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Arthur L. Craigmill
Extension Toxicologist

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"IN THIS ISSUE"

TOXICOLOGY TIDBITS

VETERINARY NOTES

Women and Smoking: New Surgeon General Report

U.S. Surgeon General David Thatcher, M.D., has released a 620-page report warning that **women now account for 39% of all smoking-related deaths each year in the United States, a proportion that has more than doubled since**

1965. The report's major conclusions include:

- Despite all that is known of the devastating health consequences of smoking, 22% of women smoked cigarettes in 1998.
- In 2000, 29.7% of high school senior girls reported having smoked within the past 30 days.
- Since 1980, approximately 3 million U.S. women have died prematurely from smoking related neoplastic, cardiovascular, respiratory, and pediatric diseases, as well as cigarette-caused burns.
- **Lung cancer is now the leading cause of cancer death among U.S. women; it surpassed breast cancer in 1987. About 90 percent of all lung cancer deaths among women who continue to smoke are attributable to smoking.**
- Exposure to environmental tobacco smoke is a cause of lung cancer and coronary heart disease among women who are lifetime nonsmokers.
- Infants born to women exposed to environmental tobacco smoke during pregnancy have a small decrement in birth weight and a slightly increased risk of intrauterine growth retardation compared to infants of nonexposed women.
- **Women who stop smoking greatly reduce their risk of dying prematurely, and quitting smoking is beneficial at all ages.**
- Smoking during pregnancy remains a major public health problem despite increased knowledge of the adverse health effects of smoking during pregnancy.
- Tobacco industry marketing is a factor influencing susceptibility to and initiation of smoking among girls, in the United States and overseas. Tobacco ads and promotions targeted to women are dominated by themes of social desirability and independence.

The Centers for Disease Control and Prevention Web site provides additional information on the report.
http://www.cdc.gov/tobacco/sgr_forwomen.htm

REF: *Consumer Health Digest* #01-14, April, 2001.

Occupational and Take-Home Lead Poisoning Associated With Restoring Chemically Stripped Furniture --- California, 1998

The Occupational Lead Poisoning Prevention Program (OLPPP) of the California Department of Health Services and a county health department investigated cases of lead poisoning in six furniture workers and their families in 1998. The investigation, initiated after a blood test of a worker's child revealed an elevated blood lead level (BLL), found that lead remaining in previously painted or coated stripped wood was carried from the workplace on clothes and shoes and was the source of the child's lead exposure and subsequent poisoning. Employers in industries in which workers restore or build using stripped wood should assess lead exposure and, when necessary, should establish a comprehensive lead safety program.

During a routine medical examination, the 18-month-old child of a worker received a BLL test at his mother's request. The result, 26 µg/dL, met the CDC-recommended criterion for a lead poisoning case requiring clinical management (i.e., BLLs >20 µg/dL). A county public health nurse conducted a home visit and arranged blood testing of other family members. Laboratory tests revealed that the father, who worked for a company that refinished antique furniture, had a BLL of 46 µg/dL and his 4-month-old daughter a BLL of 24 µg/dL.

The nurse contacted OLPPP, the state program that provides follow-up for occupational lead poisoning cases. An OLPPP industrial hygienist interviewed the employer who described the process for repairing and restoring wood furniture. Before arriving at the shop, the furniture was chemically stripped of all paint or coatings and was believed to be free of lead. Four carpenters made necessary repairs using power tools such as saws and planers. In an adjacent outdoor courtyard, two refinishers smoothed the wood using manual and power sanders, washed the furniture, and applied wax. Workers routinely ate and drank in work areas, wore no protective equipment, and returned home in work clothes and shoes.

OLPPP instructed the employer to provide BLL and zinc protoporphyrin testing for the six workers and encouraged testing through the county of six family members who might have been affected by lead toxicity. All six workers had elevated BLLs: the two refinishers had BLLs of 29 and 54 µg/dL, and the four carpenters had BLLs of 46, 46, 47, and 56 µg/dL. The Occupational Safety and Health Administration lead regulation requires employees with BLLs >40 µg/dL to receive a medical examination, additional laboratory testing, and follow-up. Five of the six family members, aged 7-12 years, did not have elevated BLLs; however, a 7-month-old infant, whose father's BLL was >40 µg/dL, had a BLL of 16 µg/dL; it was 15 µg/dL on retesting 30 days later.

OLPPP recommended that the employer establish a comprehensive lead safety program that included exposure monitoring, good hygiene practices, medical examinations, protective clothing, respiratory protection, safe dust clean-up methods, and training. The employer arranged personal exposure monitoring and surface wipe sampling for lead and implemented workplace improvements, including a respiratory protection program; use of HEPA vacuum-attached power sanders; use of a high-efficiency toxic dust HEPA vacuum; daily clean uniforms; separate storage lockers, changing area with showers, and lunch room; warning signs; safety training addressing take-home lead; and a lead medical surveillance program. Workers' BLLs declined after these steps were taken, and the average BLL decreased 15 µg/dL in approximately 3 months.

The nurse advised the affected families on cleaning residences and vehicles. At the residence of the index case, a wipe sample taken on a carpet where the worker played with his children showed a lead surface concentration of 30 µg/ft2. After steam cleaning the carpet, the level was 14 µg/ft2. This lead level on interior floors is below 40 µg/ft2, the threshold level the Environmental Protection Agency has determined to be harmful. In addition to the take-home lead contamination, the investigation identified deteriorated lead paint, which the landlord remediated. When the 4-month-old infant's BLL remained elevated several months later, more thorough testing of painted surfaces was performed, and the landlord was required to remediate additional lead painted surfaces. The infant's BLL then decreased steadily.

Editorial Note: Exposure to lead in paints and coatings is a known health risk, and recommendations have been made to prevent exposure. This investigation revealed that wood chemically stripped of lead-containing coatings can retain harmful amounts of lead. The process of alkaline stripping can cause lead to migrate from the paint layer into the pores of the wood substrate. Although the wood appears uncoated, sufficient airborne lead dust is released while using power and hand tools to cause surface contamination and elevated BLLs in workers.

For the whole article link to: http://www.cdc.gov/mmwr/

REF: *Morbidity and Mortality Weekly Report*, April 06, 2001 / 50(13);246-8

Preliminary FoodNet Data on the Incidence of Foodborne Illnesses --- Selected Sites, United States, 2000

Each year in the United States, an estimated 76 million persons contract foodborne illnesses. CDC's Emerging Infections Program Foodborne Diseases Active Surveillance Network (FoodNet) collects data about nine foodborne diseases in eight U.S. sites to quantify and monitor foodborne illnesses. This report describes preliminary surveillance data for 2000 and compares them with 1996-1999 data. The data indicate the relative frequency of diagnosed infections, demonstrate substantial regional variation, and suggest trends in incidence. FoodNet provides data for monitoring foodborne illnesses and interventions designed to reduce them.

