
Cooperative Extension --- University of California, Davis



Environmental Toxicology Newsletter

"Published Occasionally at Irregular Intervals"
~ *Dr. Arthur L. Craigmill* ~
Extension Toxicologist

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Introduction

This newsletter contains the latest news release from the California Department of Pesticide Regulation (DPR) concerning the 2004 Pesticide Use Report Summary. When you read this news release (and the report also if you link to it) please remember that the number of pounds of pesticide used, and the number of acres treated are very general and non-specific measures of the overall impact that a pesticide may have on the environment and human health. Remember the paraphrase of Paracelsus which Dr. Alice Ottoboni coined and used as the title of her book, "The Dose Makes the Poison". Remember also the words of our former Chancellor at UCD, Dr. Emil Mrak who wrote; "There are no harmless substances, only harmless ways of using substances."

I would like to challenge our readers and contributors (involuntary as they are) about the use of several "buzz-words." These descriptive terms include "reduced risk" and "least toxic." What do they mean? What measure of risk is reduced? What aspect of toxicity is being referred to for comparison? To me these are ill-defined, "feel-good" words that I would expect to hear in commercials rather than a news release or report from a state agency. I would also like to challenge all of our readers to use appropriate terminology in their descriptions of toxicants. The DPR press release refers to "chemicals classified as reproductive toxins", and I am certain that this report does not refer to just toxins, but to human-made chemicals as well. Toxins are toxicants of biological origin, and the term implies that a toxin comes from a living source. BT toxin is a toxin. Carbaryl is not a toxin, and most chemical pesticides are not toxins. Our mission is to educate and inform people, so please, let's start being precise and use scientific terminology appropriately. Thank you.

I would also like to announce that beginning July 1, I will be taking over a 40% appointment at the Sierra Foothill Research and Extension Center (SFREC): http://danrrec.ucdavis.edu/sierra_foothill/home_page.html. Please take a look at the SFREC website, and if you see any opportunity to do a project at SFREC, please contact me. It is a unique resource for research, extension and teaching programs in the Sierra Foothills. Sandy Ogletree will continue to assemble this newsletter so this should not impact our "occasional and irregular interval" publication schedule.

~~ *Art Craigmill*



DPR Releases 2004 Pesticide Use Data; More Nature-friendly Chemicals Gain Favor

The California Department of Pesticide Regulation has reported a small increase in pounds of pesticides applied in 2004, but that included a dramatic rise in the use of some nature-friendly chemicals.

Commercial pesticide use increased from 175 million pounds in 2003 to 180 million pounds in 2004, an increase of less than 3 percent.

More than half of the five million pound increase in 2004 could be linked to two chemicals that qualify for organic agriculture -- sulfur and mineral oils. In addition, "A dramatic increase occurred in the use of some newer, reduced-risk pesticides," said DPR analysts. Meanwhile, use of several classes of highly-toxic chemicals declined, both in pounds applied and acres treated.

DPR Director Mary Ann Warmerdam said the statistics were timely. "They coincide with DPR policy initiatives to emphasize more sustainable, less toxic pest management for agriculture and industry, and in homes and gardens," said Warmerdam. "This is just another indication that we are moving in the right direction."

Last year, Warmerdam directed DPR's Pest Management Advisory Committee to begin developing a statewide blueprint for integrated pest management (IPM), a least-toxic approach that stresses more prevention and less reliance on chemicals. A diverse workgroup made recommendations to the committee late last year. DPR expects to move forward on its IPM blueprint after the pest management committee meets in February, said Warmerdam.

"The recommendations include more IPM research, as well as public-private cooperative efforts that offer strong and positive incentives to industry," said Warmerdam. She also welcomed a recommendation for renewed support of IPM grant programs. DPR produced dozens of successful IPM projects around the state, until budget cuts suspended the IPM grants in 2003.

Some details from the 2004 DPR pesticide use summary:

- Pesticide use varies from year to year based on many factors, including types of crops, economics, acreage planted, and other factors -- most notably weather. A wet winter in 2004 promoted weed growth; then a hot, dry summer encouraged mites and other pests. In addition, acreage increased for some major crops, and high-value crops often justify more intensive pest management.
- As measured by pounds, sulfur was the most-used chemical with 54 million pounds, or about 30 percent of all pounds applied. Sulfur -- favored by both conventional and organic farmers -- saw use increase by nearly 800,000 pounds (1.5 percent) in 2004. Use of mineral oil, another chemical that qualifies for organic production, increased by 2.8 million pounds (44 percent).
- Meanwhile, "A dramatic increase occurred in the use of some newer, reduced-risk pesticides such as spinosad, acetamiprid, pyraclostrobin, methoxyfenozide, carfentrazone-ethyl, and boscalid," DPR analysts reported.
- Spinosad is a relatively new chemical class of insecticides derived from a natural soil bacterium. It was first discovered by a vacationing scientist in an abandoned rum distillery in the Caribbean. Spinosad use increased by 4,400 pounds and 52,000 acres -- to a total of more than 858,000 cumulative acres -- in 2004. Use of insecticide organophosphate and carbamate chemicals -- compounds of high regulatory concern -- continued to decline. Use declined by 130,000 pounds (1.6 percent) and by 360,000 acres treated (5.7 percent) in 2004, compared to the prior year.
- Use of chemicals classified as reproductive toxins declined by 600,000 pounds (2.5 percent), and by cumulative acres treated, 180,000 acres (7.7 percent). The fumigant methyl bromide showed the largest decline in pounds -- 295,000 -- or 4 percent.
- Another major fumigant, metam-sodium, decreased by 132,000 pounds (1 percent) and about 14,000 cumulative acres (10 percent). Use of the fumigant 1,3-D increased by 1.9 million pounds (28 percent) and about 7,700 acres (16 percent).
- As in previous years, the most pesticide use occurred in the San Joaquin Valley, the nation's No. 1 agricultural area. Fresno, Kern, Tulare, and San Joaquin counties had the highest poundage use.
- Pesticide use is reported as the number of pounds of active ingredient and the total number of acres treated. Data for pounds includes both agricultural and nonagricultural applications; data for acres treated are primarily agricultural applications. The number of acres treated is cumulative; one acre treated three times is counted as three acres.

For the 2004 Pesticide Use Report Summary and selected "top" data lists, link to www.cdpr.ca.gov/docs/pur/pur04rep/04_pur.htm.

REF: DPR News Release, January 23, 2006.



Orf Virus Infection in Humans

New York, Illinois, California, and Tennessee, 2004-2005

Orf virus is a zoonotic parapoxvirus endemic to most countries in the world and is principally associated with small ruminants (e.g., sheep and goats). Human orf infections appear as ulcerative skin lesions after contact with an infected animal or contaminated fomite. [This report](#) summarizes the epidemiologic and laboratory investigations of four sporadic cases of human orf infection, emphasizing the temporal association between human lesions and skin trauma or recent flock vaccination with live orf vaccine. This zoonotic infection shares clinical manifestations and exposure risks with other, potentially life-threatening zoonoses (e.g., cutaneous anthrax) and is likely under-recognized because of a lack of clinical suspicion and widely available diagnostics. Barrier precautions and proper hand hygiene are recommended for the prevention of orf virus infection in humans.

