Cooperative Extension --- University of California, Davis

Environmental Toxicology Newsletter

"*Formerly* Published Occasionally at Irregular Intervals"

~ Dr. Arthur L. Craigmill ~
Extension Toxicologist

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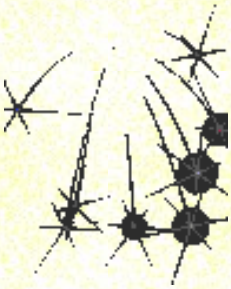
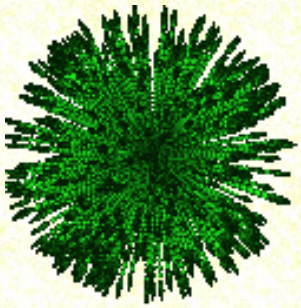
FAREWELL ISSUE





"IN THIS ISSUE"

TIDBITS

VETERINARY NOTES

THANK YOU !!!

To all of our readers over the last 29+ years, we would like to say thank you for your interest and support of the *Environmental Toxicology Newsletter*. This issue is the last issue which will be edited by Art Craigmill and Sandy Ogletree. Sandy retired from the University of California (UC), Davis in April of 2010 and Art retired July 1, 2010. Over the years it has been our privilege to offer readers a variety of information tidbits and more in-depth articles covering a wide variety of topics.

When we first started the newsletter back in 1980, the internet was in gestation, and the newsletter was printed and distributed by mail. At that time, UC had almost 500 Advisors and over 200 Specialists throughout the state. Almost thirty years later there are less than 200 Advisors and 100 Specialists in the UC system, many of whom are also reaching retirement age. As soon as the internet matured we moved the newsletter to electronic delivery, which made it possible to reach a larger number of people without additional cost. In collaboration with colleagues at Michigan State University (Mike Kamrin), Oregon State University (Jim Witt, Frank Dost, Terry Miller, Jeff Jenkins and Dan Sudakin) and the University of Maryland (Berna Magnuson) we extended our delivery of toxicology educational materials using EXTOXNET (The Extension Toxicology Network). The EXTOXNET website materials and copies of our newsletter are still available on EXTOXNET which is maintained by colleagues at Oregon State University as part of the EPA National Pesticide Information Center.

While the times have changed, there are many attitudes which have not, and which will probably continue to influence society for many years. One of the hindrances to our society advancing to new understandings is legislation which has been based on old science. One example of US Legislation based on ancient science is the Delaney Clause, based on our knowledge of cancer in the 1950's. This legislation basically banned the use of any food additive which was shown to cause cancer in any animal. Our knowledge of the causes of cancer and the mechanisms by which cells are transformed to become cancerous has expanded enormously, yet the legislation remains deeply rooted and is unlikely to change. There are people who are quick to attack any changes which would lighten the regulatory burden on chemicals which cause cancer by any mechanism, by saying that any change would endanger the public and put us at greater risk. Since it is impossible to prove a negative (that harm will never occur) people tend to err on the side of extreme precaution, at least when it comes to seemingly involuntary exposure to unfamiliar chemicals. When it comes to familiar chemicals and voluntary exposures, we tend to be more accepting. The facts have not changed over the last 30 years, based on actuarial statistics (body counts if you will), the **two most risky chemical substances to humans are tobacco and alcohol.**

Over the years we have joked that analytical chemists are responsible for most of the problems we toxicologists have in communicating predictive risk to the public, because chemists can detect chemicals at minute concentrations at which we toxicologists cannot measure biological effects or responses in whole animals. Sometimes these very low concentrations can have effects in molecular assays and cell cultures, and these results are extrapolated to whole animal systems and predictive risk assessments done using these data. Some type of predictive risk assessment **has** to be done, and this is where the science is conjoined inextricably with public policy, often resulting in confusing, chimeric regulations. Hopefully we can continue to progress in our knowledge of how chemicals effect all of us and the environment, and make sound data-based decisions on how to manage them.

During the last 10 or so years, Sandy has been the main assembler of this newsletter, finding articles of interest and putting them into the newsletter for me to review and edit, and then doing the final formatting and posting of each issue to EXTOXNET. Her persistence has been what has kept the newsletter in production for so long, and

she deserves oodles of kudos for all she has done. We have worked together for almost 30 years, and during that time have also become close friends. For me, it is one of the nicest things which has happened during my tenure with UC.

Also during the almost 30 years that we have worked together on this newsletter, we have had the opportunity to meet and interact with many people within and outside the UC system. It has been a great voyage of learning, discovery and fun. We thank all of you for your companionship on this trip.

Your editors:
Art and Sandy

Current Cigarette Smoking Among Adults Aged ≥18 Years - United States, 2009

Background: Cigarette smoking continues to be the leading cause of preventable morbidity and mortality in the United States, causing approximately 443,000 premature deaths annually.

