporting Program (VPRP) after nine years of operation. The program, which closed on April 30, 2003, was created to identify and ultimately correct adverse reactions with drugs, biologics, and insecticides administered to domestic animals.

"Regretfully, we decided to discontinue the VPRP. We believe that as an organization, USP should focus our efforts on other initiatives, such as setting quality standards for veterinary preparations," said Roger L. Williams, M.D., executive vice president and chief executive officer of USP. "Our greatest contributions to the veterinary community have been and will continue to be made through our standards-setting activities."

USP started VPRP in collaboration with the American Veterinary Medical Association (AVMA) in response to the growing need by animal owners, veterinary practitioners, and regulatory agencies for a system to collect and release data on adverse veterinary-product experiences. Since the program's inception in 1994, USP has received more than 5,000 reports.

A key component of the VPRP was USP's notification process for submitted reports. With the consent of the reporter, USP would notify AVMA, the manufacturer of the product, and the appropriate regulatory agency of each adverse report submitted. If a cluster of reports was received for a single product, the appropriate regulatory agency could then pursue an investigation. The government agencies involved were: the U.S. Food and Drug Administration's (FDA) Center for Veterinary Medicine (CVM), the U.S. Environmental Protection Agency (EPA), and the Center for Veterinary Biologics (CVB) -- a unit of the U.S. Department of Agriculture (USDA).

USP recommends that participants of the VPRP direct future adverse reports to the following regulatory agencies:

- CVM -- for adverse drug experiences. You may submit a report by telephoning CVM at 1-888-FDA-VETS. You can also obtain an adverse reporting form on the organization's Web site at www.fda.gov/cvm.
- CVB -- for veterinary biologics, such as vaccines and bacterins. Visit the link: www.aphis.usda.gov to obtain a form, or call CVB at 1-800-752-6255.

For further information on the closing of the Veterinary Practitioners' Reporting Program, please send an e-mail to mediarelations@usp.org.

REF: USP News Release www.usp.org, May 9, 2003.



New CDC Web Site for Animal/Human Health Risks

The following article is used with permission, and provides information about human health risks related to animals. Veterinarians may wish to duplicate this article and provide copies to their interested clients. As always, material that appears in the FDA Veterinarian is free of copyright and may be reproduced without permission.

The U.S. Centers for Disease Control and Prevention (CDC) has created a website to provide people with information about the health-related risks of owning and caring for animals. Links are located throughout the website for general

information about companion and wild animals and the diseases they could carry. The website offers important information about safe practices for handling domestic animals and avoiding wild ones. The [Healthy Pets, Healthy People](#) web site is online at www.cdc.gov/healthypets.

REF: *FDA Veterinarian*, Vol. XVIII, No. III, May/June 2003.



Think Twice Before Using Gentamicin

No one was thinking about drug residues when they treated several hundred head of sick young calves that had just traveled hundreds of miles from dairy farms in Idaho and Washington. They were just trying to keep them alive and save their sight, because many were scouring and suffering with severe pinkeye. Using gentamicin under a veterinarian's direction seemed to be the most effective treatment when given orally to treat the scours and used as a flush in the calves' eyes. The calves recovered and in another two months were in good enough shape to be shipped out to feedlots.

Another year would pass before the calves had grown and reached market weight. No one was thinking about drug residues when the calves, now grown to steers, were shipped for slaughter, because no one had treated them at the feedlot. Sampling by USDA at the slaughter plant changed everyone's thinking when a gentamicin residue was found in the kidney of the steer sampled.

There is **no "tolerance" for gentamicin in cattle**, because a gentamicin-containing drug has not been approved for use in cattle. Gentamicin is known to bind to the kidney tissue of cattle irregardless of the route of administration and could be a residue concern for 18 months or more. In fact, **no withdrawal period has been scientifically established in cattle** for those veterinarians searching the literature for direction in an "extra-label" use scenario. No one thought about a drug being sustained in an animal for a year or more, but gentamicin is different and professionals treating cattle need to know this. In this investigation, veterinarians involved in treating the calves recommended a six-month withdrawal period and their colleagues were their source of the withdrawal period. There was a learning experience from this investigation for the professionals involved when they were informed of the unusual residue problems with gentamicin, and subsequently stopped using it in dairy and feedlot cattle.

CVM's Dr. Mike Talley notes that "veterinarians and producers should be aware that there are approved drugs to treat the conditions described in calves that have much less potential for prolonged residues available for extra-label use if the approved drugs were found not to be effective by the prescribing veterinarian. In addition, the American Association of Bovine Practitioners (AABP), the American Veterinary Medical Association (AVMA), and the Academy of Veterinary Consultants have position papers or resolutions saying that **aminoglycosides should not be used for extra-label purposes in cattle.**"

REF: *FDA Veterinarian*, Vol. XVIII, No. III, May/June 2003.



