California Poultry Letter

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Energy Supplies Fall as Temperatures, Bills, and Tempers Soar

The energy outlook for the foreseeable future does nothing to soothe current concerns. A variety of helpful resources are available to producers. By visiting the California Farm Bureau Federation's (CFBF) website (www.cfbf.com), you can access a two page article "Energy-saving tips: poultry operations." Biological and Agricultural Engineering Specialist, Jim Thompson, wrote the article for the California Energy Commission. Dr. Thompson is well known to many in the poultry industry for his practical advice.

A four page newsletter on "Emergency Power for Poultry Production" was produced by Alabama Poultry Engineering and Economics. The newsletter is available on-line by vising Auburn University's site - www.poultry house.com

Francine A. Bradley
Extension Poultry Specialist

SB5X Agricultural Energy Conservation Grants Available - Producers and Processors are Eligible

The California Energy Commission (CEC) has just announced a new program designed to reduce peak energy demand. This program provides grants to agricultural power users for equipment changes which would save energy. Details can be found on the CEC website (www.energy.ca.gov/ag). If you have questions you can phone the PePa office at 916/441-0801. They can Fax or mail you guidelines for this program.

Funds are available for:

- Natural Gas Retrofits: for example, if you wish to convert a boiler to burn yellow grease or propane, you can receive up to 65% of retrofitting up to a maximum of $300,000.
- More Efficient Electrical Equipment: lighting, refrigeration, heating and cooling, mill equipment and more are all eligible. Retroactive to include changes made since January 1, 2001.
- Pumps and Pump Testing: if you qualify as an agricultural producer, and some of you do, you can apply for funds to conduct pump testing and retrofitting and repairs.
- Advanced Metering and Telemetry: so you can take advantage of incentive programs and better manage your electrical load.

Research Proposed and Funded by PEPA for 2001/2002: Use of An Aromatase Inhibitor to Stimulate Molt in Laying Hens

As most of us know, forced molting of chickens has become an inflammatory topic for animal rights activists. Much of their concern has centered on the removal of feed from the chickens and the perception of an extreme loss of weight and an increased susceptibility to disease. Currently, the poultry industry has the support of the veterinary medical community through the American Veterinary Medical Association's continued positive stance for forced molting. However, it is probable that this issue will

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be revisited indefinitely both at the AVMA level and through the state legislature. Therefore, researchers have been strongly encouraged to seek alternate methods of inducing molting that will not compromise the health and well-being of the hen.

Aromatase is an enzyme that catalyzes the synthesis of estrogen from testosterone. Inhibition of the enzyme can be achieved by a variety of compounds both steroidal and nonsteroidal. These compounds have been used in many species to impair estrogen production. The most recent application has been the use of aromatase inhibitors to prevent/reduce estrogen sensitive breast tumors in man. In avian species, aromatase inhibitors have most commonly been used to study sexual differentiation and sexual behavior. Although there has been speculation that inhibition of aromatase may have some species specificity, aromatase inhibitors have been successfully used in chicken embryos to reverse gonadal differentiation. Molt is under hormonal control with estrogen probably being the most important hormone, along with prolactin, in this process. Therefore, it is likely that aromatase inhibitors will have an estrogen reducing effect in adult hens, possibly sufficient to stimulate the onset of molt. We have proposed using an aromatase inhibitor to reduce estrogen levels in adult hens resulting in the stimulation of molt.

Since laying hens are food producing animals, it is important to not only choose an appropriate compound for species effect, but also a compound which will not present obstacles for use in food animals. We have chosen the aromatase inhibitor Arimidex based on the following criteria: 1) It is currently the only compound that is FDA approved, and 2) It is a nonsteroidal compound (not a hormone). Since the use of hormones in meat producing animals is a controversial issue, we will select only nonsteroidal aromatase inhibitors for use in our studies. In addition, Arimidex can be administered orally. If initial trials are successful, cost would also be a factor in the selection of an optimal compound.