Methods: The 2009 National Health Interview Survey and the 2009 Behavioral Risk Factor Surveillance System were used to estimate national and state adult smoking prevalence, respectively. Cigarette smokers were defined as adults aged ≥18 years who reported having smoked ≥100 cigarettes in their lifetime and now smoke every day or some days.

Results: In 2009, 20.6% of U.S. adults aged ≥18 years were current cigarette smokers. Men (23.5%) were more likely than women (17.9%) to be current smokers. The prevalence of smoking was 31.1% among persons below the federal poverty level. For adults aged ≥25 years, the prevalence of smoking was 28.5% among persons with less than a high school diploma, compared with 5.6% among those with a graduate degree. Regional differences were observed, with the West having the lowest prevalence (16.4%) and higher prevalences being observed in the South (21.8%) and Midwest (23.1%). From 2005 to 2009, the proportion of U.S. adults who were current cigarette smokers did not change (20.9% in 2005 and 20.6% in 2009).

Conclusions: Previous declines in smoking prevalence in the United States have stalled during the past 5 years; the burden of cigarette smoking continues to be high, especially in persons living below the federal poverty level and with low educational attainment. Sustained, adequately funded, comprehensive tobacco control programs could reduce adult smoking.

To read the entire article go to: MMWR

REF: Morbidity and Mortality Weekly Report, September 10, 2010 / 59(35);1135-1140.

Tobacco Use Among Middle and High School Students - United States, 2000-2009

To monitor trends in tobacco use among middle and high school students, CDC analyzed 2000-2009 data from

the National Youth Tobacco Survey (NYTS), a school-based survey that collects information on tobacco use and related behaviors and attitudes from middle school (grades 6-8) and high school (grades 9-12) students. This analysis indicated that in 2009, 8.2% of middle school students and 23.9% of high school students reported current use of any tobacco product; 5.2% of middle school students and 17.2% of high school students reported current use of cigarettes. Overall prevalence did not decrease from 2006 to 2009 for use of any tobacco product among either group. During 2000-2009, the prevalence of current tobacco use among middle school students declined (15.1% to 8.2%), as did current cigarette use (11.0% to 5.2%) and cigarette smoking experimentation (29.8% to 15.0%). Similar trends were observed for high school students (current tobacco use: 34.5% to 23.9%; current cigarette use: 28.0% to 17.2%; cigarette smoking experimentation: 39.4% to 30.1%). Overall, no change in susceptibility to initiate cigarette smoking was observed for either group. To further decrease tobacco use and susceptibility to use among youths, restrictions on advertising, promotion, and availability of tobacco products to youths should be combined with full implementation of evidence-based, communitywide, comprehensive tobacco control policies.

Editorial Note: The findings in this report indicate that, from 2000 to 2009, prevalences of current tobacco and cigarette use and experimentation with smoking cigarettes declined for middle school and high school students, but no overall declines were noted for the 2006-2009 period. Declines were seen only for a few measures within a few population subgroups. The general lack of significant change during the shorter period indicates that the current rate of decline in tobacco use is relatively slow. These findings are consistent with the findings from the national Youth Risk Behavior Survey (YRBS) for recent years. Although NYTS was not administered before 2000, YRBS results indicate that the rate of decline in youth smoking was slower during 2003-2009 than during 1997-2003, and that these declines follow years of increase in prevalence of youth cigarette use in the 1990s. Cigarette use among high school students remains above the *Healthy People 2010* target of ≤16% prevalence, and overall tobacco use remains above the target of no more than 21% prevalence.

To read the entire article go to: MMWR

REF: Morbidity and Mortality Weekly Report, August 27, 2010 / 59(33);1063-1068.

Nonsmokers' Exposure to Secondhand Smoke - United States, 1999-2008

Background: Secondhand exposure to tobacco smoke causes heart disease and lung cancer in nonsmoking adults and sudden infant death syndrome, acute respiratory infections, middle ear disease, exacerbated asthma, respiratory symptoms, and decreased lung function in children.

Methods: National Health and Nutrition Examination Survey data from 1999-2008 were analyzed to determine the proportion of the nonsmoking population with serum cotinine (the primary nicotine metabolite) levels ≥0.05 ng/mL, by age, sex, race/ethnicity, household income level, and to determine whether the household included a person who smoked inside the home.