In 1996, active surveillance began for laboratory-confirmed cases of *Campylobacter*, *Escherichia coli* O157, *Listeria monocytogenes*, *Salmonella*, *Shigella*, *Vibrio*, and *Yersinia entercolitica* infections in Minnesota, Oregon, and selected counties in California, Connecticut, and Georgia. In 1997, surveillance for laboratory-confirmed cases of *Cryptosporidium* spp. and *Cyclospora cayetanensis* infections was added, and 12 Georgia counties and Fairfield County in Connecticut were added to the surveillance area. In 1998, the surveillance area for Connecticut became statewide and active surveillance began in selected counties in Maryland and New York. In 1999, the remaining counties in Georgia and eight counties in the metropolitan Albany, New York, area were added. In 2000, 11 counties in Tennessee and Contra Costa County in California were added, bringing the FoodNet surveillance population to 29.5 million persons (10.8% of the 1999 U.S. population). To identify cases, surveillance personnel contact each clinical laboratory in their surveillance area either weekly or monthly depending on the size of the clinical laboratory. Cases represent the first isolation of a pathogen from a person by a clinical laboratory; most specimens were obtained for diagnostic purposes from ill persons.

2000 Surveillance: The data for 2000 are presented in two ways: from the five original sites and from the expanded eight site population. The eight site data are likely to represent better the national picture. During 2000, 12,631 laboratory-confirmed cases of nine diseases under surveillance were identified: 4640 of campylobacteriosis, 4237 of salmonellosis, 2324 of shigellosis, 631 of *E. coli* O157 infections, 484 of cryptosporidiosis, 131 of yersiniosis, 101 of listeriosis, 61 of *Vibrio* infections, and 22 of cyclosporiasis.

1996-2000 Rate Comparison: The number of sites and the population under surveillance nearly doubled since FoodNet began in 1996. To provide consistency, only data from the original five sites were examined to determine temporal trends. Comparing 1996 with 2000, the incidence of laboratory-diagnosed campylobacteriosis declined in the original five sites combined, and in four of the five original sites individually. The magnitude and pattern of change varied by site; for example, California, Connecticut, and Minnesota reported an increase in 2000 compared with 1999. The incidence of diagnosed salmonellosis declined in all five sites combined and in each of the five original sites. Comparing 1996 with 2000, the incidence of infection with each of the two most common serotypes of *Salmonella* also declined, from 3.9 to 2.7 for *S.* Typhimurium and from 2.5 to 1.8 for *S.* Enteriditis. The incidence of listeriosis declined overall and in each of the sites. The incidence of cryptosporidiosis and cyclosporiasis also declined after surveillance began in 1997. In comparison, the overall incidence of shigellosis varied substantially from year to year and from site to site; the incidence increased in all sites combined and in four of the five individual sites. Large increases occurred in California and Minnesota during 2000. The overall incidence of E. coli O157 infections increased in the combined five sites and in four of the five original sites separately. Substantial year-to-year fluctuation occurred in the rates of E. coli O157 infections in individual sites, and marked variation occurred from site to site.

Editorial Note: In 2000, FoodNet completed the fifth year of active surveillance for infections caused by pathogens often transmitted through food. In all 5 years of FoodNet data collection, *Campylobacter* was the most frequently diagnosed pathogen, followed by *Salmonella*, *Shigella*, and *E. coli* O157; however, substantial regional and year-to-year variation occurred. Differences in calendar year 2000 rates between the expanded and original populations reflect regional differences in pathogen isolation rates. Despite year-to-year variation and regional fluctuations, the general magnitude of incidence and the relative order of pathogens have remained the same, indicating that this expanded system will be useful for measuring progress toward the 2010 national health objectives for infections with *Campylobacter* (12.3 per 100,000), *E. coli* O157:H7 (1.0 per 100,000), *Salmonella* (6.8 per 100,000), and *Listeria* (0.25 per 100,000).

For the whole article link to: http://www.cdc.gov/mmwr/

REF: *Morbidity and Mortality Weekly Report*, April 06, 2001 / 50(13);246-8

Knowledge and Use of Folic Acid Among Women of Reproductive Age --- Michigan, 1998

Neural tube defects (NTDs), which include spina bifida and anencephaly, are serious malformations that occur in the developing fetus during the first 17-30 days after conception. Consumption of supplements containing folic acid can reduce NTDs 50%-70%. In the U.S., approximately 4000 pregnancies are affected by NTDs each year, including approximately 140 infants in Michigan. In 1992, the U.S. Public Health Service recommended that all women of childbearing age consume at least 400 µg of folic acid daily. In 1998, the Institute of Medicine reaffirmed that recommendation and added that women capable of becoming pregnant take 400 µg of synthetic folic acid daily from fortified foods and/or supplements and consume a balanced, healthy diet of folate-rich foods. This report summarizes findings from the 1998 Behavioral Risk Factor Surveillance System (BRFSS) about multivitamin use and folic acid knowledge among women of reproductive age in Michigan. The findings suggest that public health campaigns that promote the consumption of folic acid should target women who are young, unmarried, obese, smoke, eat few fruits and vegetables, and have a low level of education.

Overall, 42.4% of women reported taking a multivitamin or folic acid supplement daily. Multivitamin use increased with age, from 33.1% for women aged 18-24 years to 48.1% for women aged 40-44 years. The prevalence of women who used a multivitamin was highest among those who were consumers of five or more fruits and vegetables a day (54.9%), college educated (49.9%), aged 35-39 years (49.6%), former smokers (47.4%), married (46.0%), not overweight (44.5%), and white (44.2%). After multivariable analysis, the following groups were statistically significantly less likely than their respective comparison group to use a multivitamin daily: women aged 18-24 years, women who had a low level of education, women who ate less than five fruits and vegetables a day, and obese women.

Overall, 30.0% of women had knowledge of folic acid use, defined as responding that the prevention of birth defects is the reason to take folic acid. The prevalence of women with folic acid knowledge was highest among women who were college graduates (42.2%), aged 25-29 years (39.8%), former smokers (37.0%), married (35.8%), ate five or more fruits and vegetables a day (34.9%), not overweight (31.9%), and white (31.5%). Multivariable analysis indicated that women who were high school graduates, current smokers, and unmarried were statistically significantly less likely than their respective comparison group to have correct knowledge of folic acid use. Women aged 18-29 were statistically significantly more likely than their respective comparison group to have correct knowledge.

Editorial Note: The findings in this report indicate that younger women, women with low education, women with low fruit and vegetable consumption, and obese women were associated with lower levels of reported multivitamin use. Being unmarried or a current smoker was associated with low folic acid knowledge, and having less education (an indicator of low socioeconomic status) was associated with both low levels of multivitamin use and low folic acid knowledge. Eating few fruits and vegetables and smoking also are correlated with socioeconomic status. Therefore, socioeconomic status is a marker for low folic acid knowledge and low multivitamin use in Michigan, as has been shown in previous studies. Because low education level was associated with low folic acid knowledge, a continued educational effort from medical and nutritional professionals is needed to increase knowledge and support behavior change.

The public health community should continue to use multiple strategies to increase folic acid intake and consumption. The current level of folic acid in fortified food (140 µg per 100 g cereal grain product) is intended to increase a woman's intake by approximately 100 µg per day. Although the current levels of fortification may not be sufficient to provide the necessary dietary intake of folic acid for many women who become pregnant, fortification has had a substantial effect on increasing folate levels. Because approximately 50% of pregnancies are unplanned, all women of childbearing age

should be encouraged to consume 400 µg of folic acid from fortified foods and/or supplements and to consume a balanced, healthy diet of folate-rich foods.

REF:*Morbidity and Mortality Weekly Report,* 50(10), March 16, 2001.