We intend to conduct 2 pilot studies in order to determine first, whether Arimidex stops lay, initiates molt and reduces estradiol levels and second, whether there is a dose effect. Forty hens in the last 1-2 months of their laying cycle will be acquired from a commercial source. The hens will be randomly allotted into two groups of 20 each, and will be housed in two separate isolation rooms. The hens will be acclimated to their new environment until it is ascertained that they are laying normally. Group 1 will be orally dosed with a placebo and Group 2 will be orally dosed with Arimidex at 1 mg per day for 5 days. The dosage level in humans is 1 mg regardless of weight, age or other criteria. Blood will be collected from each bird at the initiation of the study and daily during the dosing period. Estradiol levels will be determined from the blood samples. Birds will be observed daily for signs of molt. The study will be terminated 15 days after the first dosing. If Estradiol levels decrease and initial signs of molt are observed, a second study will be conducted as above with graduated doses. Birds will be dosed at 0.25, 0.5 and 0.75 mg each for 5 days, as above. In addition, at termination ovarian tissue will be collected from the control birds and ovarian tissue cultures will be prepared for *in vitro* inoculation with Arimidex. Aromatase activity will be examined in both treated and untreated cultures.

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Current, Feared, and Threatened Disease Outbreaks

As more and more stories and pictures of the devastating situations in Europe, Asia and South America reach the states, we become ever aware that today's catastrophic animal diseases (Foot and Mouth; Bovine Spongiform Encephalopathy~Mad Cow; Avian Influenza) on foreign soil could just as easily be an avian catastrophy on our own soil. The California Department of Food and Agriculture (CDFA), Animal Health and Food Safety Services has an excellent 3-fold brochure entitled "Biosecurity Tips for Foreign Travelers." As we enter the high travel season when many (including co-workers and employees) may take vacations to foreign lands and when many foreigners travel to the United States, it is wise to revisit the issue of biosecurity for those of us who will travel abroad and for those foreign visitors who may request a tour of our facilities.

The brochure contains straightforward and practical recommendations. The brochure can be obtained from:

California Department of Food & Agriculture
Animal Health and Food Safety Services
Animal Health Branch
1220 N Street, Room A-107
Sacramento, CA 95814
Tel. (916) 654-1447
Fax. (916) 653-2215
http://www.cdfa.ca.gov

Take the time to obtain some copies. Read the information yourself, put some brochures in the break room, and maybe quote appropriate portions in your company's internal newsletter.

Many individuals in the animal industries, scientific community and government agencies have long worried about the level of our preparedness to manage animal health emergencies. In 1996 at the annual Meeting of Livestock Conservation Institute, Dr. Richard McCapes reported the results of a survey of state veterinarians. He said his colleagues gave our nation's overall level of preparedness a grade C. At that same meeting, Dr. Tom Gomez reported on a then "emerging" disease in Europe - Bovine Spongiform Encephalopathy. Reports were also given on Foot and Mouth Disease in Taiwan.* The worried question in many minds was "how long before these diseases escape their current borders?" Five years later, we know that those worries were well founded.

This spring the president of People for the Ethical Treatment of Animals (PETA) stated that if the United States saw the introduction of food and mouth disease it would be "good for animals, good for human health, and good for the environment." Dr. Lyle Vogel, Director of Scientific Activities for the American Veterinary Medical Association responded, "For a group that calls itself a 'humane organization,' what PETA is wishing for is the spread of a very inhumane disease that could ravage our nation's animals and cause a great deal of animal suffering and death. The introduction of foot-and-mouth disease to the United States would threaten our valuable natural resources including zoo animals, bison in Yellowstone National Park, and elk and deer populations."**

Statements such as those made by PETA reinforce the fact that bioterrorism is a vicious tool being contemplated by some of our citizens. Look for upcoming industry

and scientific meetings to highlight this important topic.

*Olsen, K.E., 1999. Animal health emergency management: where are we? White paper for American Farm Bureau Federation's Animal Health Committee.

**American Veterinary Medical Association, 2001. Press release - April 21: Animal rights group calls on animals to suffer for the cause.