Results: During 2007-2008, approximately 88 million nonsmokers aged ≥3 years in the United States were exposed to secondhand smoke. The prevalence of serum cotinine levels ≥0.05 ng/mL in the nonsmoking population declined significantly from 52.5% (95% CI = 47.1%-57.9%) during 1999-2000 to 40.1% (95% CI = 35.0%-45.3%) during 2007-2008. The decline was significant for each sex, age, race/ethnicity, and income group

studied except non-Hispanic whites. The change was greatest from 1999-2000 to 2001-2002. **For every period throughout the study, prevalence was highest among males, non-Hispanic blacks, children (aged 3-11 years) and youths (aged 12-19 years), and those in households below the federal poverty level.**

Conclusions: Secondhand smoke exposure has declined in the United States, but 88 million nonsmokers aged ≥3 years are still exposed, progress in reducing exposure has slowed, and disparities in exposure persist, with children being among the most exposed. Nearly all nonsmokers who live with someone who smokes inside their home are exposed to secondhand smoke.

To read the entire article go to: MMWR

REF: Morbidity and Mortality Weekly Report, September 10, 2010 / 59(35);1141-1146.

Pesticide Data Program (PDP) Annual Summary, 2008

Executive Summary

Results: During 2008, PDP tested 13,381 fresh and processed fruit and vegetables, almonds, honey, cat•sh, corn grain, rice, groundwater, and treated and untreated drinking water for various insecticides, herbicides, fungicides, and growth regulators. Of the 13,381 total samples collected and analyzed, 10,382 were fresh and processed fruit and vegetables, including: apple juice, asparagus, cultivated blueberries (fresh/frozen), broccoli, canned kidney beans, celery, grape juice, green beans, green onions, greens (collard/kale), nectarines, peaches, potatoes, spinach, strawberries, summer squash, sweet corn (fresh on-the-cob/frozen), sweet potatoes, and tomatoes. PDP also tested 186 almond, 558 honey, 552 cat•sh, 650 corn grain, 184 rice, 250 groundwater, and 619 treated (finished) and untreated drinking water samples.

For fresh and processed fruit and vegetables, almonds, honey, cat•sh, and rice, approximately 76.4% of all samples tested were from U.S. sources, 19.8% were imports, 2.7% were of mixed national origin, and 1.1% were of unknown origin. Approximately 20% of the apple juice samples and 29% of the honey samples were of mixed national origin. Corn grain, groundwater, and treated and untreated drinking water were all from U.S. sources. Of the 11,960 samples of fresh and processed fruit and vegetables, almonds, honey, corn grain, and rice samples analyzed, the overall percentage of total residue detections was 1.6%. The percent of total residue detections is obtained by comparing the total number of residues detected and the total number of analyses performed for each commodity. The percentage of total residue detections for fresh fruit and vegetables ranged from 0 to 3.3%, with a mean of 1.9%. The percentage of total residue detections for processed fruit and vegetables ranged from 0 to 2.2%, with a mean of 0.6%. The percentage of total residue detections for almonds was 1.4%, for honey was 0.4%, for corn grain was 0.7%, and for rice was 0.7%.

For samples containing residues, the vast majority of the detections were well below established tolerances and/or action levels. Before allowing the use of a pesticide on food crops, EPA sets a tolerance, or maximum residue limit, which is the amount of pesticide residue allowed to remain in or on each treated food commodity. Established tolerances are listed in the Code of Federal Regulations, Title 40, Part 180. In setting the tolerance, EPA must make a safety finding that the pesticide can be used with “reasonable certainty of no harm” and that residues at (or below) the tolerance are safe. The reporting of residues present at levels below the established tolerance serves to ensure and verify the safety of the Nation’s food supply.

Excluding cat•sh, groundwater, and treated and untreated drinking water, 30% of all samples tested contained no

detectable pesticides [parent compound and metabolite(s) combined], 24% contained 1 pesticide, and 46% contained more than 1 pesticide. Low levels of environmental contaminants were detected in celery, collard and kale greens, spinach, summer squash, and cat•sh at concentrations well below levels that trigger regulatory actions. Residues exceeding the tolerance were detected in 60 (0.5 %) of the 11,960 samples tested in 2008 – 58 samples contained one residue exceeding the established tolerances and two samples contained two residues exceeding the established tolerance. Residues with no established tolerance were found in 442 (3.7 %) of the 11,960 samples (413 samples with 1 residue each, 23 samples with 2 residues each, 4 samples with 3 residues each, and 2 samples with 4 residues each). In most cases, these residues were detected at very low levels and some residues may have resulted from spray drift or crop rotations. For groundwater, 60 of the 136 collection sites (44%) contained low levels of detectable residues, measured in parts per trillion. Forty-four different pesticide residues (including metabolites) were detected in groundwater. In finished drinking water, PDP detected low levels (measured in parts per trillion) of some pesticides, primarily widely used herbicides and their metabolites. Fifty-nine different residues were detected in the •nished drinking water and 63 residues were detected in the untreated intake water. The majority of pesticides, metabolites, and isomers included in the PDP testing profiles were not detected. None of the detections in the •nished water samples exceeded established EPA Maximum Contaminant Levels (MCLs), Health Advisory (HA) levels, or established Freshwater Aquatic Organism (FAO) criteria.