Lyme Disease --- United States, 1999

Lyme disease (LD) is caused by the tickborne spirochete *Borrelia burgdorferi* sensu lato and is the most common vectorborne disease in the U.S. Surveillance for LD was initiated by the Centers for Disease Control (CDC) in 1982, and the Council of State and Territorial Epidemiologists designated it a nationally notifiable disease in January 1991. This report summarizes the number of LD cases reported to CDC during 1999. Although the number of cases decreased from 1998, the number of cases in 1999 was higher than the number reported during the early 1990s.

Editorial Note: From 1991 to 1999, the incidence of LD increased 1.7-fold. The geographic distribution expanded early in the epidemic, then stabilized. Most cases continue to occur in northeastern, mid-Atlantic, and north central states. The large proportion of patients aged <15 years and 45-59 years may be the result of greater exposure than other groups to infected ticks, to less use of personal protective measures, to differential use of health-care services, or to reporting bias. The large number of reported LD cases during June and July reflects the seasonal peak of host-seeking activities of infective nymphal-stage vector ticks in areas where LD is endemic.

LD can be prevented by avoiding tick-infested areas, using repellents, and promptly removing ticks that become attached to clothing or the body. A vaccine for persons aged 15-70 years, approved by the Food and Drug Administration in 1998, is 76% effective in preventing LD after three doses. New methods of reducing tick vectors are being developed (e.g., baited devices that passively apply acaricides to deer and rodents). In addition, early diagnosis and treatment of LD can reduce morbidity. Updated guidelines for LD treatment were published in 2000.

Additional information about LD is available at http://www.cdc.gov/ncidod/dvbid/lymeinfo.htm.

REF: *Morbidity and Mortality Weekly Report*, 50(10), March 16, 2001.

Green Tea and Gastric Cancer

Gastric cancer was once the leading cause of cancer-related death in most countries, including the United States. Since 1930 the incidence of gastric cancer has steadily decreased throughout the world, with dramatic decreases in the West. In 1994, gastric cancer was the eighth leading cause of cancer-related deaths in the United States, with 6.3 deaths from gastric cancer per 100,000 men and 4.2 per 100,000 women. Although the reason for the decline is uncertain, decreased consumption of salt-preserved foods and increased consumption of fresh vegetables and fruits after the widespread introduction of refrigeration have been proposed as important contributing factors. In Japan, the incidence

of gastric cancer has decreased much more slowly.

In contrast to previous case-control studies, this prospective study found no protective effect of green tea. In fact, there was a nonsignificant increase in the risk of gastric cancer among persons who drank five or more cups of green tea per day, as compared with those who drank less than one cup per day. The results of this study constitute the strongest epidemiologic evidence to date on the relation between the consumption of green tea and the risk of gastric cancer.

The results of case-control studies may not be confirmed by a prospective cohort study or an intervention trial. Apparent associations between cancer and dietary factors (e.g., breast cancer and fat or colon cancer and fiber) have recently been called into question by the results of prospective studies. The study by Tsubono et al. is another example. The interpretation of data from these studies is complicated, and additional data from other cohorts of subjects would be helpful. Large cohort studies and intervention trials examining the relation between green-tea consumption and gastric cancer are under way in Japan. **In the interim, those who enjoy green tea as a beverage can continue to drink it, but there should be no expectation that this practice will reduce the risk of gastric cancer.**

REF: *The New England Journal of Medicine*, 344(9), March 1, 2001.

Report Shows Only Low Levels of Metals in Farm-Raised Fish

For seafood consumers who want to limit their intake of potentially dangerous heavy metals, farm-raised fish should be a popular choice. Results of a three-year study that has found only trace amounts of metals in common, commercially produced fish will be released in the February issue of the *Journal of Food Science* (JFS), a peer-reviewed scientific publication of the Institute of Food Technologists (IFT).

Led by IFT professional member Charles Santerre, Ph.D., the recently completed investigation focused on catfish, trout and crayfish produced commercially in the southern United States. All samples tested well below FDA and EPA limits for heavy metals such as mercury -- on average, 40- to 100-times lower than the limit used in advisories.

“Since virtually all catfish and trout available at grocery stores and restaurants are farm-raised, consumers can safely enjoy large quantities of these products and benefit from their nutritional value,” said Dr. Santerre, an associate professor in the Department of Foods and Nutrition at Purdue University and leader of this study.

In the study of channel catfish, rainbow trout and red swamp crayfish, levels of barium, cadmium, copper, chromium, silver, lead, arsenic, selenium, and mercury were so low that some samples had no detectable quantities.

Likewise, none of the fish tested contained any of the nine metals in amounts nearing or exceeding limits recommended by the FDA, EPA and other health agencies such as the World Health Organization.

Dr. Santerre warns that while data support the safety and benefits of farm-raised fish, consumers should still use caution when eating freshwater or saltwater sport fish. According to Santerre, at least 34 states have issued consumption advisory alerts to protect anglers and their families from harmful contaminants. On January 12, the FDA issued an advisory recommending pregnant women and women of child-bearing age not eat shark, swordfish, king mackerel or tilefish due to high levels of mercury.

“We certainly want consumers to enjoy fish and anglers to enjoy fishing,” said Santerre “However, we also want their fish consumption to be safe.”

In another study published in JFS in March, 2000, Santerre and his colleagues found very low levels of 34 pesticides

in these same fish species. Samples in both studies were collected from facilities in Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, Tennessee, and Texas.

REF: *Institute of Food Technologists News Release*, Jan. 29, 2001.

The Cutting Edge of Cutting Calories

The sad truth is that we're a bunch of fatsos, and getting fatter. Sixty-one percent of adults are now overweight, an all-time high, and more than a quarter are actually obese, or grossly overweight, according to the 1999 National Health and Nutrition Examination Survey just released by the Centers for Disease Control and Prevention. But while we get fatter and suffer from diabetes and high cholesterol in record numbers, federal regulators are drastically limiting the availability of an important tool for controlling calories.

The bad news is on the political front. FDA regulators have been far too conservative with this nutritional aid. They granted limited approval, permitting olestra only for fried snacks, although the product is uniquely versatile and can be used instead of margarine, lard, butter, and other oils in frying, baking, and sautéing. The agency has been unenthusiastic about additional uses, even though the safety and usefulness of the product are unquestioned. **Olestra is the most tested food substance in history:** Over the past 30 years, there have been more than 150 animal studies and 100 human clinical trials involving more than 24,000 adults and children--far more than the testing of most prescription drugs.

Why would federal health regulators unnecessarily restrict such a desirable and popular product? They seem to have responded to the opposition of a single radical group, the Washington, D.C.-based Center for Science in the Public Interest. For more than a decade, CSPI has forsworn both common sense and overwhelming scientific evidence in attacking olestra.

We should not forget that CSPI is the brown rice and carrot juice crowd that has warned us of the health horrors lurking in Mexican, Chinese, and Greek food, and in movie theater popcorn--largely because of the fat content. How ironic that this "consumer" group continues to vilify a product that can help people reduce fat consumption in a society where high-fat diets rank among the leading threats to public health.

The FDA's failure to promote--let alone to permit--wider use of olestra represents the most lamentable kind of regulatory decision-making. The regulators have been cavalier toward public health, preemptive of consumers' freedom to choose, and punitive to a company that spent hundreds of millions of dollars in good faith to develop a safe and effective product.

For more info, link to: http://www.thescientist.com/

REF: *The Scientist*, 15[4]:39, Feb. 19, 2001.

