

# 115<sup>th</sup> ANNIVERSARY Egg Industry

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The large to medium grade white egg price was 27.5 cents in August.

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### Rodent control: A new imperative

Rodenticides are key to limiting infestations.

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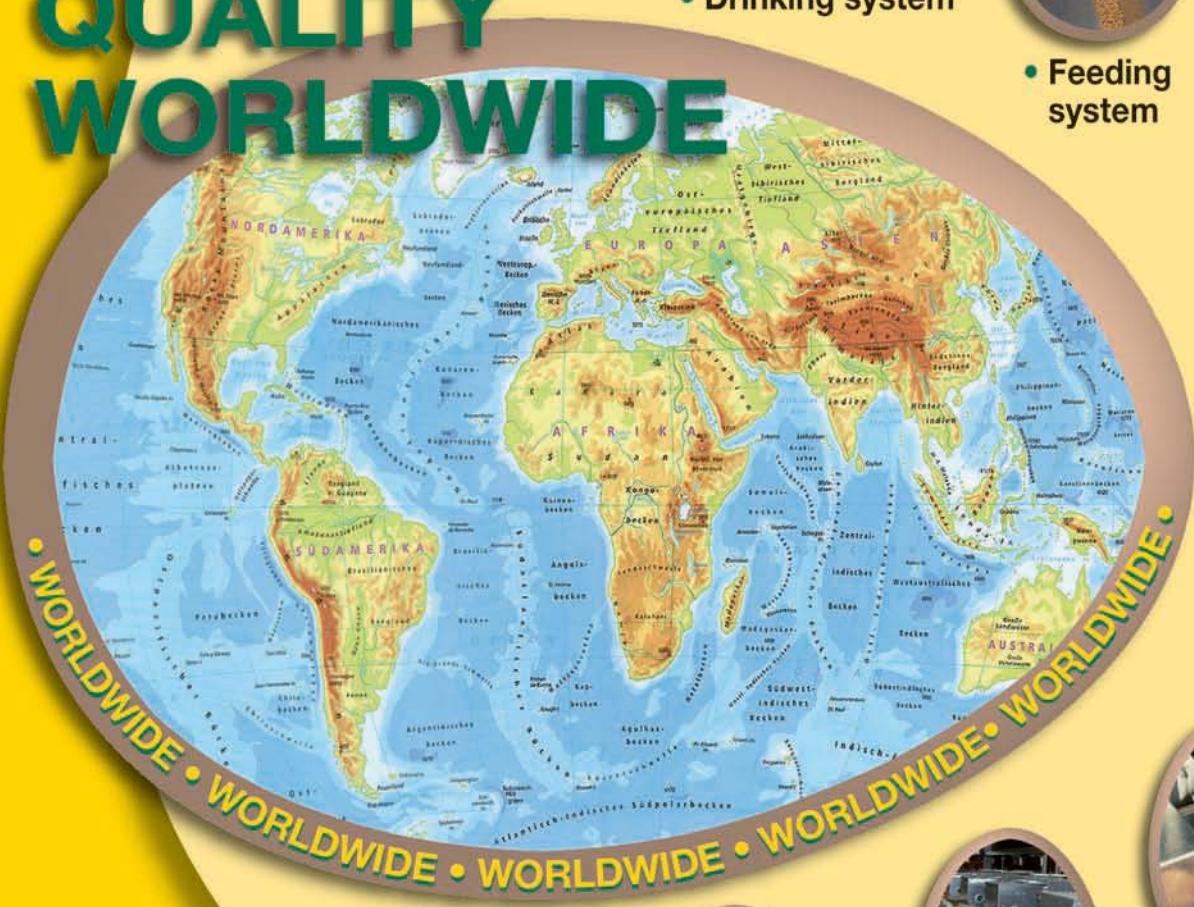
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## EDITORIAL

BY DR. SIMON M. SHANE

# Plenty of blame to be shared in egg recall

*United Egg Producers, American Egg Board and government agencies all contributed to problem*

The significance of the 2010 egg recall is now becoming apparent. The short-term impact relates to an acute drop in consumption with a correspondingly precipitous decline in the average August Urner Barry price from 113 cents per dozen to the mid-70s by the second week in September. Contrast this value



**Simon M. Shane**

would amount to \$125 million assuming 162 million hens\* with a 75% hen-to-pack yield.

The alleged circumstances, deficiencies and deviations from what could be

newspapers in the U.S. fuelling concern over the safety of our product. Premature releases of preliminary findings by the FDA are adding to the rejection of shell eggs by domestic and food service users.

There is plenty of blame to go around. To name but a few:

- ✓The owner and management of the implicated complexes who allegedly operated with complete disregard for accepted standards of prevention and detection of SE;
- ✓The UEP and its directors for promoting its 5-Star Total Quality Assurance Food Safety Program, which was patently inferior to detect SE compared to the long-standing California and Pennsylvania EQAPs and the program initiated by the major producer of nationally distributed shell eggs;
- ✓The UEP for not acting forcefully and expeditiously to publicly disassociate its constituency of responsible producers representing 97% of production capacity from the alleged and widely

***A lot of good, honest and hardworking people, many of whom are friends and associates, will suffer from the acts of omission and commission which contributed to the current situation.***

regarded as prudent standards of operation by the management and ownership of the affected complexes and their affiliates are being emblazoned across

publicized practices on the affected complexes;

- ✓The UEP and its public relations advisors for mounting a lacklus-

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ter campaign, which incorporated a blame-the-victim approach contrary to accepted principles of crisis control;