What Consumers Should Know: The purpose of PDP is to provide EPA with information about the level of pesticides being indirectly consumed by the general public through foods. This information is used to assist EPA in establishing and reviewing the effectiveness of existing pesticide residue limits to protect public health. PDP is required by law to focus on products frequently consumed by infants and children.

PDP laboratory operations are designed to detect the smallest possible levels of pesticide residues possible, even when those levels are well below the safety margins established by EPA. It is important to note that **the mere presence of a pesticide on food does not indicate the food is unsafe**. In 2008, PDP analyzed 11,960 samples of fresh and processed food commodities (excluding cat•sh, groundwater, and treated and untreated drinking water). Overall, **the percentage of residues detected** (the number of residues detected divided by the total number of analyses performed for each commodity) **was 1.6%. More than 99% of the samples analyzed did not contain residues above the safety limits (tolerances) established by EPA and 96.3 percent of the samples analyzed did not contain residues for pesticides that had no tolerance established.**

Of all samples collected and analyzed in 2008, 67.5% were fresh fruits and vegetables, many of which are often eaten in a fresh, raw state. Health experts and the U.S. Food and Drug Administration agree washing fresh fruit and vegetables before eating is a healthful habit. Consumers can reduce pesticide residues if they are present by washing fruit and vegetables with cool or lukewarm tap water.

To read the entire report go to: Pesticide Data Program

REF: USDA Agricultural Marketing Service Website.

California Pesticide Residues in Fresh Produce Results from 2009

In 2009, the California Department of Pesticide Regulation (DPR) collected 3,429 samples of more than 180 kinds of commodities. All sampled commodities were derived from plants (no animal products) and were raw (not processed). Sampling of processed foods is the responsibility of the federal Food and Drug Administration (FDA) and U.S. Department of Agriculture (USDA).

Samples were collected throughout the channels of trade, including wholesale and retail outlets, distribution centers, and farmers markets. Both domestic and imported produce were monitored. Of the total samples, 57.4 % were domestic (1,969 of 3,429 samples), 41.6 % were imported (1,426 of 3,429 samples), and 1.0 % were of undetermined origin (34 of 3,429 samples).

All samples were tested in analytical laboratories using multiresidue screens capable of detecting more than 200 pesticides and breakdown products. The results:

- 73.4 % of samples had no pesticide residues detected (2,517 of 3,429 samples).
- 24.2 % of samples had residues that were within the legal tolerance levels (831 of 3,429 samples).
- 2.4 % of samples had illegal residues (81 of 3,429 samples). A produce item with an illegal residue level does not necessarily indicate a health hazard.

Residues within tolerance were found in 24.2% of the samples (831 of 3,429 samples). As in recent years, the majority of these samples had residues at less than 10 percent of the tolerance level. Illegal residues were found in only 2.4 % of samples (81 of 3,429 samples). Of these, 12.3% (10 of 81 illegal samples) had residues that were over the tolerance level, and 87.7 % (71 of 81 illegal samples) had residues of a pesticide not authorized for use on the commodity (no tolerance established). *Please note: Percentages may not add up to 100% due to rounding.*

In 2009, as in several recent years, certain commodities produced in certain locations had a higher proportion of samples with illegal residues:

Commodity and origin	**% of samples with illegal residues (2008 and 2009 `combined)**
Tomatillo produced in Mexico	8.2 % (4 of 49 samples)
Taro root produced in China	6.3 % (3 of 48 samples)
Chili peppers produced in Mexico	4.4 % (10 of 226 samples)
Papayas produced in Mexico	4.4 % (6 of 137 samples)
Snowpeas produced in Guatemala	4.3 % (2 of 47 samples)
Limes produced in Mexico	4.2 % (3 of 71 samples)
Bitter gourd produced in Mexico	4.0 % (4 of 99 samples)
Ginger produced in China	3.8% (6 of 160 samples)

Although illegal, most of these residues were at very low levels (a fraction of a part per million). Nonetheless, when illegal residues are found, DPR reacts immediately by removing the illegal produce from sale, then verifies that the produce is either destroyed or returned to its source. In addition, if the owner of the produce has similar produce from the same source, DPR quarantines that produce until the laboratory verifies that it is free from

illegal residues. Further, DPR traces the distribution of the illegal produce by contacting distributors throughout California, imposing additional quarantines and conducting additional sampling as needed. In addition, DPR is actively working with partners including the federal Food and Drug Administration (FDA) and federal Immigration and Customs Enforcement (ICE) to identify and eliminate sources of illegal residues.