Histamine Poisoning Associated With Eating Tuna Burgers

Histamine poisoning occurs when persons ingest fish in which bacteria have converted histidine to histamine, a process that usually can be controlled by storage at low temperatures. From 1994 to 1997, North Carolina averaged 2 cases annually; however, from July 1998 to February 1999, a total of 22 cases of histamine fish poisoning were reported. This type of food poisoning is also known as Scombroid Fish Poisoning, and is directly caused by improper handling (not keeping the fish adequately refrigerated). Of the 22 persons affected, 86% sought medical care. There were no hospitalizations, serious complications, or deaths.

Histamine poisoning is a chemical intoxication with a short incubation period, usually ranging from minutes to a few hours after ingestion. Symptoms include tingling and burning sensations around the mouth, headache, facial flushing and sweating, rash and itching on the upper body, abdominal cramps, nausea, vomiting, diarrhea, and heart palpitations. In most persons, symptoms are self-limiting, although histamine poisoning can be life-threatening in persons with conditions such as asthma and heart disease. Some drugs, such as monoamine oxidase inhibitors, can worsen or prolong an attack by inhibiting the breakdown of histamine. Antihistamine medication such as diphenhydramine and cimetidine often relieve symptoms; however, severe cases of toxicity can require the same aggressive management as acute anaphylaxis. Symptoms related to histamine poisoning can also be similar to those of coronary heart disease, increasing the possibility of an invasive medical intervention if misdiagnosed.

Types of reported symptoms seen within 2 hours of eating tuna included rash, facial flushing, vomiting, diarrhea, dyspnea, a tight feeling in the throat, headache, or a metallic or peppery taste in the mouth. Twenty cases occurred during 5 outbreaks, and there were 2 single occurrences. Of the 22 persons affected, 19 (86%) sought emergency medical care. All case-patients ate tuna: 18 ate tuna burgers, 2 ate salad containing tuna, and 2 ate filets. Tuna samples (available from 3 outbreaks) had histamine levels above the Food and Drug Administration regulatory level of 50 ppm (levels were between 213 and 3245 ppm). In 19 cases, the tuna used to prepare burgers or salads was frozen and thawed more than once before serving. Violations of recommended temperature controls were identified in 2 of the 5 restaurants, accounting for 14 (64%) cases. Tuna burgers, a relatively new menu item in restaurants, were associated with an increase in histamine poisoning cases in North Carolina. Tuna ground for burgers can be susceptible to both temperature fluctuations and bacterial contamination.

Histamine, putrescine, and cadaverine levels in the implicated fish samples were tested by the Southeast Regional Laboratory of the US Food and Drug Administration (FDA) using Association of Official Analytical Chemists methods. A histamine level greater than 50 ppm is considered evidence of decomposition by the FDA for regulatory purposes. For industry quality-control purposes, a histamine level of 20 ppm or greater indicates that some violation of temperature controls has occurred. While there are no established regulatory action levels for putrescine and cadaverine, they are considered markers of decomposition and their presence indicates product abuse.

The tuna shipments containing the implicated fish were all brought into Miami, Fla, from both local and international waters. Seafood distributors delivered shipments to North Carolina in refrigerated trucks within 7 to 14 days of arrival in Florida. The tuna for burgers and salads was from the belly meat of the fish. This meat was saved in freezer bags and stored in both freezers and coolers for 2 to 4 days until served as salads or burgers. Once the tuna was ground, patties were formed and stored in the cooler until cooked and served. Inspection of this process showed several freezing and thawing cycles. These food-handling practices were common to all restaurants that served the implicated tuna burgers. Restaurant inspections identified inadequate refrigeration in 2 of the 5 restaurants, accounting for 14 (64%) cases. In 1 restaurant that showed violations of storage temperature controls, the grinder used to make the tuna burgers was not sanitized between uses.

Histamine poisoning from fish is probably the principal cause of morbidity from toxic fish consumption worldwide, and it is the only form of fish poisoning caused by bacterial contamination. Spoiled fish of the family *Scombridae* (eg, tuna, mackerel, and bonito) are commonly implicated, hence the term scombroid fish poisoning. However, other types of fish are often implicated in histamine poisoning from fish, including mahimahi, bluefish, salmon, amberjack, herrings, sardines, and anchovies.

Histamine development is more likely to occur in raw, unfrozen fish. Because the fish might appear and smell

normal, the consumer is unlikely to identify a problem before eating the fish. Once the bacteria have formed the enzyme histidine decarboxylase, histamine production can continue even if the bacteria are killed. Although cooking can inactivate both the enzyme and the bacteria, the toxic factors produced are heat stable and, once formed, are not destroyed by cooking, smoking, or freezing.

REF: *Journal of the American Medical Association*, 285:1327-1330, 2001.

National Report on Human Exposure to Environmental Chemicals

The Centers for Disease Control and Prevention (CDC) today (March 21) released the first National Report on Human Exposure to Environmental Chemicals, an important new research tool that will provide better information on levels of exposure to environmental chemicals, and over time what these levels mean for public health. Advances in a technology known as biomonitoring allow CDC to measure chemicals directly in blood and urine samples rather than estimating population exposures by measuring air, water, or soil samples. Based on this scientific advancement, the new report provides data on actual levels of chemicals in humans. As data are collected over the years, researchers will be better able to determine possible health effects and design appropriate public health strategies.

"This new resource is a significant development in the field of environmental health," said Health and Human Services Secretary Tommy G. Thompson. "It will help us to better track the exposures of Americans to chemicals in the environment and to measure the effectiveness of our public health efforts."

This first report initially measures the exposure of the U.S. population to 27 environmental chemicals. The report includes metals (e.g., lead and mercury), pesticide metabolites, phthalate metabolites and cotinine (which tracks exposure to tobacco smoke). Levels of environmental chemicals were measured in blood and urine samples collected from participants in CDC's National Health and Nutrition Examination Survey (NHANES) - an ongoing national health survey of the U.S. population. The Report provides results from the 1999 survey; data from future years will help confirm these findings.

"The Report is a major step toward assessing in the U.S. population which environmental chemicals are present in blood and urine samples, who is exposed, trends in exposure over time, and whether interventions to reduce exposure are working," said Richard J. Jackson, MD, MPH, Director of CDC's National Center for Environmental Health (NCEH).

Although the report does not include new information on health risks of exposures or on potential routes of exposures, this is the first time that national exposure levels of the U.S. population are known for 24 of these 27 chemicals. CDC previously assessed the population's exposure to three substances -- lead, cadmium, and cotinine, and the report provides new data for the 1999 calendar year. Previously, only limited data were available on which environmental chemicals were in the U.S. population and at what levels.

The presence of a chemical in blood or urine does not necessarily indicate that the chemical will cause disease. Additional research is required to determine whether the levels reported are a cause for health concern.

The first Report provides information on the exposure of the U.S. population to these 27 substances. The chemicals, grouped into four categories, are as follows:

- **Metals**: lead, mercury, cadmium, cobalt, antimony, barium, beryllium, cesium, molybdenum, platinum, thallium, tungsten, and uranium.
- **Tobacco smoke**: cotinine - a metabolite of nicotine that tracks tobacco smoke exposure.
- **Organophosphate pesticides** (Six metabolite measurements representing exposure to 28 pesticides):

dimethylphosphate, dimethylthiophosphate, dimethyldithiophosphate, diethylphosphate, diethylthiophosphate, and diethyldithiophosphate. These metabolites are generally formed by the breakdown of 28 pesticides, including chlorpyrifos, diazinon, fenthion, malathion, parathion, disulfoton, phosmet, phorate, temephos, and methyl parathion.