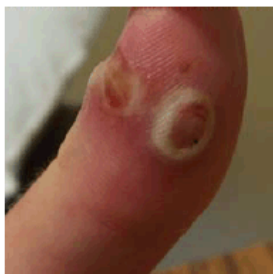
Case 1. On March 1, 2004, a woman aged 51 years from upstate New York noted an area of erythema approximately 4 mm in diameter on the middle finger of her right hand. During the next several days, the lesion evolved into a clear, solitary vesicle with surrounding erythema. On March 12, she visited her family physician, who prescribed penicillin and warm water soaks. The patient did not recall any trauma, including animal bites, although she regularly cared for goats on her family farm. She reported having bottle-fed a kid goat with a sore on its mouth approximately 1 week before the appearance of the lesion.

The patient did not improve and, on March 15, she went to a local hospital. The lesion on her finger had progressed to 2 cm in diameter with a 3-4 mm central white ring and umbilication. Her examination was otherwise unremarkable. The patient was treated empirically with ciprofloxacin and amoxicillin-clavulanate.

On March 22, after discussion with local veterinarians, she contacted the New York State Department of Health to inquire about diagnostics for orf virus infection. Specimens collected on March 15 were forwarded to CDC and determined to be positive at both genus (*Parapoxvirus*) and species (orf virus). By April 1, the lesion had spontaneously healed without scarring. No other family members or farm attendants reported similar skin lesions.

Case 2. In May 2004, an adolescent boy aged 16 years was bitten on the left hand by a healthy-appearing sheep that he was grooming for a county fair in southwestern Illinois. The sheep had been vaccinated against orf virus 1 week before the patient was bitten. Three weeks after he sustained the bite, the patient went to his primary-care physician with three nonpruritic, painless vesicular lesions on his left thumb, the largest of which was 1.5 cm in diameter (See Figure below). The patient reported no constitutional symptoms, and the rest of his physical examination was unremarkable. CDC confirmed the diagnosis of orf virus infection. No treatment was administered, and the lesions healed spontaneously after 2 months. The sheep was removed from the county fair once the orf infection was evident, and active case finding failed to reveal other orf infections in county fair staff or attendees.

FIGURE 1. A thumb with two denuded orf lesions (eroded vesicles with an erythematous base and white halo)



Photo/CDC

Case 3. On July 28, 2004, a man aged 51 years from Sonoma County, California, was referred to an infectious diseases physician because of pruritic, painless vesicles on his left hand. He had onset of these lesions 10 days after shearing young sheep, which had been purchased recently at auction and vaccinated with the live orf vaccine. The patient noted

that some of the sheep had ulcers on their oral mucosa. He also recalled cutting his skin on thistles and burs embedded in the sheep wool. He reported no constitutional symptoms. His physical examination was only remarkable for five bullae (vesicles ≥ 1 cm in diameter), 1.0-1.5 cm in diameter, on the back of both hands. Histopathology indicated nonspecific inflammation, but serologic evaluation revealed parapoxvirus, consistent with current or recent parapoxvirus infection. All lesions healed spontaneously within 2 weeks.

Case 4. On May 25, 2005, a girl aged 11 years was taken to her pediatrician in Nashville, Tennessee, with a 7-mm papulovesicular lesion on the fourth finger of her left hand. Ten days before this visit, her family had vaccinated their sheep against orf virus. Five days before her clinic visit, she had cut the same finger on a lamb harness. The remainder of her physical examination was unremarkable. CDC confirmed the presence of orf virus using both genus- and species-specific primers, and standard PCR assays were negative for both primer sets. The lesion healed spontaneously within 1 month. No other family members reported similar lesions to the attending physician.

Editorial Note:

Although orf virus infection is self-limiting in hosts with normal immune systems, it can resemble skin lesions associated with potentially life-threatening zoonotic infections such as tularemia, cutaneous anthrax, and erysipeloid; therefore, rapid and definitive diagnosis is critical. Tularemia and erysipeloid are generally associated with exposure to rabbits or New World sylvan rodents and swine, respectively. Both orf virus infection and naturally acquired anthrax in humans can result from exposure to domestic sheep and goats; thus, exposure history alone (i.e., animal contact) is insufficient to indicate etiology, necessitating laboratory evaluation.

Transmission of orf virus to humans occurs after contact with infected or recently vaccinated animals and/or fomites in conjunction with skin trauma. Orf virus vaccine strains have been known to cause outbreaks among sheep, and three of the illnesses described in this report occurred soon after vaccination of the flock. Veterinary vaccines for orf virus use nonattenuated, live virus preparations and are intended to produce controlled infections in flocks. Recently vaccinated animals pose an occupational risk to humans. Infections in three of the four cases described in this report were temporally associated with orf virus vaccination; however, the vaccines used to inoculate the animals in question were not available for genetic comparison with patient isolates.

Three of the four cases described in this report were associated with concurrent skin trauma; orf virus infection is facilitated by skin trauma, and previous case series have associated skin trauma with orf virus infection. Trivial injury (e.g., pricks from thistle) or substantial trauma (e.g., bites) can facilitate transmission of orf virus. Therefore, barrier protection (e.g., nonporous gloves) and hand washing during the care of sheep and goats is recommended whenever feasible. These measures are especially important for any person with a compromised immune system or a chronic skin disorder (e.g., eczema) who has contact with overtly infected animals. Immunocompromised persons should discuss the risks of handling orf-infected animals and infection-prevention strategies with their primary-care physicians.

Human orf virus infection is a common yet preventable consequence of contact with sheep and goats. Persons who are most likely to be exposed to orf virus (e.g., farm workers) might be familiar with the infection and thus might not seek medical attention. As a result, clinicians might not be familiar with orf virus infections, leading to a delay in diagnosis and unnecessary antibiotic use. Public health personnel should be cognizant that orf virus infection is similar in appearance and risk factors to life-threatening infections such as cutaneous anthrax and that skin trauma is a predisposing factor to infection. In addition, immunocompromised patients can have progressive, destructive lesions requiring medical interventions such as antiviral therapy and surgical debridement. The relation between vaccination of sheep and goats for orf virus and subsequent human orf virus infection should be considered in future public health investigations. Barrier precautions and proper hand hygiene are recommended for the prevention of orf virus infection in humans.



Animal Health and Consumer Protection

Nearly a century ago, farmers had a medicine chest of products to "cure" their animals, with names such as Lee's Gizzard Capsules, Liquid Hog Medicine, and Kow-Kure. The gizzard capsules, made with nicotine, were advertised to get rid of worms in turkeys. Liquid Hog Medicine, which contained lye, was for treating diarrhea in pigs. And Kow-Kure, whose exact ingredients remain a mystery, purported to prevent miscarriages in cows.

No one knew whether these products were actually safe or effective, but all were allowed on the market under the federal drug laws at the time.

Such products went by the wayside as Congress passed stronger drug laws, and today, the regulation of animal drugs closely parallels the regulation of human drugs. Like human drugs, all animal drugs must be approved by the Food and Drug Administration before being allowed on the market. The FDA's Center for Veterinary Medicine (CVM) is responsible for regulating drugs and food additives used for animals-both food-producing animals and family pets.