EPA Proposes Revocation of Meat, Milk, Poultry, and Egg Tolerances for which no Residues are Expected

On July 16, EPA published a notice in the *Federal Register* (Vol. 68, No. 136, Pages 41989-41996) proposing to revoke 105 meat, milk, poultry, and egg tolerances (maximum residue limits) for residues of the pesticides aldicarb, atrazine, cacodylic acid, carbofuran, diazinon, dimethoate, fenarimol, metolachlor, propiconazole, sodium aciflourfen, and thiophanate-methyl. The proposal also includes modifications of certain fenarimol tolerances. In developing this proposal, EPA reviewed studies regarding whether pesticide residues might occur in meat, milk, poultry, or eggs produced by animals that are fed agricultural products containing residues of the pesticide. **These feeding studies used exaggerated amounts of the compound and did not show measurable residues of the pesticides tested. Based on these studies, EPA determined that there was no reasonable expectation of finite residues of these pesticides in or on meat, milk, poultry, or egg, and thus, these tolerances are not required and can be revoked.** Registered uses of these pesticides remain legal. EPA previously completed the reassessment of these tolerances under the Federal Food, Drug, and Cosmetic Act (FFDCA). EPA must receive any comments on this proposal by September 15, 2003, identified by docket number OPP-2003-0092. The *Federal Register* notice is available on the EPA web site at <http://www.epa.gov/fedrgstr/EPA-PEST/2003/July/Day-16/p17730.htm>.

REF: [USEPA Website](#), July 2003.



FARAD – Resource for Residue Problem Avoidance

The Food Animal Residue Avoidance Databank ([FARAD](#)) is a computer-based decision support system originally designed to provide livestock producers, extension specialists, and veterinarians with practical information on how to avoid drug, pesticide and environmental contaminant residue problems. However, FARAD also offers emergency response assistance for accidental or deliberate chemical exposures to food animals. Since 1982 the FARAD has provided emergency hotline assistance to State and Federal agencies dealing with chemical contamination in food animals.

FARAD is a collaboration between USDA, FDA, and three Universities (North Carolina State University, University of Florida, and University of California, Davis). FARAD was authorized by Congress in 1998 (Public Law 105-185). Dr. Jim Riviere, Professor, North Carolina State University, College of Veterinary Medicine says one of FARAD's functions is "to provide withdrawal time guidance in support of extra-label drug use under AMDUCA." Dr. Riviere adds, "They also provide such information to the FDA-supported Veterinary Antimicrobial Decision Support System (VADSS) program on Prudent Antimicrobial Use and internationally to the Commonwealth Agricultural Bureau, International (CABI), which is a global storehouse and disseminator of agricultural databases."

FARAD maintains an up-to-date computerized compilation of:

- Current label information including withdrawal times on all drugs approved for use in food animals in the United States and on hundreds of products used in Canada, Europe and Australia.
- Official tolerances for drugs and pesticides in tissues, eggs and milk.
- Descriptions and sensitivities of rapid screening tests for detecting residues in tissues, eggs and milk.

- Data on the fate of chemicals in food animals.

FARAD maintains the largest database of animal pharmacokinetic data in the world. These data describe the time-course of chemical (drugs, pesticides, environmental contaminants and toxins) depletion in the tissues and products of animals. FARAD is also sanctioned to provide these estimates to the United States Pharmacopeia-Drug Information (USP-DI) Veterinary Medicine Advisory Committee. As a cooperative multi-state program, FARAD is available nationwide to offer advice about residue avoidance.

Where to Call FARAD

FARAD expert-mediated assistance is available from two Regional Access Centers that can be accessed by this single toll-free telephone number:

1-888-USFARAD (1-888-873-2723)

WESTERN REGIONAL ACCESS CENTER

Fax (530)752-0903

Email farad@ucdavis.edu

EASTERN REGIONAL ACCESS CENTER

Fax (919)513-6358

Email farad@ncsu.edu

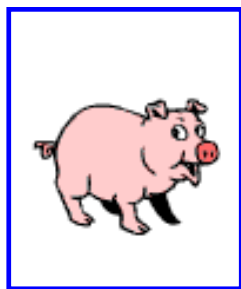
When to Call FARAD

Anyone who has a question about how to prevent residues in animal-derived foods is encouraged to call FARAD for assistance. Food animal veterinarians and Extension specialists are currently the major users of FARAD information. The FARAD Regional Access Centers operate during normal business hours. Most questions can be answered immediately; however, complex response may require a couple of days.

For more information, please visit FARAD's web site at <http://www.farad.org>.

REF: *FDA Veterinarian*, Vol. XVIII, No. IV, July/August, 2003.

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