- **Phthalate metabolites**: mono-ethyl phthalate, mono-butyl phthalate, mono-2-ethylhexyl phthalate, mono-cyclohexyl phthalate, mono-n-octyl phthalate, mono-isononyl phthalate, and mono-benzyl phthalate.

Highlights of the Report

Cotinine is a breakdown product of nicotine after it enters the body. Levels of cotinine in the body track the amount of exposure a person has to tobacco smoke. For a nonsmoker, cotinine tracks exposure to environmental tobacco smoke. CDC measured cotinine in nonsmokers in the U.S. population as part of a previous survey, and the Report presents new cotinine data for 1999. "**One significant finding was the more than 75% decrease in serum cotinine levels for nonsmokers in the United States**," said Jim Pirkle MD, PhD, of CDC's Environmental Laboratory and co-author of the report. "This decrease documents a dramatic reduction in exposure of the U.S. population to environmental tobacco smoke since 1991. However, environmental tobacco smoke remains a major public health concern since more than half of American youth continue to be exposed to this known human carcinogen."

CDC has been measuring the population's exposure to **lead s**ince 1976 through the NHANES surveys. CDC's Childhood Lead Poisoning Prevention Program (www.cdc.gov/nceh/lead/lead.htm) works to reduce exposure of children in the United States to lead. The Report presents blood lead level measurements for U.S. children in 1999. "**The good news is that blood lead levels continue to decline among children overall**," said Eric Sampson, PhD, of CDC's Environmental Laboratory and also a co-author of the report. "**However, other data show that children living in environments placing them at high risk for lead exposure remain a major public health concern.**"

Next Steps: Environmental health is one of the Leading Health Indicators in Healthy People 2010. Information on environmental chemical exposures will assist clinicians and public health officials to better understand the relationship between toxic exposures and health consequences and guide public health prevention efforts. CDC will add other substances to future reports based on data obtained from samples collected in subsequent NHANES surveys. CDC will continue to measure the 27 original substances as well. The goal over the next few years is to expand the Report to provide information about 100 chemicals. CDC will monitor trends over time that may help scientists better understand the impact of the environmental chemicals on our health. In the future, CDC will be able to report exposure levels for more specific population groups (e.g., children, minority populations, or women of childbearing age). In addition, CDC will expand the Report to include exposure data from studies of people exposed from localized or point-source exposures (e.g., data on levels of mercury in people who eat mercury-contaminated fish from a polluted river).

For more information on the Report data, log onto: www.cdc.gov/nceh/dls/report or call 1-866-670-6052.

REF: CDC, Division of Media Relations Press Release, March 21, 2001.

Tulare County, California, Cautions Against Unlicensed Food Sellers

The Tulare County Environmental Health Services department is, according to this story, cautioning people to be careful about eating food from unlicensed outdoor food vendors. Jay Johnson, an environmental-health specialist with the department's Human Services Division, was quoted as saying, "With unlicensed people, we have no assurance that the methods of preparing food are sanitary or that the food products they're utilizing are wholesome and healthy. Some of the risks are that food could be spoiled, whether it be fruit or meat that's not been kept at appropriate temperatures or

bacteria that has been allowed to develop in the food." Johnson was further cited as saying that **during the summer months unlicensed food vendors are likely to be more prevalent**, adding, "This is an ongoing problem during the warmer months. There are more activities outside. These vendors visit soccer games, recreational facilities, softball games and community parks."

The **types of food sold from unlicensed food vendors may include hot dogs, snow cones, corn on the cob, tamales and cotton candy**. Unsanitary food-handling practices may contaminate food with disease-causing organisms such as *E. coli*, *salmonella*, hepatitis A and *listeria*. These diseases may cause reactions ranging from diarrhea, vomiting and stomach pains to serious illness and death. Even seemingly innocuous foods such as cotton candy or snow cones can cause problems if they are prepared in unsanitary conditions with water or other ingredients that contain bacteria, Johnson said.

REF: *Knight-Ridder Tribune*, March 30, 2001.

♦Toxicology Tidbits♦

Sudden Death in a Traveler Following Halofantrine Administration ---Togo, 2000

On July 17, 2000, a previously healthy 22-year-old U.S. student collapsed and died suddenly while leading a teenage exchange group in West Africa. This report summarizes the results of the investigations of this incident, which implicate use of halofantrine for treatment of malaria as the cause of death. Travelers should be warned that halofantrine treatment may be dangerous in persons with cardiac abnormalities or in those taking mefloquine for malaria prophylaxis.

The student began taking mefloquine for malaria prophylaxis approximately 1 week before departure on July 5. On July 12, he developed fever of 102 F (39 C), chills, headache, and cough, and was seen at a clinic in Togo 2 days later. He was diagnosed with malaria and bronchopneumonia and treated orally with halofantrine, dirithromycin, and acetylcysteine. The patient defervesced over the following 24 hours and resumed normal activities on July 13.

On July 14, following a 2-hour car ride, he stepped from the car, complained of a "head rush," and collapsed. Cardiopulmonary resuscitation was unsuccessful, and he was later pronounced dead at a local medical center. On July 24, an autopsy was performed at Yale-New Haven Medical Center, which revealed a previously undiagnosed atypical asymmetric hypertrophic cardiomyopathy

REF: *Morbidity and Mortality Weekly Report*, 50(09), March 09, 2001.

The *Merck Manual* now available online

Merck & Co. Web site offers superb information. The full text the *Merck Manual of Diagnosis and Therapy Manual* (17th Edition) is now available online in both professional and consumer versions. The *Merck Manual* 17th edition covers most diseases, but much of it is too technical for laypersons. The consumer version is called the *Merck Manual of Medical Information: Home Edition*. Both versions can be either browsed or searched online.

http://www.merck.com/pubs/mmanual/

http://www.merckhomeedition.com/

Agricultural Chemical Usage

This full-text report presents chemical application rates and acres treated by major producing states and US for field crops annually (corn, soybeans, cotton, potatoes, wheat); selected fruit crops and selected vegetable crops are reported in alternate years. Special reports present information related to chemical applications for selected crops in storage facilities (post harvest) and chemicals used on livestock, poultry, buildings and roadways.

For more info link to: http://usda.mannlib.cornell.edu/reports/nassr/other/pcu-bb/

REF: United States Department of Agriculture, National Agricultural Statistics Service.

Dental Film Storage Warning

The Food and Drug Administration has alerted dentists nationwide about the potential for harmful exposure from dental films stored in boxes lined with unpainted lead. Films stored in these shoebox-sized containers have been found to be coated with a whitish film that is about 80 percent lead, enough to potentially cause serious adverse health effects in patients and health care professionals.
http://www.fda.gov/cdrh/safety/leadcontainer.html

REF: *FDA News Digest*, March 19, 2001.

Argyria Reported in Colloidal Silver User

A 56-year-old man who had sold and used colloidal silver for three years developed blue/gray discoloration of his fingernails accompanied by a very high blood level of silver. [Gulbranson SH and others. Argyria following the use of dietary supplements containing colloidal silver protein. *Cutis* 66:373-375, 2000.]