We also collaborate with trade organizations and farmer-training projects, encouraging them to educate producers about pesticide residues in their commodities. For example, as a result of a series of illegal residues in snow peas from Guatemala, DPR contacted the Guatemalan exporters' association and United Nations officials to share our findings and request action. DPR's 2009 monitoring indicates a substantial reduction in the proportion of Guatemalan snowpeas with illegal residues. Last year, the two-year combined data showed 21.7% of Guatemalan snowpeas with illegal residues. This year, that has dropped to only 4.3%. A portion of that decline was likely due to DPR's outreach.

Significance of the Results

The validity of any sampling program lies in its design and in its ability to replicate the results. Over the past decade, even as the number of samples varied, the findings have been consistent from year to year. The majority of produce samples have no detectable pesticide residues. Residues that are found are usually at levels that are measured at a fraction of a part per million (ppm). In most years, approximately one percent of total samples have residues over the tolerance levels. Certain commodities produced in certain locations have a history of higher proportions of illegal residues.

While the goal of DPR's regulatory program is to ensure that all food is in compliance with pesticide safety standards, a produce item with an illegal residue level does not necessarily indicate a health hazard. Each such incident, however, is evaluated for possible health concerns. The results from years of DPR residue monitoring document the overall safety of produce grown and consumed in California.

The data collected in 2009 are available for downloading on DPR's Web site www.cdpr.ca.gov. Click on "A-Z Index" and then go to "Residue Monitoring Program."

DPR is working to improve our monitoring

In addition to the multiresidue screens that have been in use for decades, DPR is preparing to add a newer analytical technique called LCMS (liquid chromatography mass spectrometry). The advantage of LCMS is that it can detect residues of recently-registered pesticides. These newer pesticides have chemistries that are difficult to detect with the multiresidue screens.

In August 2009, DPR began a pilot project to test the new LCMS methodology. During 2009, we analyzed three commodities using LCMS: leaf lettuce, oranges, and table grapes. Those commodities were selected because some of the newer pesticides are used to produce them. So far, the pilot project has been very successful, as shown by the high detection rates with the LCMS screen:

SAMPLES WITH DETECTABLE RESIDUES		
	Screen used to detect residues	
	"Old" multiresidue screens (averages from 2007 and 2008)	"New" LCMS screen (2009 only)
Leaf lettuce	57.3% (176 of 307 samples)	55.6% (60 of 108 samples)

Oranges	34.4% (121 of 352 samples)	86.0% (43 of 50 samples)
Table grapes	29.3% (53 of 181 samples)	80.6% (29 of 36 samples)

Indeed, the LCMS screen successfully detected one low-level illegal fungicide residue on a sample of leaf lettuce. That fungicide residue would not have been detectable if we had used only the old multiresidue screen. DPR contacted the distributor to ensure the lot of contaminated lettuce was removed from sale. All other samples analyzed by LCMS either had residues that were within legal tolerances, or had no detectable residues.

The pilot project will continue with table grapes and additional commodities in 2010. DPR looks forward to expanding our use of LCMS to further strengthen our ability to detect the widest possible range of pesticides.

REF: California Department of Pesticide Regulation Website.

TIDBITS

Bedbugs

EPA's new bed bug web page provides information on chemical and integrated pest management techniques for managing bed bugs, current research efforts, links to educational materials developed by reputable sources, and other information that will be helpful for the public suffering from bed bugs and professionals on the front lines of this battle. To visit the new page on bed bugs, go to http://epa.gov/pesticides/controlling/bedbugs.html. The seriousness of bed bug problems also raises significant environmental justice issues, which initially prompted EPA to convene the first National Bed Bug Summit in April 2009. The Summit was very well attended and provided a forum for open dialogue about solutions for all stakeholders involved with bed bug issues. EPA continues to be actively engaged with states, municipalities, and federal agencies that are grappling with bed bug issues. The EPA is participating in various inter-agency and regional workshops and symposia such as the National Environmental Health Association's 2010 Annual Meeting and the National Pest Management Association's Legislative Days. The Agency has also initiated a new public health subgroup of the Pesticide Program Dialogue Committee (PPDC) to focus on public health issues involving pesticides. Through these various partnerships, the EPA hopes to find improved solutions to the bed bug problem. (EPA OPP Update, 5/14/10).

Adult Bedbugs

REF: Chemically Speaking, June 2010.

