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USDA Actions

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USDA regularly implements operational and regulatory changes that affect the status of food and nutrition in the United States. Here are some recent actions.

Illegal Produce Mailing From Hawaii

Fresh fruit and vegetables carrying fruit flies and other pests are still being mailed from Hawaii to the continental United States, seriously threatening U.S. agricultural crops, despite the enactment of the 1989 Agricultural Quarantine Enforcement Act. The act prohibits shipment of any plant, fruit, vegetable, or other matter quarantined by USDA under Federal law. Prohibited packages will be seized and violators will be subject to fines and/or imprisonment.

A pilot parcel interdiction project, begun in May 1990 by USDA's Animal and Plant Health Inspection Service, has identified more than 300 mailed packages containing more than 2,000 pounds of prohibited fresh fruit and vegetables. Ninety-three pest interceptions have been made, including 15 packages with Oriental fruit fly larvae, 3 with melon fly larvae, and 75 with other harmful plant pests.

All fresh fruits and vegetables require certification by the USDA in order to be shipped to the mainland because they can contain larvae from several tropical fruit fly species, including the Mediterranean fruit fly or Medfly. These pests are especially damaging to citrus. Heavy infestations can cause production losses of 25 to 50 percent.

Using its "Beagle Brigade" (dogs trained to detect packages containing pro-



USDA beagles work baggage carousels at several major airports, sniffing for prohibited fruits, meats and plant materials that could endanger U.S. agriculture.

duce), USDA separates out packages believed to contain fresh fruits and other prohibited articles. With the authority of search warrants, USDA officials open packages, remove prohibited items, insert notices, and send any remaining legal items on to the destination. The sender is fined \$250.

U.S. taxpayers have spent more than \$200 million since 1976 in efforts to eradicate Medfly and Oriental fruit fly infestations in California and Florida.

Officials believe that some packages were sent by friends or family members who were unaware that the contents were prohibited by law. An educational effort to inform residents and visitors that it is illegal to mail fresh fruits and vegetables to the mainland has begun.

Genetically Engineered Potatoes Planted Outdoors

USDA's Animal and Plant Health Inspection Service (APHIS) approved the first outdoor tests of potato plants containing a gene borrowed from a beetle-killing bacterium, *Bacillus thuringiensis*. (*Bacillus thuringiensis* is commonly referred to as Bt.) The tests should have no significant impact on the environment. Bt lives in the soil and makes a beetle-killing protein naturally. When a beetle larva consumes Bt, the protein disrupts the larva's gut and it starves. Accepted by organic farmers for insect control, Bt is harmless to bees, other beneficial insects, animals, and people.

The genetically engineered potato plants have a Bt beetle-killing gene. These plants are being studied to see if they resist the Colorado potato beetles with little or no chemical insecticides. The tests will determine if the gene affects plant yield, health, or growth, or if it causes other variations from normal plants that may concern farmers. Researchers want to get a plant that makes its own *B. thuringiensis* protein. The plant would provide continuous beetle control in contrast to time-consuming and costly insecticide sprays.

Several precautions are being taken to ensure that the foreign gene is not transferred to other potato plants. Flower buds will be pinched off so that pollen containing the new gene cannot be carried to other plants by bees. Harvested potatoes will be destroyed when the study is completed. Any plants that sprout from these potatoes inadvertently will be killed by a herbicide. Finally, no potatoes will be planted in the plot for the next two growing seasons.

The Colorado potato beetle, a worldwide insect pest, has become resistant to many chemical insecticides. The peanut-

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sized, brown and yellow striped bugs cost U.S. potato growers millions of dollars each year to control.

Wheat Hardness Test Available

USDA's Federal Grain Inspection Service announced the availability of tests to determine wheat hardness using near-infrared reflectance (NIR) spectroscopy.

FGIS is making the tests available on a field trial basis as part of the agency's continuing research into using NIR spectroscopy to determine grain quality. FGIS Administrator John C. Foltz said, "Wheat hardness appears to be the best way to implement an objective wheat classification system, and we are hopeful that hardness testing will supplement or replace the current wheat classification system that distinguishes between hard and soft classes."

No fees are charged for the test. The service, however, is limited to the number of tests that can be performed with current resources.

Wheat hardness testing is available at the FGIS field offices in Destrehan, LA; Kansas City, MO; Omaha, NE; Pasadena, TX; and Portland, OR. Individuals who desire to have wheat tested for hardness should contact their local FGIS field office or official inspection agency office for details.