To date, the CVM has approved nearly 700 drug products for use in 97 million cattle, 59 million pigs, 8.8 billion chickens, 272 million turkeys, 7 million sheep, and millions of other food-producing animals in the United States. In addition, more than 700 approved drug products are available to maintain the health of America's 60 million pet dogs, 75 million pet cats, and 5 million horses.

To read the entire article link to: <http://www.fda.gov/>

REF: FDA Consumer Magazine, January/February 2006



Death of a Child After Ingestion of a Metallic Charm Minnesota, 2006

Lead-based paint remains the most common source of lead exposure for children aged <6 years. However, one report determined that 34% of children aged <6 years with lead poisoning in Los Angeles County had been exposed to items containing lead that had been brought into the home. These items might include candy, folk and traditional medications, ceramic dinnerware, and metallic toys and trinkets. Exposures to some of these items can result in life-threatening BLLs of $\geq 100 \mu\text{g}/\text{dL}$ (elevated BLLs are $\geq 10 \mu\text{g}/\text{dL}$ for children and $\geq 25 \mu\text{g}/\text{dL}$ for adults). In 2004, a child in Oregon had a BLL of $123 \mu\text{g}/\text{dL}$ after ingesting a necklace with high lead content. The same year, the Consumer

Product Safety Commission (CPSC) recalled 150 million pieces of imported metallic toy jewelry sold in vending machines. Some lead-contaminated items intended for use by children are manufactured in countries with limited government regulation of lead in consumer products. With the decline in BLLs in U.S. children, widespread education of the dangers of lead paint, and systematic reduction of lead hazards in U.S. housing, acute ingestion of lead-containing items has become increasingly more common as a source of life-threatening BLLs.

[This report](#) describes the death of a child from acute lead poisoning caused by lead encephalopathy after ingestion of a heart-shaped metallic charm containing lead; the charm had been attached to a metal bracelet provided as a free gift with the purchase of shoes manufactured by Reebok International Ltd. On March 23, a voluntary recall of 300,000 heart-shaped charm bracelets was announced by CPSC and Reebok (see Figure below). Health-care providers should consider lead poisoning in young children with increased intracranial pressure, unexplained and prolonged gastric symptoms, or a history of mouthing or ingesting nonfood items. Health-care providers also should warn caregivers against allowing children to mouth any metal objects.

In mid-February 2006, a boy aged 4 years with a previous medical history of microcephaly and developmental delay was brought to a hospital pediatric emergency department in Minneapolis, Minnesota, with a chief complaint of vomiting. Probable viral gastroenteritis was diagnosed, and the boy was administered ondansetron, an antiemetic; his parents were encouraged to increase his fluid intake, and he was released. He returned to the emergency department 2 days later with intractable vomiting, poor oral intake, "sore tummy," and listlessness. He was dehydrated and had normal blood sodium and elevated blood urea nitrogen levels. He received intravenous fluid replacement and was admitted to the hospital.

The next day, about 10 hours after admission, the boy became agitated and combative and exhibited possible posturing. During transport to the radiology department, the boy suffered a respiratory arrest associated with seizure-type activity. He was resuscitated and placed on mechanical ventilation. He was administered a computer tomography (CT) scan of his head and of his chest and radiographs of his abdomen. The CT scan revealed diffuse cerebral edema, and the boy underwent emergent ventriculostomy and decompressive craniotomy. A heart-shaped object was observed on his abdominal radiographs but it was thought to be a radiopaque temperature probe on his body. When the radiographs were examined again, the object was recognized as a foreign body in his stomach, and testing for heavy metal levels was requested.

The next day, a BLL of 180 $\mu\text{g}/\text{dL}$ was reported; cerebral blood flow studies indicated no flow to the brain, and the boy met clinical brain death criteria. On the fourth day of hospitalization, the child was removed from life support and died. Upon autopsy, a heart-shaped charm imprinted with "Reebok" was removed from the child's stomach. The mother recognized the object as a charm that came with a pair of shoes belonging to another child whose home her son had visited. The mother was not aware that her son had ingested the charm, and he had no history of ingesting nonfood substances.

Acid digestion testing performed on the ingested charm determined that the charm consisted of 99.1% lead. CPSC suggests that tests for leaching be conducted on those items containing more than 0.06% lead by weight. A charm similar in size and shape to the one ingested, with Reebok imprinted on it, was obtained by Minneapolis Department of Regulatory Services staff members at an athletic shoe store in Minneapolis and tested by the same laboratory using the same method. Results determined that the charm consisted of 67.0% lead by weight. The same staff member purchased another look-alike charm with a pair of athletic shoes from the Reebok Internet site; this charm was tested by the same Minneapolis laboratory using the same testing method and determined to contain only 0.07% lead by weight.

In Atlanta, Georgia, CDC staff members purchased four pairs of athletic shoes of the same brand, including two pairs with look-alike charm bracelets and two pairs with both charm bracelets and shoelace charms, from local stores

and from the company's Internet site; they also obtained a promotional charm bracelet from a different athletic shoe manufacturer. Acid digestion analyses were conducted and revealed lead contents ranging from 0.004% to 0.044% by weight.

The variation in lead content revealed by the tests in Minneapolis and Atlanta is consistent with previous test results for small, inexpensive metallic jewelry. The variations in lead content of the charms purchased in Atlanta stores and from the company's Internet site were not as varied as those in Minneapolis, likely indicating different suppliers or production lots.

As the variation in lead content in these products indicates, alternatives to lead are available. Restriction or elimination of nonessential uses of lead in consumer products should be part of a proactive strategy that prevents exposure to these products and is preferable to relying on case finding to identify lead exposure hazards.

FIGURE. Heart-shaped charm bracelet that is the subject of the voluntary recall announced March 23, 2006, by Reebok International Ltd. and the Consumer Product Safety Commission



Photo/Consumer Product Safety Commission

REF: MMWR, March 23, 2006 / 55(Dispatch);1-2.



Pesticides in the Nation's Streams and Ground Water

The U.S. Geological Survey has released a report describing the occurrence of pesticides in streams and ground water during 1992-2001. The report concludes that pesticides are typically present throughout the year in most streams in urban and agricultural areas of the Nation, but are less common in ground water. The report also concludes that pesticides are seldom at concentrations likely to affect humans. However in many streams, particularly those draining urban and agricultural areas, pesticides were found at concentrations that may affect aquatic life or fish-eating wildlife.

Dr. Robert Hirsch, Associate Director for Water, said, "While the use of pesticides has resulted in a wide range of benefits to control weeds, insects, and other pests, including increased food production and reduction of insect-borne disease, their use also raises questions about possible effects on the environment, including water quality." Hirsch also commented that "the USGS assessment provides the most comprehensive national-scale analysis to date of pesticide occurrence in streams and ground water. Findings show where, when, and why specific pesticides occur, and yield science-based implications for assessing and managing pesticides in our water resources."

The USGS findings show strong relations between the occurrence of pesticides and their use, and point out that some of the frequently detected pesticides, including the insecticide diazinon and the herbicides alachlor and cyanazine, are declining.

USGS has worked closely with the U.S. Environmental Protection Agency (EPA) during the 10-year study. EPA uses the data extensively in their exposure and risk assessments for regulating the use of pesticides. For example, EPA used USGS data in its risk assessments for the reevaluation of diazinon, chlorpyrifos, cyanazine and alachlor. Uses of three of these pesticides (diazinon, chlorpyrifos and cyanazine) have now been significantly limited, and usage of alachlor was voluntarily reduced and largely replaced by a registered alternative.