Argyria is a condition in which silver salts deposit in the skin, eyes, and internal organs, and the skin turns ashen-gray. Many cases occurred during the pre-antibiotic era when silver was a common ingredient in nosedrops. When the cause became apparent, doctors stopped recommending their use, and reputable manufacturers stopped producing them. **The FDA has banned the use of colloidal silver or silver salts in nonprescription products, but many people are selling them under the pretense that they are "dietary supplements."**

REF: *Consumer Health Digest #01-12*, March 12, 2001.

USDA to Begin Pesticide Water Monitoring Survey

The U.S. Department of Agriculture Agricultural Marketing Service (AMS) Pesticide Data Program (PDP) will begin a water monitoring survey, in March 2001, designed to produce statistically reliable human consumption data on pesticides in drinking water. To date, PDP activities have focused on producing pesticide residue data in food commodities. This pilot survey will introduce drinking water analyses to the program.

Pesticide residue data for drinking water are necessary to support the Food Quality Protection Act (FQPA) enacted by the U.S. Congress in 1996. The Agricultural Appropriations Bill for fiscal year 2001 allocated funding for a limited drinking water survey designed to provide these additional data. PDP will conduct the initial water survey in community water systems in California and New York. The United States Geological Survey has been working collaboratively with PDP and will be conducting sample collection for the survey. Sample analyses will be performed by the New York and California PDP laboratories.

The data generated by PDP are intended to be used by the Environmental Protection Agency (EPA) to perform aggregate risk assessments that are used to make regulatory decisions about pesticides. According to EPA, data available through various monitoring programs do not include all pesticides currently under FQPA evaluation. Adequate monitoring data on pesticides residues in drinking water can be used to refine the risk assessments and to validate or refine statistical models. These data will help ensure that problems identified in the risk assessments are valid, and that any mitigation actions taken are necessary for the protection of public health and the environment.

REF: *Capital Reports News Digest*, 02/28/01.

Safe Storage and Handling of Swimming Pool Chemicals

Swimming pool chemicals may become a hazard when they become wetted by a small quantity of water or when they are improperly mixed, such as with other chemicals or reactive materials. Although the potential hazards of these chemicals have been recognized for some time, there continue to be many incidents in which pool chemicals are a factor. This alert provides information for facilities that handle pool chemicals on the safe storage and handling practices.

To read this entire article link to: http://www.epa.gov/ceppo/whatnew.html

BSE: Background, Current Concerns, and U.S. Response

The recent increase in cases of bovine spongiform encephalopathy (BSE) found in some European countries has revived public concern about the safety of eating beef and using other animal-derived products. The largest increase of this fatal neurological disorder in cattle (commonly called "mad cow disease") occurred in France, which reported 99 cases in 2000, compared to 31 cases in 1999. The incidence of BSE-infected cattle is also rising in Belgium and Ireland. Some countries that have not previously seen BSE in their native cattle, including Germany, Spain, Denmark, and Italy, reported their first cases in 2000.

For the entire article link to: http://www.cfsan.fda.gov/~lrd/bgbse.html

REF: *FDA Backgrounder,* March 1, 2001

EPA Releases Draft Report on Starlink Corn

The U.S. Environmental Protection Agency (EPA) announced on March 7 two actions related to StarLink corn. First, EPA is assuring the public that the type of split pesticide registration, which approved StarLink to be used solely for animal feed, will no longer be considered a regulatory option for products of biotechnology. Secondly, EPA is releasing

for public and scientific peer review a draft paper examining how food processing affects levels of the StarLink protein in finished food.

Release of this paper follows up on last fall's meeting of EPA's Scientific Advisory Panel (SAP) to evaluate the available scientific information on how the wet-milling process affects levels of the StarLink (known also as Cry9C) protein in food products. The draft document, which is undergoing scientific and public review before being finalized, explains that StarLink corn which undergoes the wet-milling process contains essentially no residues of StarLink protein in finished human food. In contrast, food products from the dry milling process do contain protein.

After public and scientific review, EPA will evaluate the impact that this new information has on assessing potential exposure to StarLink corn from eating food manufactured through the wet milling process. The common food products from wet milling include: corn oil, corn syrup, alcohol, and corn starch, which account for approximately 80 percent of the food products manufactured from corn.

Copies of the draft paper and the Federal Register notice announcing availability of the paper are available at: www.epa.gov/biopesticides.

REF: *EPA Headquarters Press Release,* 03/07/2001.

EPA Launches Media Campaign to Protect Children from Asthma Attacks

Stepping up the fight against childhood asthma, EPA and the Advertising Council today launched a national media drive, "The Childhood Asthma Campaign," alerting parents to **indoor environmental triggers of asthma attacks, such as mold and secondhand smoke from cigarettes.**

"Childhood asthma is an epidemic in this country and many parents feel helpless to protect their children from attacks," said EPA Administrator Christie Whitman. "So EPA and the Ad Council are launching an aggressive nationwide campaign to teach parents that asthma attacks are not inevitable and that there are things they can do to help prevent these dangerous incidents."

Asthma afflicts an estimated 17 million Americans, including five million children. Since 1980, the biggest growth in asthma cases has been in children under five. The disease is a leading cause of childhood hospitalizations and school absenteeism, accounting for 100,000 child hospital visits a year, at a cost of almost $2 billion, and causing 10 million school days missed each year.

Over the next three years, EPA will contribute $3 million dollars to a campaign of public service announcements in English and Spanish for television, radio, newspapers, buses and subways. The goal of the drive is to heighten awareness of asthma as a chronic disease and to educate the public about how attacks are triggered and how to prevent them.

For more information link to: www.epa.gov/iaq/asthma

REF: *EPA Headquarters Press Release,* 03/13/2001.

Announcements from the California Department of Pesticide Regulations

Monitoring the War on Pesky Critters: DPR continues its environmental monitoring activities as part of a multi-agency effort to control the glassy-winged sharpshooter and the red imported fire ant. The latest monitoring reports on sharpshooter pesticide treatments in Contra Costa and Butte counties may be found at www.cdpr.ca.gov/docs/gwss/reports.htm while the monitoring protocol is explained in a slide presentation that may be viewed at www.cdpr.ca.gov/docs/gwss/prstns.htm. Meanwhile, DPR's Environmental Monitoring Branch has also released preliminary results of water monitoring in Orange County, where pesticides have been applied to combat the fire ant. Check the latest memoranda posted at www.cdpr.ca.gov/docs/rifa/reports.htm

Report Released on Reevaluations: DPR issues a semiannual report that summarizes the reevaluation status of pesticide products. Reevaluations occur when DPR receives reports of actual or potential adverse impacts from the use of pesticides. Depending upon the circumstances, reevaluations may prompt additional restrictions or cancellation of a product. Check the reevaluation status of products at www.cdpr.ca.gov/docs/canot/ca01-2.htm.

Permanent Regulations Proposed: The Department has issued formal notice that it plans to make current emergency regulations permanent for dazomet and potassium N-methyldithiocarbamate, also known as metam-potassium. The two fumigants, used to control soil-borne pests, have become more widely used in recent years as growers seek substitutes for methyl bromide. The regulations would classify these pesticides as restricted materials when used in the production of agricultural commodities. See www.cdpr.ca.gov/docs/legbills/r01-004.htm.

Air Monitoring for Fumigants: DPR is analyzing air monitoring data for the fumigants methyl bromide and 1,3-D. The data was collected from July to November, 2000, to evaluate seasonal exposures involving workers and others. Preliminary results indicate that DPR may impose additional restrictions on the use of some recurring applications of methyl bromide. DPR expects to complete its analysis this spring. In the meantime, DPR Director Paul E. Helliker describes the Department's objectives at www.cdpr.ca.gov/docs/pressrls/statement.htm and the air monitoring data may be viewed at www.cdpr.ca.gov/docs/empm/pubs/tac/methylbr.htm.