Francine A. Bradley
Extension Poultry Specialist

Visceral Gout in Chickens

Gout is an abnormal accumulation of white, chalky or crystalline deposits of urates in organs or joints. It occurs as two distinct syndromes; visceral gout and articular gout. Visceral gout is the most common of the two syndromes in poultry flocks. Urates are salts of uric acid, a by-product of protein metabolism. Urates are normally excreted by the kidneys and form the white portion of a normal feces in birds. If some abnormality restricts the excretion of urates by the kidneys, they can accumulate in the blood and are deposited in abnormal places in the body, like organs and joints.

Visceral gout has the following characteristics:

1. It is usually an acute disease, but can be chronic.
2. It occurs in birds that are 2 days old or older.
3. Both males and females are equally susceptible.
4. The kidneys are almost always involved and they look grossly abnormal with deposits of white, chalky precipitates.
5. Organs, like the liver, heart, spleen; membranes like air sacs, heart sac and mesentery; or the surface of the lungs may appear to have a white, chalky covering.
6. The surfaces of muscles, tendons and joints may be involved in severe cases.

Dehydration due to water deprivation is the most common cause of visceral gout. Outbreaks of visceral gout have also been attributed to vitamin A deficiency, excess calcium in the diet, treatment with sodium bicarbonate, and mycotoxins (ochratoxin, citrinin and oosporein). Certain antibiotics and heavy metals may also contribute to visceral gout. Outbreaks of renal gout, where the kidneys are enlarged and distended with urates, may result when young flocks are infected with nephrotrophic strains of infectious bronchitis virus, such as the Gray, Holte and Mass-Holland 52 strains.

Joan S. Jeffrey, DVM, MS
Extension Poultry Specialist

Poultry Industries Continue Support of Student Scholars

Due to the generosity of the Pacific Egg and Poultry Association (PePa) Scholarship and Research Foundation, 19 outstanding students received handsome scholarships at the recent PePa Convention in Monterey. Those individuals recognized for their academic achievements were:

Class	Campus	Scholarship Name
Freshmen		
Armando Castro	Modesto Junior College	Richard Hoover Memorial
Daniel Ryan	University of California, Davis	Lyda Rico DeLuca Foundation
Sophomores		
Emily Burlingame	Modesto Junior College	George Petrusich, Sr.
Molly Fagundes	Fresno State University	Charles Pine
Juniors		
Justin Barrington	Cal Poly San Luis Obispo	Sidney Strear
Aletha Carson	Oregon State University	Morris & Jack Polack
Brittany Gardner	Oregon State University	Fred Hunt
Matthew Moreno	Cal Poly San Luis Obispo	Al & Beverly Zacky
Seniors		
Wendy Covin	Oregon State University	Bill Austin
Kristina Hood	University of California, Davis	Dick Freeson
Greg Spiller	Cal Poly San Luis Obispo	Women for Turkeys
Kristen Vandiver	Oregon State University	Freda Gandler
Jackie Woods	Fresno State University	John H. Perry
Graduate/Veterinary Students		
Taji Abraham	University of California, Davis	E.S. Christoffersen
Craig Blackmore	University of California, Davis	Joe G. Haddy
Brooke Humphrey	University of California, Davis	William J. Walkinshaw
Elizabeth Koutsos	University of California, Davis	John Bowman
Brigid McCrea	University of California, Davis	Myron Satrum
Denise Wilson	Oregon State University	Tom & Sally Dybvad

American Egg Board Musically Promotes Eggs

The 2001 NBC Today Show's Summer Concert Series is being sponsored by The Incredible Edible Egg. The line-up includes:

June 1	Gloria Estefan
June 8	Trisha Yearwood
June 15	Sugar Ray
June 22	Prince
June 29	Earth, Wind & Fire
July 2	The Backstreet Boys
July 6	Shaggy
July 13	Jennifer Lopez
July 20	Jimmy Buffet
July 27	Neil Diamond
August 3	Ringo & His All Starr Band
August 10	Melissa Etheridge
August 17	Tim McGraw
August 24	N'SYNC
August 31	TBA
September 7	John Mellencamp
September 14	Macy Gray
September 21	Sheryl Crow

Tune in on Fridays at 8:30 a.m. to view the concerts that will be held in Rockefeller Plaza. Katie Couric and crew will host the concerts. Let's hope that this creative morning pairing of stellar music and incredible eggs will spur around the clock egg sales.