The USGS report is based on analysis of data collected from 51 major river basins and aquifer systems across the Nation from Florida to the Pacific Northwest and including Hawaii and Alaska, plus a regional study in the High Plains aquifer system.

Although none of the USGS stream sampling sites were located at drinking-water intakes, a screening-level assessment was done by USGS to provide an initial perspective on the relevance of the pesticide concentrations to human health. USGS measurements were compared to EPA drinking-water standards and guidelines. Concentrations of individual pesticides were almost always lower than the standards and guidelines, representing less than 10 percent of the sampled stream sites and about 1 percent of domestic and public-supply wells.

However, pesticides may have substantially greater effects on aquatic ecosystems than on humans based on a screening-level comparison of USGS measurements to water-quality benchmarks for aquatic life and fish-eating wildlife. More than 80 percent of urban streams and more than 50 percent of agricultural streams had concentrations in water of at least one pesticide—mostly those in use during the study period—that exceeded a water-quality benchmark for aquatic life. Water-quality benchmarks are estimates of concentrations above which pesticides may have adverse effects on human health, aquatic life, or fish-eating wildlife.

Insecticides, particularly diazinon, chlorpyrifos, and malathion frequently exceeded aquatic-life benchmarks in urban streams. Most urban uses of diazinon and chlorpyrifos, such as on lawns and gardens, have been phased out since 2001 because of use restrictions imposed by the EPA. The USGS data indicate that concentrations of these pesticides may have been declining in some urban streams even before 2001—benchmark exceedences in urban streams were least frequent late in the study. A case study of diazinon shows declining concentrations in several urban streams in the Northeast during 1998-2004.

In agricultural streams, the pesticides chlorpyrifos, azinphos-methyl, p,p'-DDE, and alachlor were among those most often found at concentrations that may affect aquatic life, with each being most important in areas where its use on crops is or was greatest. According to senior author Robert Gilliom, however, "Pesticide use is constantly changing in response to such factors as regulations and market forces and findings from this decade-long study need to be examined in relation to changes in use during and after the study. For example, levels of the herbicide alachlor declined in streams in the Corn Belt (generally including Illinois, Indiana, Iowa, Nebraska, and Ohio, as well as parts of adjoining states) throughout the study period as its use on corn and soybeans declined, with no levels greater than its aquatic-life

benchmark by the end of the study. In contrast, both the use and the levels of atrazine, the most heavily used herbicide in the Corn Belt region, remained relatively high throughout the study period."

In addition, DDT, dieldrin, and chlordane—organochlorine pesticide compounds that were no longer in use when the study began—were frequently detected in bed sediment and fish in urban and agricultural areas. Concentrations of these compounds in fish declined following reductions in their use during the 1960s and elimination of all uses in the 1970s and 1980s, and continue to slowly decline. Just as notable as the declines, however, is the finding that these persistent organochlorine pesticides still occur at levels greater than benchmarks for aquatic life and fish-eating wildlife in many urban and agricultural streams across the Nation.

The USGS study also reported that pesticides seldom occurred alone—but almost always as complex mixtures. Most stream samples and about half of the well samples contained two or more pesticides, and frequently more.

Gilliom explained that "The potential effects of contaminant mixtures on people, aquatic life, and fish-eating wildlife are still poorly understood and most toxicity information, as well as the water-quality benchmarks used in this study, has been developed for individual chemicals. The common occurrence of pesticide mixtures, particularly in streams, means that the total combined toxicity of pesticides in water, sediment, and fish may be greater than that of any single pesticide compound that is present. Studies of the effects of mixtures are still in the early stages, and it may take years for researchers to attain major advances in understanding the actual potential for effects. Our results indicate, however, that studies of mixtures should be a high priority."

REF: United States Geological Survey website, <http://www.usgs.gov/newsroom/article.asp?ID=1450>, 3/3/2006



"Top 10 Pesticide Blunders" Provide Cautionary Tales

The California Department of Pesticide Regulation has announced its third annual "Top 10 Pesticide Blunders."

With the best interests of consumer and worker safety in mind, DPR also recapped leading cases from the two previous years:

-- "As a 34-year-old Yolo County motorist moved her driver's seat backward, the motion caused an insect fogger stashed underneath the seat to discharge..."

-- "A 23-year-old San Joaquin County man spotted a fly on his beer can, sprayed an insecticide on the can, and later, as he drank from the can, his lips began to tingle..."

These and the new list of blunders below graphically demonstrate what NOT to do as you undertake household and gardening chores or other work with pesticides this spring. DPR health and safety scientists say a few simple precautions can prevent most pesticide accidents:

- Look for the least-toxic solution to pest problems, indoors and out.
- Read all pesticide label directions closely and follow directions to the letter.
- Keep pesticides in their original containers and out of children's reach.

Many home pesticide accidents occur in kitchens and bathrooms. Almost half of households with children under age

five have at least one pesticide stored within a child's reach, according to national health surveys. Children are especially vulnerable when adults put pesticides into drinking containers, such as soda or juice bottles. Consumer pesticide products with colorful packaging and attractive scents may also attract children.

The third annual "blunders" list had fewer potential candidates, due to a decline in reports. In recent years, DPR lost funding to pursue consumer pesticide illnesses. For example, a DPR cooperative project with state poison control centers was suspended, due to lack of funds. As resources allow, DPR continues to work with health agencies to improve detection of non-occupational illnesses.

None of these latest "blunders" -- compiled from DPR's Pesticide Illness Surveillance Program -- resulted in death, although most victims required medical treatment. (State privacy law protects their identities.)

In no particular order, the "top 10" are:

1. As a San Diego County man prepared to spray ants with insecticide, he failed to notice the aerosol can faced the wrong way. He sprayed himself in the face, developed respiratory symptoms, and sought medical attention the next morning.
2. In Los Angeles County, a woman sprayed an aerosol insecticide under her kitchen sink to kill roaches. To get a better shot, she stuck her head inside the cabinet and then inhaled fumes. Her lungs began to burn and she sought medical attention.
3. An Orange County resident set off two "bug bombs" and left his house. He returned 90 minutes later, opened the windows, and remained inside. He developed heart symptoms and went to a hospital, where he suffered a stroke.
4. Another Los Angeles resident who sprayed her kitchen to kill flies drank from a glass of water that sat uncovered in the same room while she sprayed. A runny nose, headache, and chest tightness prompted her to seek medical aid.
5. In Orange County, a dog owner with asthma hugged her one-pound puppy shortly after it received a liquid flea control treatment from the woman's veterinarian. It was later determined that the puppy was treated with a dosage meant for larger dogs. The owner experienced shortness of breath, blurry vision, and other symptoms. The puppy also apparently suffered ill effects.
6. A San Diego receptionist sprayed an insecticide around doors in her office for spiders. She got the pesticide on her hands so she rubbed them together. She later rubbed her eyes. Her hands and eyes began to itch, so she sought medical attention.
7. A San Bernardino truck driver prepared to disinfect his tires with a hose-mounted sprayer. When he pulled on the hose, it knocked the attached disinfectant bottle off. The bottle hit the ground and disinfectant splashed into his face and eyes.
8. A Los Angeles County worker prepared to mop a kitchen floor when she noticed she was almost out of the usual cleaning product. She mixed bleach with the cleaning product, which created fumes. She developed respiratory symptoms and sought medical attention.
9. At a San Bernardino County fast-food outlet, a customer at the drive-through window bought iced tea and noticed a foul taste, followed by a burning throat and nasal passages. The cup apparently contained some sanitizer from an improperly rinsed tea machine. (Similar case reported in Los Angeles County.)
10. A Marin County lifeguard mistakenly added muriatic acid to a chlorine tank. He inhaled the resulting fumes and developed symptoms. His mother saw him coughing and took him for medical aid.