New Test for Swine Brucellosis

USDA has adopted Particle Concentration Fluorescence Immunoassay (PCFIA) as the official test for brucellosis in swine. The agency is leading a cooperative program to eradicate brucellosis in swine.

Brucellosis, sometimes called Bang's disease, causes abortion, reduced fertility, and lower milk yields in cattle. Nationwide, cattle and swine producers still incur annual production losses of more than \$13 million from brucellosis. Humans can be infected by drinking unpasteurized milk from infected animals or by handling aborted fetuses from brucellosis-infected animals.

Under Federal regulations, a negative test result for brucellosis is required before some interstate movements of swine

are permitted. Swine infected with brucellosis are destroyed. Official tests are also used to determine if producers are eligible for indemnity payments for swine destroyed.

The PCFIA test is faster, more sensitive, and more specific than other laboratory tests used for brucellosis. The automated test procedure can process nearly 1,000 samples in less than 2 hours. Serum samples are placed in wells on the testing plate and run through an instrument that adds reagents and performs other procedures automatically. The test uses fluorescence to "read" the samples and then records and tabulates the resulting data.

PCFIA was recognized last year as the official test for brucellosis in cattle and bison. Its reliability with swine was verified by extensive field tests in four States. The procedure has proven to be sensitive and highly specific. In addition, the tests are highly reproducible, meaning that test results from the same serum sample are consistent from one laboratory to the next.

Nevada Declared Free of Cattle Brucellosis

USDA has declared Nevada free of cattle brucellosis. Twenty-nine States and the U.S. Virgin Islands have now been declared free of the costly disease. A State is declared free of brucellosis when, after 12 consecutive months, no cattle are found to be infected and when the State has met other program requirements. Cattle owners in "free" States benefit by no longer having to test their animals for brucellosis before they are sold. Savings will amount to more than \$100,000 per year in Nevada. States not considered free of brucellosis are put into one of two classes, depending on the rate of infection. Class A status means that no more than 0.25 percent of the herds are infected. Fifteen States are in that category, with several States almost entirely free of the infection. The remaining six States are in Class B which indicates a somewhat higher infection rate.

Interstate Movement of Infected Eggs Halted

The USDA announced that it has restricted the interstate movement of com-

mmercial table eggs from five different flocks due to evidence of Salmonella enteritidis.

Restrictions on such interstate movements protect the consumer. *S. enteritidis* is a bacterium that can cause illness in animals and humans. James W. Glosser, Administrator of USDA's Animal and Plant Health Inspection Service (APHIS), says the bacterium is a growing problem for the egg industry and has emerged as a public health concern.

Outbreaks of *S. enteritidis* infection in humans were traced to eggs from these five flocks. A control program was put into place in February 1990 to control *S. enteritidis* on two fronts. Primary and multiplier breeding flocks that produce the table-egg layer chickens are tested and certified to be *S. enteritidis*-free before they can be shipped interstate to egg-laying establishments. Table-egg laying flocks are tested when implicated in human *S. enteritidis* outbreaks. Eggs and other articles associated with flocks that test positive are restricted from interstate movement.

APHIS has received reports of 40 human outbreaks since the control program began. Sixteen have been traced to specific flocks, and tests for the bacterium in chickens and their environment have led to the restriction of eggs from five sites so far. In the remaining 24 investigations, eggs were not implicated or the information available was not sufficient to implicate eggs or to trace eggs back to the flock of origin.

The common denominator in all of the human *S. enteritidis* egg-related outbreaks is the consumption of improperly handled or undercooked eggs. Consumers are advised to remember that although eggs are a wholesome and nutritious food, they should be handled as any other perishable food in the animal food chain. Cooking eggs thoroughly until both the yolk and white are firm will destroy any bacteria that may be contained in an egg. Eggs should be kept refrigerated to prevent the growth or increase of any contained bacteria. Pasteurized eggs should be used in place of raw eggs in recipes that call for raw or lightly cooked eggs. Purchase only clean, unbroken, refrigerated eggs.

Refund in Federal Egg Order Stopped

Egg producers voted to eliminate the refund provision from the egg research and promotion order. Eighty-four percent of the producers voting in the referendum approved an amendment to the order eliminating the refund. Their vote represented 93 percent of the volume of eggs produced by all voters in the first 3 months of 1990.