Insect Repellents

The EPA has recently updated its insect repellent Web page (http://www.epa.gov/repellentfinder). By reading and following label directions, the use of repellents can reduce or eliminate the discomfort of insect bites. Ticks can transmit serious diseases such as Lyme disease, Rocky Mountain spotted fever, and other serious diseases. Repellents also curtail the spread of such mosquito-borne diseases as St. Louis encephalitis and West Nile virus. The web page serves as a one-stop-shop for information on registered repellents. It provides up-to-date listings of mosquito and tick repellents as well as tips for choosing the right product. One of the key features of the revamped site is easy access to information about protection time. It will help people choose the right product for the length of time they will be outdoors. (EPA, 5/18/10).

REF: Chemically Speaking, June 2010.

End of Endosulfan

The EPA is taking action to end all uses of endosulfan in the United States. Endosulfan, which is used on vegetables, fruits, and cotton, can pose unacceptable neurological and reproductive risks to farm workers and wildlife and can persist in the environment. The organochlorine insecticide was first registered in the 1950s.

New data generated in response to the agency's 2002 decision have shown that risks faced by workers are greater than previously estimated. The Agency also found that there are risks above the agency's level of concern to aquatic and terrestrial wildlife, as well as to birds and mammals that consume aquatic prey which have ingested endosulfan. Farm workers can be exposed to endosulfan through inhalation and contact with the skin. However, endosulfan is used on a very small percentage of the U.S. food supply and does not present a risk to human health from dietary exposure.

The registrant of the insecticide/miticide is in discussions with EPA to voluntarily terminate all endosulfan uses. EPA is currently working out the details of the decision that will eliminate all endosulfan uses, while incorporating consideration of the needs for growers to timely move to lower-risk pest control practices. (EPA OPP Update, 6/9/10).

REF: Chemically Speaking, July 2010.

New Labeling for Foggers

The Environmental Protection Agency (EPA) is taking action to improve residential safety and reduce risks associated with “bug bombs,” or total release foggers (TRFs). The Agency is calling for significant changes to their labeling to address the most common causes of exposure incidents associated with TRFs. Manufacturers must make a number of labeling changes by September 30, 2011.

Since the largest proportion of incidents is attributable to failure to follow label instructions, the changes are targeted at minimizing those incidents. To draw attention to critical information, future bug bomb labels must be written in plain language with clear headings. To further enhance clarity and risk understanding, the new labels will also incorporate pictograms, which can be more effective than text in communicating certain information, including explosion hazards and the amount of time that a residence must be vacated after releasing the fogger. The changes also strengthen instructions to vacate upon use and air out upon return by requiring greater label prominence. A new provision is that door hang-tags must be provided to inform others to stay out of treated areas. In addition to these labeling improvements, EPA is continuing to work with registrants on developing non-labeling improvements, including transitioning to smaller foggers, time-delayed release, and nonflammable propellants.

The number of foggers used is estimated at roughly 50 million units per year. Although the available evidence suggests that bug bomb incidents are infrequent relative to use of the devices, incidents of serious injury have been reported. EPA's new bug bomb labeling improvements are consistent with the recommendations of two 2008 state reports and are intended to address concerns raised by the New York City Department of Health. EPA will continue to monitor these products closely to ensure that these new public health protections are effective and evaluate whether additional actions are needed. (EPA, 3/24/10).

REF: Chemically Speaking, April 2010.

ADHD Study Draws Media Attention

A study published in Pediatrics in mid-May has garnered a high degree of media attention and posed questions about organophosphate insecticide exposure and attention-deficit/hyperactivity disorder (ADHD). Data combed from a nutritional survey conducted between 2000 and 2004 predicted an elevated odds ratio of being placed into the ADHD category when urinary phosphate metabolites where elevated when compared to children with undetectable levels.

Several days later, the EPA released a statement that read: “The Agency is taking this study very seriously and is incorporating its findings in EPA's ongoing evaluation of the organophosphate pesticides, along with additional health data." EPA has completed a comprehensive reevaluation of all the organophosphate pesticides, and one of the outcomes of this process was the elimination of nearly all residential uses of organophosphate pesticides as well as some food uses to reduce risks to children. Data used in the Pediatrics study, from 2000-2004, would have been generated while these OP uses were being phased out and, thus, would not have reflected the new restrictions imposed by EPA.

Overall, the Agency agrees with the authors' conclusion that [sic] the data do not currently prove that organophosphates cause ADHD and that there are limitations in the organophosphate exposure assessment through the use of a single metabolite from a single spot urine sample. To determine whether a causal relationship exists between pesticides, including organophosphates, and health effects, the Agency is collaborating with various agencies of the National Institutes of Health and the Centers for Disease Control and Prevention in sponsoring the National Children's Study (NCS), a prospective study of the sort recommended by the authors.

EPA recommends that consumers who want to reduce their exposure to pesticides use common sense pest control methods that remove sources of food, water, and shelter for pests to reduce or eliminate pest problems before turning to pesticides. “Always read and carefully follow label directions before using any pesticide.”