REF: Department of Pesticide Regulation; News, April 18, 2006, www.cdpr.ca.gov/



Benzene in Soft Drinks

FDA is committed to ensuring the safety of food and beverages consumed by Americans and providing timely and factual information when safety questions are raised. We are issuing this statement today to better describe the steps FDA is taking in response to reports that benzene has been found in some soft drinks.

Benzene, a carcinogen, is found in the environment from natural and man-made sources. In November 2005, FDA received reports that benzene had been detected at low levels in some soft drinks containing benzoate salts (an antimicrobial agent) and ascorbic acid (Vitamin C), particularly under certain conditions of storage, shelf life and handling.

FDA's Center for Food Safety and Applied Nutrition (CFSAN) initiated a survey of benzene levels in soft drinks following receipt of the November 2005 reports. This survey indicates that the vast majority of beverages sampled (including those containing both benzoate salts and ascorbic acid) **contain either no detectable benzene levels or are well below the 5 parts per billion (ppb) U.S. water standard.** The results of this survey, which will be released in the near future, indicate that the levels of benzene in these beverages **do not pose a safety concern.**

FDA's Total Diet Study (TDS) results from 1995 to 2001, indicated benzene levels in soft drinks that were well above and inconsistent with CFSAN's more recent survey results. The TDS results were also well above and inconsistent with levels reported in previous and current peer-reviewed literature and with hundreds of recent domestic and international government and beverage industry results. We are working to determine the source of the differences. As with any data that appear to be inconsistent, FDA believes it is important to closely examine the reasons for such differences.

The TDS is an ongoing FDA program that determines levels of various contaminants and nutrients in a wide variety of foods. The analytical procedures used in the TDS are designed to detect multiple pesticide residues, industrial chemicals, and toxic and nutrient elements in many foods, not just benzene in beverages. Ongoing investigations into the analytical method used by the TDS suggest that elevated benzene levels can be formed by the procedures used to analyze beverage samples. This raises major concerns about the reliability of the TDS data for benzene in beverages and could explain why these data indicate higher levels of benzene than the levels reported in the more recent surveys by CFSAN and others, as noted above. We are continuing our investigation of the TDS data for benzene, and will make the results available when the investigation is complete.

FDA is also continuing to follow up with companies to ensure that processing conditions are established that will ensure that benzene formation is avoided or minimized.

FDA believes that the results of [CFSAN's recent survey](#) indicate that the levels of benzene found in soft drinks do not pose a safety concern.

REF: FDA News Digest, April 17, 2006, [FDA website](#)



Comprehensive dietary supplement reports issued

The National Institutes of Health has drafted a "state-of-the-science" report about whether multivitamin/mineral supplements (MVMs) and certain single nutrient supplements can prevent chronic disease. The conclusions expressed by the report's authors include:

- **More than half of American adults take MVMs with the belief that they will feel better, have greater energy, improve health, and/or prevent and treat disease.
- **Compared with nonusers, supplements takers tend to have a better diet, less need for supplements, and more risk of exceeding the safe upper limit (UL) of some nutrients.
- **There is insufficient evidence to recommend either for or against the use of MVMs by the American public to prevent chronic disease.
- **Few high-quality studies have addressed whether one or a few nutrients can prevent chronic disease in American adults, and only a few such studies have yielded positive results.
- **With few exceptions, neither beta-carotene nor vitamin E had benefits for preventing cancer, cardiovascular disease, cataract, and age-related macular degeneration. Beta-carotene supplementation increased lung cancer risk in smokers and persons exposed to asbestos.
- **Folic acid alone or combined with vitamin B12 and/or vitamin B6 had no significant effect on cognitive function.
- **Selenium may confer benefit for cancer prevention but not cardiovascular disease prevention.
- **Calcium may prevent bone mineral density loss in postmenopausal women and may reduce vertebral fractures, but not non-vertebral fractures. The evidence suggests dose-dependent benefits of vitamin D with or without calcium for retaining bone mineral density and preventing hip and other nonvertebral fractures.
- **The FDA lacks the resources to collect adequate data and lacks the legal authority to safely regulate the dosage of individual ingredients.
- **Additional research and a mandatory adverse-event reporting system are needed for dietary supplements.

The draft statement <http://consensus.nih.gov/2006/MVMDRAFT051706.pdf> was accompanied by a 321-page evidence report. <http://www.ahrq.gov/downloads/pub/evidence/pdf/multivit/multivit.pdf> A final statement is expected in July.

REF: Consumer Health Digest #06-21, May 23, 2006



◆ TOXICOLOGY TIDBITS ◆

Efficacy of Home Washing Methods in Controlling Surface Microbial Contamination on Fresh Produce

Much effort has been focused on sanitation of fresh produce at the commercial level; however, few options are available to the consumer. The purpose of this study was to determine the efficacy of different cleaning methods in reducing bacterial contamination on fresh produce in a home setting. Lettuce, broccoli, apples, and tomatoes were inoculated with *Listeria innocua* and then subjected to combinations of the following cleaning procedures: (i) soak for 2 min in tap water, Veggie Wash solution, 5% vinegar solution, or 13% lemon solution and (ii) rinse under running tap water, rinse and rub under running tap water, brush under running tap water, or wipe with wet/dry paper towel. Presoaking in water before rinsing significantly reduced bacteria in apples, tomatoes, and lettuce, but not in broccoli. Wiping apples and tomatoes with wet or dry paper towels showed lower bacterial reductions compared with soaking and rinsing procedures. Blossom ends of apples were more contaminated than the surface after soaking and rinsing; similar results were observed between the flower section and stem of broccoli. Reductions of *L. innocua* in both tomatoes and apples were more than in lettuce and broccoli when subjected to the same washing procedures. Reductions of surface contamination of lettuce after soaking in lemon or vinegar solutions were not significantly different from lettuce soaking in cold tap water. Therefore, educators and extension workers might consider it appropriate to instruct consumers to rub or brush fresh produce under cold running tap water before consumption. (*Journal of Food Protection*, Vol. 69, No. 2, pp. 330–334.)

REF: FSnet Feb. 15/06 -- II



News from the California Department of Pesticide Regulation

SCHOOL IPM PAGES ADD INFO

The School IPM Web page now offers a summary of Assembly Bill 405, which took effect on January 1, and a list of list of pesticides prohibited from use in schools under the law. Also new information on gopher and mold control strategies for schools. www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm

REF: Department of Pesticide Regulation News, February 7, 2006.