Producers with more than 30,000 laying hens will continue paying 5 cents per 30-dozen case of commercial eggs, on a nonrefundable basis, to the American Egg Board. The board uses these assessments to finance research and promotion projects, including nutrition education and consumer awareness. Producers in Hawaii and Alaska are not affected by the order.

The referendum also allows escrow funds to revert to the board to augment its activities.

The egg order is authorized by the 1974 Egg Research and Consumer Information Act.

Early Warning System for Harmful Food Bacteria

USDA has added three food poisoning bacteria to a computer program that analyzes the factors that inhibit or promote bacterial growth. The bacteria are *Shigella*, *Aeromonas*, and *Staphylococcus*—three types that occur in meat, dairy products, and seafood.

The computer program was developed as an "early warning system" for food companies to monitor *Salmonella* and *Listeria* growth patterns. Robert Buchanan, a microbiologist with USDA's Agricultural Research Service, says the computer analysis could cut by 75 percent the number of tests now done by food companies when developing new or improved foods.

To predict the growth rate of various harmful bacteria, the program requires five key pieces of information—storage temperature, oxygen, acidity, salt and sodium nitrate concentration—all of which interact to control microorganisms' growth.

Companies know the levels of each factor needed to limit pathogen growth in existing food products that conform to

standards established by the USDA's Food Safety and Inspection Service or the Food and Drug Administration. When companies develop new foods or refine existing product formulations, numerous tests must be done to arrive at the proper level needed for each factor to control pathogen growth.

A food company, for example, could use the program to help develop a low-salt ham. A desired level of salt would be entered into the program. A combination of salt and the other factors dictating pathogen growth would be evaluated using mathematical equations, giving the user estimates of the growth rate. The program would show how salt could be decreased, and would estimate other factors that could be manipulated to prevent pathogen growth. This should greatly decrease the number of experiments that would have to be performed.

Carolina Federal Milk Marketing Order

Over two-thirds of dairy producers who voted in the referendum in North and South Carolina approved the establishment of a Federal marketing order for their milk.

The Agricultural Marketing Agreement Act of 1937 authorizes Federal milk marketing orders if over two-thirds of producers approve it in a referendum. Ten cooperative associations representing approximately 90 percent of the milk producers associated with the Carolina market initiated the referendum to establish the Federal order.

The order attempts to improve the balance of supply and demand in the entire area. It specifies how to deal with uses of milk in oversupply and encourages delivery of milk to bottling plants as needed.

This new order will be similar to other Federal orders. The order will have a three-class system of payments for milk. Milk used for drinking will be Class I and receive the highest price. Milk used for perishable manufactured milk products (cottage cheese, ice cream, and yogurt) will be Class II and receive a lower price. Storable manufactured milk products like butter, hard cheese, and dried milk will be Class III. Class III milk will receive a price slightly less than Class II milk. The order sets the minimum prices

regulated handlers must pay for milk used in each class and computes the minimum uniform prices they must pay dairy farmers under market-wide pooling.

The order also establishes pooling standards for the plants, stipulating how much milk must be shipped to, or received by, these plants. These standards must be met to qualify the plants and farmers for the benefits under the order. A "base-excess" plan will be established using production levels in months of average or short supply to set a monthly base. This would allow prices to fall in months when heavier milk production exceeds the base, more accurately reflecting its market value.

The order will also establish payment procedures to be followed by regulated handlers. The cost of administering the order is covered by a monthly fee assessed on milk handlers.

Importing Mexican Animal Trophies

USDA is alerting hunters and others wishing to import animal trophies from Mexico about requirements designed to prevent the reintroduction and establishment of the *Boophilus* tick in the United States. This tick often carries bovine babesiosis, a serious cattle disease often called Texas cattle fever. It was eradicated from the United States in 1943.

Animal carcasses with hides attached are not eligible for importation. Hides that have been tanned or soaked in a salt-water solution with mineral acid and dry racks (antlers) may be imported without restriction, provided they are certified to be of Mexican origin.

Raw and untreated hides and racks may qualify for entry only if accompanied by a certificate signed by a veterinary official of the Mexican government stating that the hides and racks have been treated for ticks. Alternatively, they may be dipped at one of several Mexican cattle export facilities along the U.S.-Mexico border and certified by the Mexican or U.S. port officials.

If hides and racks are presented for entry without treatment and certification, they must be taken under USDA seal to a USDA-approved establishment for processing.