

Lancaster Farming

# POULTRY NOTES

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substantially increases water consumption, urine flow, and manure moisture. The manure moisture may not be a problem with a flush-type waste system, but would prevent good coning of manure in a high-rise layer house.

An alternative is ammonium sulfaste fed at the same 0.5 percent level. It may be difficult to find feed grade ammonium sulfate, but you would avoid the problem of greater water consumption and wetter manure observed with the ammonium chloride.

Another approach is to supplement dietary methionine. At the 0.25-0.52 percent dietary level, DL-methionine increases urinary acid excretion and has a similar effect as acidifying the diet. Alternatively one can add the free acid form of

methionine hydroxy analog (trade name Alimet) at an equal molar level (0.3-0.6 percent) to DL-methionine. Using the liquid Alimet takes advantage of the inherent acidity of the product and, because it is an amino acid analog, no additional nitrogen is added to the diet.

Either the DL-methionine or the Alimet treatment benefits must be weighed against the additional cost of adding them to the diet. At best, we would hope to prevent any further kidney damage and related mortality, and allow the hens to get back to the business of laying eggs.

**H.S. Siegel**  
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There is little doubt that heredity plays a role in the bird's ability to resist disease. Although it was long known

that some strains of birds were more prone to certain diseases, while others appeared to be resistant to the same diseases, it is only recently that scientists have begun to investigate the genetic mechanisms responsible for these differences.

One of the areas for investigation has been the relationship of what is called the "major histocompatibility complex" or MHC to resistance of susceptibility. The MHC received its name from the original finding in mice that a group of genes influenced tissue graft acceptance or rejection.

The association of the MHC to disease has been thoroughly investigated in mice and humans in connection with susceptibility to tumors and with malfunction of the immune system, but although it was first described in mice, the chicken was the second animal species in which the MHC was described.

The chicken MHC shares the characteristics of two of the three classes of MHC found in mammals such as humans and rodents, but in addition, has a unique fourth class that is restricted to the red blood cells. This class IV MHC in chickens is highly polymorphic — that is to say, many types occur at the same location on the chromosome. To date, more than 30 so-called "haplotypes" or blood types have been demonstrated on the red blood cells of chickens.

Some of these types are associated with resistance to specific diseases. For example, the B21 haplotype is related to resistance to Marek disease, while the B5, B13 or B19 haplotypes are apparently related to susceptibility to Mareks. On the other hand, chickens with the B2 haplotype have been found to be more susceptible to coccidiosis than some other rB-types.

Genetic research programs in the Netherlands and at Virginia Polytechnic Institute have developed lines of chickens that produce high or low levels of antibodies. It is very interesting that in both research programs, when the birds are blood typed, the high antibody lines were predominantly B21, and the low antibody line birds were predominantly B13 or B19.

At Penn State, we are studying the early events that follow the exposure of chickens to a potential pathogen. In these studies we are able to track the movement of cells that are important in the production of antibodies within the body. It is significant that there is a relationship between the percentage of these cells in the blood and the B21 blood type.

Thus, there seems to be a

relationship between the MHC and disease resistance. However, keep in mind that other genetic factors are also important, and that the influence of the MHC operates within the total genetic makeup of the bird.

## News From The United Egg Producers

Though many producers responded to UEP's warning to reduce flock size, the industry saw a 13¢ drop in the average egg quote in 1992 from the previous year.

UEP encouraged members to participate in export orders to Mexico to limit the severity of the price decline, and many did, filling orders for 370,000 cases.

With supply/demand conditions still a major issue, UEP will advise the membership of the continuing need to make changes in 1993.

Though government relation issues such as food labeling, food safety refrigeration, animal welfare, Salmonella enteritidis, environmental regulations, Americans with Disability Act, and more, were part of UEP's agenda last year, with a new administration in Washington, we look forward to solutions in 1993.

Because of so many new faces in the new Congress, cartons of eggs will be delivered to members of congress each week throughout 1993, until each one has been called on. As an impressive calling card, UEP will continue to deliver eggs at the Spring Washington D.C. Board meeting and again during the Christmas holidays.