For Your Bookshelf

Broiler Breeder Production - a 340 page, hardcover book, written Drs. Steven Leeson and John Summers of the University of Guelph, Ontario, Canada. This is a comprehensive book that addresses a wide variety of management systems and environmental conditions. US$57 airmail from University Books, P.O. Box 1326, Guelph, Ontario, Canada N1H 6N8.

Poultry Meat Processing - a 416 page, hardcover text on the theoretical aspects of poultry processing and their applications. The 23 contributing authors cover topics from Preslaughter Factors to Processing Wastewater and Quality Assurance. US$99.95 from CRC Press 1-800-272-7737.

2001 Calendar

June 16-19
California Poultry Federation Washington DC Legislative trip. For information http://www.cpif.org/News/events/calendar.htm or e-mail CalifPoultry@cs.com.

***June 20-22**
The Northwest Poultry Convention: 2001 Program Focus: Bird Health and Food Safety. The Resort at the Mountain, Welches, Oregon. Contact Jim Hermes, Tel. 541/737-2254, Fax: 541-737-4174; e-mail james.hermes@orst.edu.

June 21
Pacific Egg & Poultry Association Board of Directors Meeting, Welches, Oregon. Contact PePa at 916/441-0801 or Fax 916/446-1063 or e-mail info@pacificegg.org.

July 11-12
American Egg Board, Chicago IL.

***July 12**
CPF Vector & Rodent Control Seminar, Stanislaus County Ag Center, 3800 Cornucopia Way, Modesto, CA. The seminar starts at 8:30 a.m. and ends at noon. For more information contact the CPF at: CalifPoultry@cs.com.

***July 13-18**
American Association of Avian Pathologists (AAAP), Boston, MA (in conjunction with AVMA). For information you can contact Kim Sprout, AAAP, 382 West Street Road, Kennett Square, PA 19348; phone 610-444-4282; Fax 610-925-8106; web address: http://cahpwww.nbc.upenn.edu/~aaap/.

***July 24-28**
International Animal Agriculture and Food Science Conference. Joint Annual Meeting of Poultry Science Association (combined meeting with the Animal Science, the Dairy Science and the Meat Science Associations). Indianapolis, Indiana. Register online at www.fass.org/fass01; Tel. 217/356-3182 or Fax 217/398-4119.

July 29-30
California Poultry Federation Summer Board of Directors Meeting, Embassy Suites Hotel, San Luis Obispo. For information http://www.cpif.org/News/events/calendar.htm or E-mail CalifPoultry@cs.com.

August 4-8
35th Congress of the International Society for Applied Ethology, University of California, Davis. For more information contact the UC Animal Welfare Center at: http://animalwelfare.ucdavis.edu/conference/ethology/isaeannouncement.html or review the program at: http://animalwelfare.ucdavis.edu/conference/ethology/scientific.html.

August 14
Squab Quality Assurance Program meeting, Harvest Hall, Stanislaus County Agricultural Center, 3800 Cornucopia Way, Modesto, California. The program will run from 6 p.m. to 9 p.m. and is open to interested persons. For more information contact Joan Jeffrey jjeffrey@vmtrc.ucdavis.edu.

August 26-31
International Egg Commission, Bergen, Norway.

September 1-4
World's Poultry Science Association Animal Welfare Symposium, Zollikofen, Switzerland.

***September 9-12**
IX European Symposium on the Quality of Eggs and Egg Products, Istanbul, Turkey.

September 16-17
California Poultry Federation Annual Meeting and Conference, DoubleTree Hotel, Monterey. For information http://www.cpif.org/News/events/calendar.htm or E-mail CalifPoultry@cs.com.

***November 6-7**
UC Poultry Symposium and Egg Processing Workshops.

****Approved for CEQAP Credit***

Visit our website at:
http://animalscience.ucdavis.edu/extension/avian

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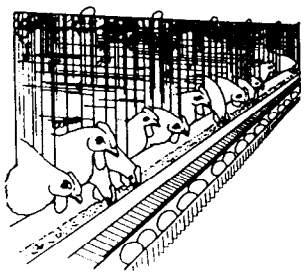

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