REF: *DPR BULLETIN #2*, March 2001.

Pesticides and Salmon, Part 2: Animals in Drag?

---- Dr. Allan S. Felsot, Environmental Toxicologist, WSU

"Something's bending gender of Reach salmon," blared the headline of my local newspaper. "Chemicals suspected-not radiation-in Chinook males' development into breeding females." It was just a matter of time before hormone mimics, a.k.a. endocrine disrupters, were implicated as one of the many factors for decline of the wild salmon. Transsexual salmon can grab one's attention as easily as flamboyantly costumed streetwalkers in a New Orleans Mardi Gras parade. If these sexual shenanigans are true, it could mean a prolonged Lent for wild salmon populations.

For the full article link to: http://www.tricity.wsu.edu/aenews/

REF: *Agrichemical and Environmental News*, 180, April 2001.

Foodborne Disease - New Publication

The World Health Organization (WHO) has just published a new book, *Foodborne disease: a focus for health education*, which provides a guide to the education of food handlers and consumers as an effective strategy for reducing the burden of disease and economic losses caused by foodborne disease. Addressed to policy-makers as well as food safety managers in public and private sectors, the book responds to mounting concern over the increase in the incidence of foodborne disease, including outbreaks caused by new or newly recognized pathogens. With this concern in mind, the book presents the facts, figures and practical examples needed to understand both the links between food and disease and the many reasons why health education is one of the best approaches to prevention.

Noting that food safety issues rarely receive adequate priority in public health programmes, the book also performs a persuasive function, aiming to help policy-makers understand the costs of food contamination and the benefits of prevention. Numerous case studies of recent outbreaks are used to illustrate the wide range of factors -- from errors of preparation and storage to changes in the complexity of the food chain -- that contribute to foodborne disease and offer opportunities for prevention.

For more info link to: http://www.who.int/wer/76_1_26.html

REF: World Health Organization, March 30, 2001.

State To Develop Health Goal, Seeks Scientific Review of Chromium 6 In Drinking Water

Sacramento, CA – The Health and Human Services Agency's Department of Health Services (DHS) and the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) announced key actions regarding the further study and regulation of chromium 6 in drinking water.

In a letter dated March 27, 2001, DHS is asking OEHHA to establish a specific Public Health Goal (PHG) for chromium 6, also known as hexavalent chromium. The PHG would formally identify a level of chromium 6 in drinking water that does not pose a significant human health risk. Establishment of a PHG would be the first step toward the development by DHS of a state drinking water standard specifically for chromium 6. This would be the first chromium 6 drinking-water standard in the nation.

For more info and a fact sheet on chromium link to: http://www.dhs.ca.gov/

REF: *CDHS Office of Public Affairs Press Release*, March 27, 2001.

EPA issues Pesticide Registration Notice "Insect Repellents: Labeling Restrictions for Use on Infants and Children and Restrictions on Food Fragrances and Colors"

This Pesticide Registration (PR) Notice outlines EPA's policy on insect repellents bearing claims for use specifically on infants and children and provides guidance to EPA personnel and decision-makers, member of the regulated community, and to the public. EPA believes that the label changes and policy clarification set forth in the PR Notice will reduce risks associated with the improper use of insect repellents and will improve consumer understanding. Additionally, the PR Notice states EPA's current position on insect repellents formulated to contain colors and fragrances predominantly associated with food (e.g. grape, orange, or watermelon).

For more info link to EPA's website and link to March 21: http://www.epa.gov/fedrgstr/

REF: *Federal Register*, 66(55), March 21, 2001.

VETERINARY NOTES.....

Foot and Mouth Disease Alert!

Visitors from foot-and-mouth disease (FMD) affected countries may unknowingly introduce the virus into the United States. Special precautions should be taken to minimize the risk of transmitting this catastrophic livestock disease, which can infect all wild and domestic cloven-footed animals including cattle, sheep and pigs. Meat and dairy products from affected countries may harbor the virus. In addition, people can carry the FMD virus on their clothing, shoes and other inanimate objects. To minimize the risk of introducing FMD, follow these recommendations:

- Foreign travelers should always declare on their Customs form if they have been on a farm or in contact with livestock; and always declare the presence of any meat or dairy products.
- Ask foreign visitors to provide information about recent farm and animal contacts.
- If possible, exclude foreign visitors from livestock facilities for at least five (5) days after arrival in the U.S.

- Do not permit clothing, shoes or other articles (such as luggage, cameras, jewelry, and watches) that have been in FMD-affected countries to enter livestock facilities.
- Keep clean protective clothing and footwear available. Require visitors to wear these items and thoroughly wash their hands prior to entering a livestock facility.
- Do not allow meat or animal products from FMD-infected countries to enter your facilities.
- Discourage close contact or handling of animals by foreign visitors.
- If traveling to an affected foreign country, carefully wash and disinfect all clothing and shoes upon return to the U.S.

For additional information in California:
Call the CDFA, Animal Health Branch
Headquarters (916) 654-1447
Redding District (530) 225-2140
Modesto District (209) 491-9350
Fresno District (559) 237-1843
Ontario District (909) 947-4462
Call USDA Veterinary Services (916) 857-6170

REF: California Department Of Food And Agriculture, March 14, 2001.

USDA has established a toll-free telephone center to respond to questions from the public, industry and the media regarding the department's response to the foot-and-mouth disease outbreak in Europe. The toll-free number is **1-800-601-9327**. International callers can reach the center by dialing 01-301-734-9257. The center is staffed by veterinarians and import/export experts from USDA's Animal and Plant Health Inspection Service who can explain the restrictions and regulations impacting people and products arriving at U.S. ports of entry from affected countries.

Control of Rabies in Wildlife; Request for Public Involvement

The Animal and Plant Health Inspection Service's Wildlife Services program is soliciting public involvement in the planning of a proposed cooperative program to stop the spread of rabies in the States of New York, Ohio, Texas, Vermont, and West Virginia. A small portion of northeastern New Hampshire and the western counties in Pennsylvania that border Ohio could also be included in these control efforts. In addition, Wildlife Services may cooperate in smaller scale oral rabies vaccine projects in the States of Florida, Massachusetts, Maryland, New Jersey, Virginia, and Alabama. The information received in response to this notice will be considered during the planning of the proposed program and development of an environmental assessment that will be prepared in accordance with the National Environmental Policy Act.

We invite you to comment on this notice. We will consider all comments that we receive by April 6, 2001. Please send four copies of your comment (an original and three copies) to: Docket No. 01-009-1, Regulatory Analysis and Development, PPD, APHIS, Suite 3C03, 4700 River Road Unit 118, Riverdale, MD 20737-1238. Please state that your comment refers to Docket No. 01-009-1. APHIS documents published in the Federal Register, and related information, including the names of organizations and individuals who have commented on APHIS dockets, are available on the Internet at http://www.aphis.usda.gov/ppd/rad/webrepor.html.

SUPPLEMENTARY INFORMATION: Rabies is an acute, fatal viral disease of mammals most often transmitted through the bite of a rabid animal. The disease can be effectively prevented in humans and domestic animals, but abundant and widely distributed reservoirs among wild mammals complicate rabies control. The vast majority of rabies cases reported to the Centers for Disease Control and Prevention (CDC) each year occur in raccoons, skunks, bats, foxes, and other wild animals. Domestic animals account for less than 10 percent of the reported rabies cases, with cats, dogs, and cattle among those most often reported.