Health Canada issues chaparral warning

Health Canada is warning consumers not to ingest the herb chaparral in the form of loose leaves, teas, capsules or bulk herbal

products because of the risk of liver and kidney problems. Chaparral refers to three plant species: *Larrea tridentata*, *Larrea divaricata* and *Larrea mexicana*, which may also be called creosote bush, greasewood, or hediondilla. The shrub grows in the Western United States and parts of Mexico and is used traditionally by the indigenous people of these regions to treat such conditions as arthritis, cancer, tuberculosis, bowel cramps, diarrhea, venereal disease, colds and bronchitis. No chaparral-containing products are currently approved by Health Canada for any use. [Health Canada News release, Dec 21, 2005] <http://www.inspection.gc.ca/english/corpaffr/recarapp/2005/20051222e.shtml>

REF: Consumer Health Digest, #06-08, February 21, 2006



Petting zoo visits linked to fever and diarrhea in kids

Petting zoos at agricultural fairs, festivals, and zoos let kids interact with animals like goats, cows, sheep, and llamas. But few regulations exist to ensure that petting zoo animals are free of disease, and several nationwide outbreaks of *E. coli* infection have been linked to these attractions, say researchers from the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia.

During 2004 to 2005, petting zoo problems appeared in three states:

North Carolina: In October 2004, about 800,000 people attended the North Carolina State Fair, which provided two petting zoos for kids. At the end of October, the state health department received reports of hemolytic uremic syndrome (HUS, a condition that causes severe anemia and kidney damage) in three children who had visited the petting zoo. Local health departments later reported 108 cases of diarrhea (most in children) close to the time of the state fair, and 78% of the ill people had visited the state fair petting zoo. Almost 20% of them needed hospitalization for their illness, which included symptoms such as bloody diarrhea and fever. Samples taken from the fairgrounds showed that one of the two petting zoos was contaminated with *E. coli*, bacteria found in the feces (bowel movements) of people and animals that can make both kids and adults sick and is linked to HUS. Illness in kids was associated with:

- touching or stepping in manure
- falling or sitting on the ground by the petting zoo
- thumb-sucking or using a pacifier or sippy cup while in the petting zoo

Although having parents who were aware that animals can cause disease helped to protect kids from illness, using alcohol-based hand sanitizers didn't help reduce *E. coli* infection.

Florida: In March 2005, 63 people developed *E. coli* infections (and seven people developed HUS); most cases developed in children after they attended fairs and festivals in Florida that contained a farm animal petting zoo. At least half of those who became sick had touched at least one cow, sheep, or goat; stool (poop) samples from the animals and humans tested positive for *E. coli*. Having indirect animal contact (such as touching sawdust or shavings or visibly soiled clothes or shoes) was also associated with infection, which caused symptoms such as diarrhea, vomiting, abdominal cramps, and fever.

Arizona: In July 2005, the Arizona Department of Health Services received reports of two children who had been hospitalized for *E. coli* infection. Both kids had visited an Arizona zoo that contained a petting area. Although one child had directly touched the animals, the other had not - but both children played in an area right next to and downhill from the petting zoo facility. Stool samples from some of the petting zoo animals tested positive for *E. coli*, and health experts suspect that the play area close to the petting zoo became contaminated via drainage.

What This Means to You: The findings in this CDC report suggest that parents should be cautious about taking kids to petting zoos. Often, petting zoos aren't required to check for contamination, and kids may get sick even if they clean up afterward with hand sanitizers. If you do choose to visit a petting zoo with your child:

- Wash your child's hands well with soap and water immediately after coming in contact with the animals. All family members in the zoo area should wash their hands right away, too.
- Avoid playing in play areas or grass that's right next to or downhill from the zoo.
- Don't let your child use a pacifier, sippy cup, or other item that is placed in the mouth while in the petting zoo. Don't allow thumb-sucking or nail-biting while there, either.
- Don't lean against railings, fence posts, or other stationary objects by the petting zoo.
- Watch out for piles of manure or sawdust that may be contaminated with the animals' feces.
- If your child has diarrhea, belly pain, vomiting, or fever and you've visited a petting zoo recently, talk to your child's doctor.

Source: Morbidity and Mortality Weekly Report, December 23, 2005.

February 2006, Kids Health, http://www.kidshealth.com/research/petting_zoo.html

REF: FSnet, February 23, 2006



Cows' ability to break down perchlorate documented

Dairy cows can break down up to 80 percent of perchlorate that they ingest, according to new research about this chemical (*Proceedings of the National Academy of Sciences*, volume 102, pages 16152-16157). The findings suggest that this natural "filtering" process may occur in the rumen, the second of four compartments in a cow's complex stomach.

Perchlorate, which exists naturally in the environment, has shown up at very low levels in some milk. In this research, levels in the milk of cows given various doses of the compound increased slightly as the dosage increased. But the levels did not rise in direct proportion to the increased dosage, according to the ARS scientists at Beltsville, Md., who performed the study.

Work by others has already shown that perchlorate does not accumulate in bovine tissue. (February 22, 2006, ARS Food and Nutrition Briefs, <http://www.ars.usda.gov/is/np/fnr/fnr0106.htm>)

REF: AnimalNet Feb. 23/06



LactMed: A New NLM Database on Drugs and Lactation

LactMed, a free online database with information on drugs and lactation, is one of the newest additions to the National Library of Medicine's TOXNET system, a Web-based collection of resources covering toxicology, chemical safety, and environmental health.

LactMed may be searched at <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT>

Geared to the healthcare practitioner and nursing mother, LactMed contains over 450 drug records. It includes information such as maternal levels in breast milk, infant levels in blood, potential effects in breastfeeding infants and

on lactation itself, the American Academy of Pediatrics category indicating the level of compatibility of the drug with breastfeeding, and alternate drugs to consider. References are included, as is nomenclature information, such as the drug's Chemical Abstract Service's (CAS) Registry number and its broad drug class.

LactMed was developed by a pharmacist who is an expert in this subject. Three other recognized authorities serve as the database's scientific review panel. Ancillary resources, such as a glossary of terms related to drugs and lactation, and breastfeeding links are also offered.

LactMed can be searched together with TOXNET's other databases in a multi-database environment, to obtain other relevant information about drugs. As a work in progress, LactMed will continue to expand with additional drugs and be enhanced with other substances, such as industrial chemicals and radiation.

REF: [TOXNET](#)



New telephone line for antimicrobials

The National Pesticide Information Center (NPIC) is now taking inquiries, via their telephone helpline, **1-800-858-7378**, and web-based services, <http://npic.orst.edu/>, regarding antimicrobial pesticides and pesticide products. NPIC is a toll-free telephone service that provides objective, science-based information about a wide variety of pesticide-related subjects. The service is available daily, 6:30 a.m.- 4:30 p.m. (PT).

REF: Pesticide Notes, 25(3), 2006.



Genistein & Soy Formula Expert Panel Reports

The Center for the Evaluation of Risks to Human Reproduction (CERHR) announces the availability of the Genistein & Soy Formula Expert Panel Reports and requests public comment.