UEP and UEA, while operating separate EggPac programs, raised a combined total of nearly \$60,000.

## Situation And Outlook Report

Livestock and poultry production in 1994 is expected to be record high again as producers' returns have been generally favorable. Excessive rainfall and flooding conditions in the Midwest have reduced prospects for 1993 corn and soybean crops. However, large 1992/93 ending grain stocks and the availability of substitute feeds will help mute the effect on producers' feed costs.

Total red meat and poultry production in 1994 is expected to increase about 3.5 percent. Producer prices next year are forecast to be unchanged to slightly lower. Per capita disappearance of red meat and poultry is projected to increase about 4 pounds from 1993's expected 210-pound record.

Broiler production in 1994 is expected to reach 23 billion pounds, about 5 percent above 1993. Broiler prices will average near or just below 1993.

Turkey production will expand 1-2 percent in 1994, about the same rate as 1993. Returns are expected to be only slightly above break-even in the second half of 1993 and near break-even in 1994. Prices and per capita consumption in 1994 will likely be about the same as this year.

Egg production in 1994 is forecast to increase about 1 percent. The increased production will likely pressure prices, reducing the annual average wholesale price by about 5 cents per dozen.

## Cook Your Way To The Caribbean

GEORGETOWN, Del. — An all-inclusive Caribbean vacation for two — your choice of a cruise or time at an island resort, \$1,000, a Frigidaire range, Cutco cutlery, a gas grill, and gifts from McCormick and Company from Proctor-Silex — await the best chicken cook in the 1994 Delmarva Chicken Cooking Contest. Second and third-place winners will share prizes valued at more than \$3,000.

All that's needed to enter is an original recipe for broiler-fryer chicken — whole or any parts — that rates high on taste, appearance, and simplicity. Residents of 12 eastern states (Virginia to Maine) and the District of Columbia are eligible to compete. Twenty finalists will be chosen by recipe judging to receive expense-paid trips to cook-off finals set for June 17-19, 1994 in Dover Del.

Deadline for entering is February 1, 1994. Multiple recipe entries may be submitted but each must have name,

address, and telephone number attached.

The contest is sponsored by Delmarva Poultry Industry, Inc., the trade association representing the poultry industry on the Delmarva Peninsula. For official entry forms, send a self-addressed, stamped envelope to Contest, c/o Delmarva Poultry, R.D. 6, Box 47, Georgetown, DE 19947-9622.

Chicken Royale, the entry of Dwight Dewsnap of Brockton, Massachusetts, took top honors at the last Delmarva Cook-Off. Well suited to special-occasion meals, this simple oven dish is as pretty as it is delicious.

**Chicken Royale**  
2 whole broiler-fryer chicken breasts, halved, boned, skinned  
1 package (4 ounces) herb-flavored cheese, quartered  
½ cup English walnuts, finely chopped  
4 large spinach leaves, steamed slightly  
½ teaspoon salt  
½ teaspoon pepper  
½ cup dry white wine  
½ cup bottled reduced-calorie

raspberry vinaigrette dressing\*  
2 tablespoons margarine

On hard surface with meat mallet or similar flattening utensil, pound chicken to ¼-inch thickness. Roll the cheese quarter sin walnuts. Place one spinach leaf on each breast; top with a cheese quarter. Fold chicken around spinach and cheese to form a mound. Sprinkle salt and pepper over chicken. Place chicken in baking pan. Cover and bake in 350° F. oven 30 minutes or until chicken is fork tender. In small frypan, mix together wine and raspberry vinaigrette dressing. Cook over medium heat until sauce is reduced by one-half; stir in margarine. Pour sauce over chicken. Serve with rice. Makes 4 servings.

\* If raspberry vinaigrette dressing is not available, substitute ¼ cup bottled reduced-calorie red wine vinegar and oil dressing and ¼ cup seedless raspberry jam. Omit the margarine.

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