The EPA has canceled 17 organophosphate (OP) pesticides since the beginning of the reregistration process, leaving 32 currently registered. Fifty-eight OP pesticide uses on foods commonly eaten by children were canceled or are being phased out. As a result, OP pesticide use on foods commonly consumed by children decreased from approximately 28 million pounds of active ingredient to approximately 12 million pounds (a 57% reduction) between the mid-1990s and 2004. The Registration Review schedule for the OP pesticides has also been accelerated, with dockets opening in 2008 and 2009.

The statement released by the EPA is supported by residue analyses that occur yearly while conducting the Pesticide Data Program. Results from 2008 (the latest data) Florida-grown strawberries reflect only the presence of malathion in approximately ten percent of the strawberry samples (n=82). The highest concentration detected was over 100 times less than the tolerance (0.07 ppm versus 8 ppm). No other OP insecticides were detected. On a national basis, 20 percent of samples (n=741) contained malathion and methomyl. The detected concentrations of those two OP insecticides were always below the tolerances for the active ingredients. As methomyl is no longer employed in strawberry production, those residues will also be absent from strawberries presently and in the future. There were no other insecticides of any type detected in the national sample. (Pediatrics - 5/17/10, EPA - 5/21/10, & USDA PDP, Dec. 2009).

REF: Chemically Speaking, June 2010.

TOP

Do Not Eat "Ginger Candy" from China

Kevin Reilly, acting director of the California Department of Public Health (CDPH), warned consumers not to eat “Ginger Candy” imported from China after CDPH tests found it contained **more than twice the amount of lead that California allows in candy products.**

The candy with the brand name “Ginger Candy” contained as much as 0.25 parts per million (ppm) of lead. California considers candies with lead levels in excess of 0.10 ppm to be contaminated. Pregnant women and parents of children who may have consumed this candy should consult their physician or health care provider to determine if medical testing is needed. Although there have been no illnesses reported from consumption of the candy, consumers in possession of “Ginger Candy” should discard immediately.

"Ginger Candy" is manufactured by DaiJyoBu® in China, imported and distributed by Anhing Corporation in Los Angeles. Anhing Corporation has initiated a voluntary recall of the candy and is working with businesses to ensure that the contaminated candies are removed from the market place. "Ginger Candy" is sold in an 8 ½" x 6" plastic bag containing six individually wrapped pieces of candy. There is a bright orange border at the top of the package. Chinese characters and "Ginger Candy" appear in the border. The bag is decorated with boxes that alternate between clear and white with blue dots. The bottom of the package shows a large yellow ginger root with green sprouts. There is a character of a winking, black-haired boy on the right-hand side of the package. The word "DaiJyoBu®" appears at the boy's feet.

Consumers who find the brand name "Ginger Candy" for sale are encouraged to call the CDPH Complaint Hotline at 1-800-495-3232. For more information about lead poisoning, contact your county childhood lead poisoning prevention program or public health department. Additional information is available at CDPH's California Childhood Lead Poisoning Prevention Branch: Children at Risk page.

REF: CDPH website, September 21, 2010.

Do Not Consume Two Brands of Frozen Mamey Fruit Bars

Dr. Mark Horton, director of the California Department of Public Health (CDPH), today warned consumers not to eat Fruiti Pops or Paletas California brand frozen mamey fruit bars, also known as paletas, because of potential contamination with *Salmonella Typhi*. Mamey, which is the main ingredient of these products, is a tropical fruit from Central America.

There have been no illnesses reported from consumption of the frozen mamey fruit bars. But the mamey used to produce the bars was from Goya, Inc., a company that initiated a recall of its mamey pulp after sampling detected Salmonella. The Goya brand mamey pulp was associated with *Salmonella Typhi* illnesses. At least nine people in California and Nevada have been ill with typhoid fever, caused by *Salmonella Typhi*.

Typhoid fever is a life-threatening illness caused by the bacterium *Salmonella Typhi*, which lives only in humans. Infection results from eating foods or drinking water or beverages that have been contaminated by an infected person, or by direct or indirect contact with fecal material from infected persons. Most cases in the U.S. are acquired from recent travel to developing countries, but a small number of cases may be acquired locally from rare carriers, people who recovered from typhoid fever but continue to carry and shed the bacteria.

Symptoms of typhoid fever include fever, headache, abdominal pain, and constipation or diarrhea. Most ill persons need to be hospitalized for antibiotic treatment. Carriers usually do not have symptoms but, once identified, also need antibiotic treatment.

People who develop symptoms of typhoid fever after consuming Fruiti Pops and Paletas California brand frozen fruit pops should consult their health care provider.