The reports are available on the CERHR website (<http://cerhr.niehs.nih.gov>). Written public comments on these reports should be received by July 5, 2006. You may provide input to the NTP at: <http://ntp.niehs.nih.gov/go/27902>

REF: <http://ntp.niehs.nih.gov>



FDA rejects green tea/cardiovascular health claim

The FDA has concluded that there is no credible scientific evidence that drinking green tea or green tea extract reduce the risk of heart disease. In rejecting a petition that sought to allow tea labels to make that claim, the agency said its review included 105 articles publications submitted with the petition but found "no credible evidence" to support the requested claims. [Schneeman B. Letter to Stanley F. Tarka, M.D. May 9, 2006] <http://www.cfsan.fda.gov/~dms/qhcgtea2.html>

REF: Consumer Health Digest #06-20, May 16, 2006.

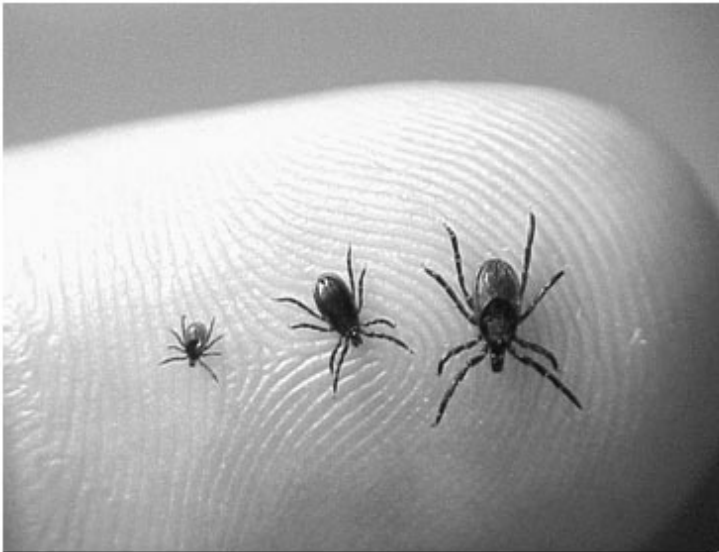


State Health Officer Cautions Californians About Ticks and Tick-Borne Diseases

As warmer spring temperatures attract Californians to outdoor activities, people must take precautions to prevent tick bites because some ticks carry germs that cause disease, including Lyme disease, State Public Health Officer Dr. Mark Horton advised today.

"Californians should take measures to reduce their exposure to ticks when they venture outdoors to work in their yards and participate in recreational activities, including hiking and camping," Horton said.

Ticks are small, insect-like creatures that are often found in naturally vegetated areas throughout California. They prefer cool, moist environments, shaded grasses, shrubs and leaf litter. Ticks attach to animals and feed on their blood over several days.



Western black-legged ticks on a finger. Left to right: nymph, adult male, adult female. Source: California Department of Health Services.

Individuals may become infected with the bacteria that cause Lyme disease when they are bitten by an infected western black-legged tick, the only tick that transmits Lyme disease. The smaller, immature form of the tick known as a "nymph" is most active during the spring and early summer months. Roughly the size of a poppy seed, nymphs are found on logs, tree trunks, fallen branches or tree limbs and among the damp leaves that accumulate under trees. Nymphs may attach to people as they gather or sit on logs or walk through leaf litter. Because nymphs are so small, people may not notice if one attaches to them.

Early symptoms of Lyme disease often include a spreading rash, which is usually accompanied by flu-like symptoms, such as fever and body aches. Prompt treatment with antibiotics can cure the disease, particularly when it is diagnosed early. If left untreated, symptoms can progress into arthritis, heart ailments or nervous system disorders.

Ticks in California can carry other germs that cause diseases in humans, such as anaplasmosis, ehrlichiosis, Rocky Mountain spotted fever and babesiosis. The first line of defense against tick-borne diseases is taking proper personal protective measures to avoid tick bites. Horton offered the following steps to reduce exposure to tick bites:

1. Avoid areas where ticks live, such as trail margins, brushy and grassy areas, leaf litter in forests with oak and other hardwood trees. Stay on trails and avoid contact with logs, tree trunks and fallen branches or tree limbs in forests.
2. When in areas where ticks can be found:
 - Wear light-colored clothing so ticks can easily be seen.
 - Wear long pants and long-sleeved shirts. Tuck pant legs into boots or socks and tuck shirts into pants.
 - Use a repellent registered for use against ticks. Repellents with DEET are effective and can be applied to the skin. Repellents with permethrin are applied to clothing only. Always follow directions on the container and be especially careful when applying to children.
 - Inspect yourself frequently for ticks while in tick habitat
3. When out of tick-infested areas:
 - Conduct a check of your entire body, especially the hairline, armpit, back of knees and groin, each day for up to three days after returning from tick habitat. An additional tick check two or three days after exposure may reveal an engorged tick or a tick bite reaction that may not have been noticeable before.
 - Parents should inspect their children, especially on the scalp and hairline, after activities in tick-infested areas.

Individuals who discover a tick attached to their body should remove it as soon as possible to reduce the possibility of infection. The sooner a tick is removed, the less likely you are to get sick from an infected tick bite. The tick should be removed by grasping it with fine-pointed tweezers and pulling it gently, but firmly, straight out. Insecticides, lighted matches or gasoline are ineffective and should not be used to remove ticks. Individuals are advised to wash their hands and apply antiseptic to the affected area. Individuals who develop a rash, fever or other symptoms within two to four weeks after being bitten by a tick should consult their physician immediately.



Additional information is available on the California Department of Health Services' Web site at <http://www.dhs.ca.gov/ps/>

dcdc/disb/disbindex.htm or by calling (916) 552-9730.

REF: CDHS News Release, May 15, 2006.



Youth Tobacco Surveillance United States, 2001--2002

The National Youth Tobacco Survey (NYTS) and state youth tobacco surveys (YTS) were developed to provide states with data to support the design, implementation, and evaluation of comprehensive tobacco-control programs. [This report](#) summarizes data from the 2002 NYTS and the 2001 and 2002 YTS. Current use of any tobacco product ranged from 13.3% among middle school students to 28.2% among high school students. Exposure to secondhand smoke (i.e., environmental tobacco smoke) was high. Media and advertising influence was also noted. Health and education officials use YTS and NYTS data to plan, evaluate, and improve national and state programs to prevent and control youth tobacco use. States can use these data in presentations to their state legislators to demonstrate the need for funding comprehensive tobacco control programs including tobacco cessation and prevention programs for youth.

REF: MMWR, May 19, 2006.



FDA/EPA Advisory on Seafood Consumption Still Current

In response to recent inquiries about the FDA/EPA consumer advisory, "What You Need to Know About Mercury in Fish and Shellfish," FDA and EPA want to assure consumers that the advice contained in the 2004 advisory remains current and that FDA and EPA stand behind it. The advisory's recommendations are specific to women who might become pregnant, women who are pregnant, nursing mothers, and young children.

Fish and shellfish are an important part of a healthy diet and can contribute to heart health and children's proper growth and development. Because of their many healthy benefits we recommend that women and young children include them as a regular part of their diet. However, nearly all fish and shellfish contain traces of mercury.

By following 3 recommendations for selecting and eating fish or shellfish, women and young children will receive the benefits of eating fish and shellfish and be confident that they have reduced their exposure to the harmful effects of mercury.

1. Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they contain high levels of mercury.
2. Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury.
 - Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish.
 - Another commonly eaten fish, albacore ("white") tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to 6 ounces (one average meal) of albacore tuna per week.
3. Check local advisories about the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas. If no advice is available eat up to 6 ounces (one average meal) per week of fish you catch from local waters, but don't

consume any other fish during that week.

Follow these same recommendations when feeding fish and shellfish to your young children but serve smaller portions.

FDA continues to test fish and shellfish for mercury. Should there be a significant change in the underlying science regarding the risks from methylmercury or the benefits from fish, FDA and EPA will update the advisory to ensure that the public is informed when making choices about the amounts and types of fish to eat.

The complete 2004 FDA/EPA advisory, "What You Need to Know About Mercury in Fish and Shellfish," can be found at www.cfsan.fda.gov/~dms/admehg3.html.

REF: [FDA website](#), June 6, 2006



Mold Prevention Strategies and Possible Health Effects in the Aftermath of Hurricanes and Major Floods

Summary

Extensive water damage after major hurricanes and floods increases the likelihood of mold contamination in buildings. [This report](#) provides information on how to limit exposure to mold and how to identify and prevent mold-related health effects. Where uncertainties in scientific knowledge exist, practical applications designed to be protective of a person's health are presented. Evidence is included about assessing exposure, clean-up and prevention, personal protective equipment, health effects, and public health strategies and recommendations. The recommendations assume that, in the aftermath of major hurricanes or floods, buildings wet for >48 hours will generally support visible and extensive mold growth and should be remediated, and excessive exposure to mold-contaminated materials can cause adverse health effects in susceptible persons regardless of the type of mold or the extent of contamination.

For the majority of persons, undisturbed mold is not a substantial health hazard. Mold is a greater hazard for persons with conditions such as impaired host defenses or mold allergies. To prevent exposure that could result in adverse health effects from disturbed mold, persons should 1) avoid areas where mold contamination is obvious; 2) use environmental controls; 3) use personal protective equipment; and 4) keep hands, skin, and clothing clean and free from mold-contaminated dust.

Clinical evaluation of suspected mold-related illness should follow conventional clinical guidelines. In addition, in the aftermath of extensive flooding, health-care providers should be watchful for unusual mold-related diseases. The development of a public health surveillance strategy among persons repopulating areas after extensive flooding is recommended to assess potential health effects and the effectiveness of prevention efforts. Such a surveillance program will help CDC and state and local public health officials refine the guidelines for exposure avoidance, personal protection, and clean-up and assist health departments to identify unrecognized hazards.

REF: MMWR, Recommendations and Reports, June 9, 2006 / 55(RR08);1-27.





News from the UC Davis California Animal Health and Food Safety Laboratory System (CAHFS)

Cattle:

A group of cattle that were moved to a new pasture experienced sudden death in nine head, three to four days after the move. Rumen content from one of the animals was positive for lupanine, suggestive of **lupine toxicosis**. Ingestion of toxic amounts of this plant (especially seeds) can lead to a neurotoxic syndrome characterized by muscle tremors, labored breathing, convulsions, coma and death. Cattle were moved off the pasture, and no further deaths occurred.

Horses:

Two horses ingested a total of approximately six pounds of rat bait pellets containing **diphacinone**. Serum collected from both horses approximately 24 hours after exposure was positive by HPLC. Diphacinone is a second-generation, long-acting anticoagulant rodenticide that interferes with normal blood clotting as a result of reduced concentrations of clotting factors II, VII, IX, and X. The oral lethal dose for diphacinone in horses has not been reported in the literature. Both horses were monitored carefully, received vitamin K1 for 21 days and recovered completely.

Goats:

Lupine poisoning was diagnosed in a group of goats that were moved to a new field. Five goats died within four hours of being moved. Pathology findings in three goats included abscesses in all and myocardial degeneration in two. No cardiotoxic compounds were detected in the rumen contents but alkaloids sparteine and lupanine were detected. These compounds are consistent with ingestion of lupine. Toxic amounts of this plant (especially seeds) in goats can lead to neurologic signs. The livers of all three goats had very low copper concentrations. The copper deficient state of these goats may have made them more susceptible to toxins to which goats are normally resistant.

Sheep:

Eleven sheep **died acutely** shortly after being turned out on a harvested broccoli field following a period of above-average rain and plant regrowth. No lesions were noted. Nitrate was detected in the aqueous humor fluid at 134 ppm (toxic >25 ppm), which is indicative of **nitrate intoxication**. Clinical signs of nitrate/nitrite intoxication include salivation, diarrhea, tremors, ataxia, tachycardia and seizures. Death often occurs within six to 24 hours of exposure.

Llamas:

Oleander poisoning resulted in a two-day history of depression, lethargy, anorexia, ataxia, tremors, and recumbency in a 5-year-old llama. The nursing baby (cria) remained healthy. Necropsy revealed **myocardial degeneration**. Stomach content contained plant material that resembled parts of oleander (*Nerium oleander*). All parts of the plant oleander, dried and fresh, are highly toxic.

REF: CAHFS Lab Notes, Winter 2006.



FDA Prohibits Extra-Label Use of Adamantine and Neuraminidase

The Food and Drug Administration (FDA) is issuing an order prohibiting the extralabel use of anti-influenza adamantane and neuraminidase inhibitor drugs in chickens, turkeys, and ducks. We are issuing this order based on evidence that extralabel use of these antiinfluenza drugs in chickens, turkeys, and ducks will likely cause an adverse event in humans.

This rule becomes effective June 20, 2006.

REF: Federal Register, Vol. 71, No. 55 / Wednesday, March 22, 2006



International Workshop on Minor Use and Minor Species: A Global Perspective

The proceedings of this Workshop that was held on October 7, 2004 are available online at <http://www.fda.gov/cvm/>.

This workshop was jointly sponsored by the Food and Drug Administration's, Center for Veterinary Medicine and the US Department of Agriculture's National Research Support Project No. 7, or NRSP-7. The purpose of the workshop was to provide a global perspective on drug needs and drug approvals for minor species and minor uses.



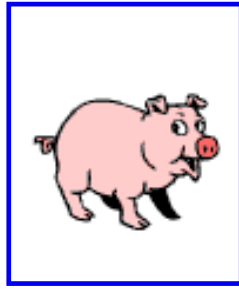
Ask CVM (The Center for Veterinary Medicine)

- Are mail order pet medications the same as those I get directly from the veterinarian?
- I need a drug to treat my pet that you can't buy in the United States, but it is available overseas. How can I get permission to import that drug?
- I found the same drug my veterinarian sells me, but for a much lower price in another country, and I can order it online.
- Do I need permission from FDA to import that drug?
- Do I contact CVM if I have a concern about my vet, such as his treating my dog with drugs not approved for dogs, or the fact that he makes me buy drugs from him because he won't write a prescription the way my doctor will?
- Who in FDA should I notify if I think there is something wrong with my dog's commercially made pet food?
- I've seen several food additive products that are supposed to make my dog feel better. Does CVM regulate these products?
- I read in a magazine that I can contact CVM for free health care advice about my pet. Who do I talk to?

For answers to these questions link to: [FDA Veterinarian](#).

REF: FDA Veterinarian, November/December 2005.

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