Public health importance of rabies. Over the last 100 years, the rabies situation in the United States has changed dramatically. About 90 percent or greater of all animal cases reported annually to CDC now occur in wildlife, whereas before 1960 the majority of cases were reported in domestic animals. The principal rabies hosts today are wild carnivores and bats. The number of rabies-related human deaths in the United States has declined from more than 100 annually at the beginning of the 20th century to an average of one or two people per year in the 1990's. Modern prophylaxis, which consists of a series of vaccine injections given to people who have been exposed, has proven nearly 100 percent successful in preventing mortality when administered promptly after exposure. In the United States, human fatalities associated with rabies occur in people who fail to seek timely medical assistance, usually because they were unaware of their exposure.

Primary need for action. If the rabies strains transmitted by raccoons, gray foxes, and coyotes are not prevented from spreading to broader areas of the United States, the health threats and costs associated with rabies are expected to increase substantially. In the area that stretches west from the leading edge of the current distribution of raccoon rabies (which stretches from Alabama northeastward along the Appalachian Mountains to Maine) to the Rocky Mountains, and north from the distribution of gray fox and coyote rabies in Texas, there are more than 111 million livestock animals--including cattle, horses, mules, swine, goats, and sheep--valued at $42 billion. If raccoon, gray fox, or coyote rabies were to spread into the above described area, the livestock there would be at risk from these specific rabies variants. More importantly, human health care concerns would be expected to increase substantially as well if raccoon, coyote, and gray fox strains of rabies infect a much broader geographic area.

To read the entire article link to (Animal and Plant Health Inspection Service): http://www.access.gpo.gov/

REF: *Federal Register*, 66(45), March 7, 2001.

Trying to Keep "Mad Cow Disease" Out of U.S. Herds

The U.S. Response

The focus for American animal and human health officials has been prevention. "Using the best science known at this time, the United States has an aggressive, multi-faceted program in place to try to prevent the establishment and spread of BSE," says Stephen Sundlof, DVM, PhD, director of FDA's Center for Veterinary Medicine. FDA's restrictions on certain cattle feed ingredients and its import alerts on cattle products are critical parts of this program. In addition, USDA has prohibited certain animals and animal products from entering the country.

Since 1989, USDA's Animal and Plant Health Inspection Service (APHIS) has banned the import of live ruminants (cattle, sheep, and goats) and most ruminant products from countries where BSE has been reported. In addition, in 1990, APHIS began a program of active surveillance of certain American cows for evidence of BSE. While FDA inspects feed production facilities, the USDA surveillance program condemns and tests any cows displaying signs of neurological problems at slaughter. As of October 2000, approximately 12,000 cattle brains from nearly every state and

Puerto Rico had been examined, with no evidence of BSE found. More than 60 diagnostic laboratories continue to examine hundreds of cattle brains each year.

In August 1997, FDA established a regulation that prohibits the use of most mammalian protein in the manufacture of animal feeds for ruminants. With the strong support of renderers, cattle owners, feed manufacturers, and feed lot owners, FDA launched a compliance and education program, including a rigorous inspection program. The goal of these efforts is to achieve as close to 100 percent compliance with this new regulation as possible. FDA and state regulators have conducted nearly 10,000 inspections of renderers, feed mills, ruminant feeders, dairy farms, protein blenders, feed haulers, and distributors since January 1998. More than three-quarters of these establishments were found to be in compliance. And most of the establishments that initially had problems were found in compliance upon re-inspection.

Education is also an extremely important part of the compliance program. "We've put a lot of effort into getting the word out about the regulation," says Sundlof. FDA has sponsored workshops for state veterinarians and feed control officials from all 50 states, Puerto Rico, the U.S. Virgin Islands, and Canada. In addition, FDA has held briefing sessions with trade associations and consumer groups, and has developed additional guidances for complying with the regulation.

FDA is continuing its compliance efforts by conducting additional inspections and re-inspecting non-compliant facilities. Based on an evaluation of the inspections conducted from 1998 through 2000, FDA will revise its compliance strategy to try to assure its goal of 100 percent adherence to the feeding regulations.

FDA and USDA recently took emergency action to prevent potentially cross-contaminated products from entering the United States. On December 7, 2000, APHIS banned all imports of rendered animal proteins, regardless of species, from the more than 30 countries that either are known to have BSE in their cattle or otherwise present undue risk for introducing BSE into the United States. FDA has also announced an import alert, allowing its inspectors to detain shipments from these countries of animal feed (including pet food), animal feed ingredients, and certain other products of animal origin intended for animal use.

FDA and USDA will continue to aggressively enforce their regulations and to work closely with those in the cattle and feed industries to minimize the risk of BSE introduction or spread in U.S. cattle herds. FDA will develop new guidances and regulations as the scientific knowledge about BSE expands. Working together with many counterpart agencies in the United States and around the world and with various industry and consumer groups, FDA will continue to do its best to protect the health of Americans and of our American cattle herds.

REF: *FDA Consumer magazine*, March-April 2001.

Manufacturer Gets More Time to Support Keeping Poultry Drug on Market

FDA Consumer previously reported on the risk of people getting antibiotic-resistant bacteria from eating poultry or other food contaminated from contact with raw poultry that has been treated with a fluoroquinolone (antibacterial) drug. (See "Antibiotic Resistance From Down on the Chicken Farm," January-February 2001 *FDA Consumer*.) FDA's Center for Veterinary Medicine (CVM) proposed to withdraw approval of Bayer Corporation's fluoroquinolone product, Baytril, for use in poultry. This action was based, in part, on a national surveillance program that showed an increasing number of drug-resistant *Campylobacter* infections in people who ate poultry or other food contaminated by poultry treated with the drug.

The company was originally required to submit data and information by Jan. 2, 2001, to support its request for a hearing to keep its drug on the market. CVM has extended the deadline to Feb. 21 because some of the data cited in the Notice of Opportunity for Hearing (NOOH), published in the *Federal Register* Oct. 31, 2000, were found to be incorrect. These data were taken from a CVM risk assessment entitled "The Human Health Impact of Fluoroquinolone Resistant Campylobacter Attributed to the Consumption of Chicken," published Oct. 18, 2000. CVM discovered that corrections were needed in the risk assessment model, which affected the estimate of the number of persons infected with fluoroquinolone-resistant *Campylobacter* from chicken and subsequently prescribed a fluoroquinolone.

As a result of the correction, along with incorporation of final data from a database called FoodNet, the estimated number of persons infected with fluoroquinolone-resistant *Campylobacter* from chicken who were prescribed a fluoroquinolone drug in 1999 was 9,261 (revised from 11,477).

CVM does not believe that the revisions alter the premise of the NOOH. The Center has made the risk assessment and the program to run the calculations publicly available through its Web site at www.fda.gov/cvm/antimicrobial/Risk_asses.htm.

REF: *FDA Consumer magazine*, March-April 2001.

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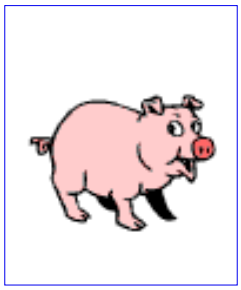

Back to the Beginning