Fruiti Pops frozen fruit bars are 4 ounces and packaged in a clear plastic wrapper. The frozen fruit bars do not

contain lot numbers or expiration dates. The Universal Product Code (UPC) of the recalled product is 763734000097. The recalled fruit bars were distributed in California, Arizona, and Texas through distributorships.

Paletas California frozen mamey fruit bars are 4 ounces and packaged in plastic wrappers. The fruit bars are sold in a package of 24 paletas. All production lot codes are being recalled. The UPC of the recalled product is 3641800200. The recalled fruit bars in California were distributed to retailers in Southern California.

Consumers in possession of these products are advised to dispose of them. Consumers with questions may contact Fruiti Pops at (562) 404-2568 and Paletas California at Foods, Inc. at (562) 944-0680.

REF: CDPH website, August 31, 2010.

How to Dispose of Unused Medicines

Is your medicine cabinet filled with expired drugs or medications you no longer use? How should you dispose of them?

Most drugs can be thrown in the household trash, but consumers should take certain precautions before tossing them out, according to the Food and Drug Administration (FDA). A few drugs should be flushed down the toilet. And a growing number of community-based "take-back" programs offer another safe disposal alternative. To read this article link to: How to Dispose of Unused Medicines.

REF: FDA Consumer Health Information.

Home Gardens and Lead: What You Should Know about Growing Plants in Lead-Contaminated Soil

Lead is a heavy metal that occurs in all soils but can reach hazardous levels in some soils as a result of leaded-fuel exhaust, industrial wastes and other causes. Learn how to test your soil for safety and see what you can do if lead levels run too high.

This University of California Agriculture and Natural Resources publication is free and can be downloaded. Link to: Home Gardens and Lead

Veterinary Notes

Human NSAIDs, Antidepressants Commonly Poison Pets

The Pet Poison Helpline is warning about pet poisonings caused by human medications. This 24-hour service is available throughout North America for veterinary professionals and pet owners who need help treating a potentially poisoned pet.

Tens of thousands of phone calls are fielded about human prescription drugs, rat poisons and environmental/home poisons. Nearly half the calls involve over-the-counter and prescription medications for humans.

The top 10 human medications most frequently ingested by pets are:

- **Nonsteroidal anti-inflammatory drugs** (e.g. Advil, Aleve and Motrin).
- **Acetaminophen** (e.g. Tylenol). One regular-strength tablet of acetaminophen can damage a cat's red blood cells. In dogs, acetaminophen leads to liver failure and, in large doses, red blood cell damage.
- **Antidepressants**. (e.g. Effexor, Prozac, Lexapro). While these medications are occasionally used in pets, overdoses can lead to serious neurological problems such as sedation, incoordination, tremors and seizures. Pets, especially cats, seem to enjoy the taste of Effexor and often eat the entire pill. One pill can cause serious poisoning.
- **ADD and ADHD medications** (e.g. Concerta, Ritalin). Minimal ingestion by pets can cause life-threatening tremors, seizures, elevated body temperatures and heart problems.
- **Benzodiazepines and sleep aids** (e.g. Xanax, Ambien, Lunesta). About half the dogs that ingest sleep aids become agitated instead of sedated. In addition, the drugs may cause severe lethargy, incoordination and slowed breathing.
- **Birth-control pills** (e.g. estrogen, estradiol, progesterone). Ingestion of large amounts of estrogen and estradiol can cause bone marrow suppression, particularly in birds. Additionally, intact female pets are at increased risk of side effects from estrogen poisoning.
- **ACE inhibitors** (e.g. Zestril, Altace). Pets ingesting small amounts may be monitored at home pending signs of kidney failure or heart disease.
- **Beta blockers** (e.g. Tenormin, Coreg). Overdoses can cause a life-threatening fall in blood pressure and a slow heart rate.
- **Thyroid hormones** (e.g. Armour desiccated thyroid, Synthroid). Large acute overdoses in cats and dogs can cause muscle tremors, nervousness, panting, a rapid heart rate and aggression.
- **Cholesterol lowering agents** (e.g. Lipitor, Zocor, Crestor). Most statin ingestions cause mild vomiting or diarrhea. Serious side effects come with long-term use.

The hotline is staffed by board-certified veterinary internal medicine specialists, veterinary emergency critical care specialists, veterinarians, technicians and pharmacologists.To reach the Pet Poison Helpline call: 800-213-6680

REF: Veterinary Practice News, March 2010

They Ate What?????

The best of Veterinary Practice News annual competition, "They Ate What?" is an xray contest to remind pet owners to be more careful about what your pet may ingest.
http://media.animalnetwork.com/channelmedia/vpn/TheyAteWhat.pdf

THANKS EVERYONE... It has been a wonderful roller coaster ride over the years.... Here's to a few more trips around the sun...
Sandy

Click on the Pig!