✓The AEB for not acting quickly and authoritatively, applying its extensive resources to dispel concern among

consumers in the face of negative publicity;

✓The FMI in mandating an SQF program, which omitted the basic requirement that certified plants only pack eggs from flocks demonstrated to be free of SE, applying a comprehensive

monitoring protocol;

✓Purchasers of nest-run eggs from the affected complexes who repacked and distributed product without enquiring as to the SE status of supply flocks;

✓The major chains and brokers who have imposed pressure on producers to supply eggs at the lowest cost, depriving the industry of the margins which would allow investment in effective biosecurity, SE vaccination, rodent control and monitoring; and

✓The federal authorities for not coordinating their resources to provide the industry, initially with guidance and then successively comprehensive suppression and eradication programs. What

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**More from Dr. Shane about the blame-the-victim approach**  
[www.WATTAgNet.com/18013.html](http://www.WATTAgNet.com/18013.html)

have the USDA-AMS, USDA-ARS, USDA-FSIS or the FDA and their paymasters (Congress) contributed to preventing the SE crisis during the last two decades?

Am I bitter? Yes. Disappointed? Yes. A lot of good, honest and hardworking people, many of whom are friends and associates, will suffer from the acts of omission and commission which contributed to the current situation. All that I can hope is that reason will prevail and that we will collectively develop a new attitude toward production of a quality product with inherent nutritional attributes for the benefit of our consumers and stakeholders.

Contrary opinions and rebuttals are welcome.

*\*(290 million hens in production less specialty and breaking flocks)*

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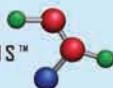
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# Rodent control: A new imperative

*Rodenticides are key to limiting infestations.*

By Simon M. Shane



The advent of the Final Rule on prevention of SE has created a new awareness of the role of rodents and especially mice in the dissemination of SE within in-line complexes and perpetuation of infection on farms and in houses.

An article on controlling rodents appeared in the November 2008 edition of *Egg Industry* and serves as a reference to the biology of the three species of rodents which may be found in laying houses. Mice are regarded as the most important reservoir of SE and it is essential that programs should be implemented to suppress population to the point of eradication both in poultry houses and in feed mills.

## Prevention

Control and suppression of rodents requires a coordinated approach involving exclusion, baiting and monitoring. In the words of one prominent U.S. producer, it is necessary to “build rodents out.” Shoddy construction, deterioration of wooden and

metal doors, corrosion of cladding, and damage which accumulates over the years provides for easy entry for rodents. Holes as small as a half-inch in diameter can allow entry of mice which seek warmth, feed and shelter especially in late fall or when houses are depleted resulting in migration to adjoining units. A number of producers have initiated programs of patching, replacing and reinforcing corroded metal doors and to ensure a solid seal.

Baiting is a complex issue and professional direction should be obtained from either a consultant or a contractor. The selection of anticoagulant and other chemical rodenticides should incorporate safety, rotation to avoid resistance, placement of bait stations and maintenance of the approved re-baiting

Read more about how to control rodents in poultry houses [www.WATTAgNet.com/8429.html](http://www.WATTAgNet.com/8429.html)

process. It is necessary to strictly follow statutory label directions with regard to use, application and disposal of rodenticides.

Deviation from label instructions represents a federal offense and misuse can create issues of liability. Approved rodenticides are classified according to either first- or second-generation anticoagulants or non-anticoagulant compounds as indicated in the table depicting availability of products on the U.S. market.

Effective rodent control is a vital component of an SE prevention program.

## Commercially available U.S. rodenticides

Monitoring requires a system of recording mice caught in curiosity traps, which are placed at strategic points in a house or feed mill as advised by a pest control professional.

The cost of a program should be carefully monitored, but it is emphasized that in the absence of effective control, the entire complex or farm is vulnerable to perpetuation of SE infection following introduction into the operation.

## Classification of rodenticides

First-generation anticoagulants require multiple feeding over several days to produce death. This presumes constant access to bait station.

Second-generation anticoagulants generally produce death after a single feeding although there is a cumulative affect over successive days.

The non-anticoagulant rodenticides include:

- ✓Bromethalin, which is a central nervous system toxin;
- ✓Cholecalciferol, (Vitamin D 3) at a high dose results in mobilization of calcium from bones, increased absorption from the intestinal tract and death from hypercalcemia; and
- ✓Zinc phosphide, which is subject to strict state controls. The compound releases phosphine in the anterior intestinal tract following ingestion, resulting in acute death.

Although resistance to rodenticides is frequently implicated as cause for ineffective control, this phenomenon is rare, especially with appropriate rotation of compounds. Failure of a rodent control program usually involves insufficient bait stations, neglect of cleaning and re-baiting of stations or other managerial problems, including spillage of feed and providing harborage for mice both inside and outside buildings.

## Feed mills

It is necessary to pay special attention to feed mills as colonization of the unit can result in contamination of feed as apparently determined by FDA inspectors in the current Iowa outbreak. The following precautions should be followed:

- ✓Sealing the mill against entry of rodents
- ✓Removal of foliage, scrap and surplus equipment in the vicinity of the mill which provides habitat for survival and breeding
- ✓Removal of surplus equipment, spare parts and tools from floor areas and

of silos. The availability of seed and feed reduces the effectiveness of bait stations and may also attract wild birds and insects which are equally undesirable.

A mill employee should be designated as the person responsible for

### COMMERCIALY AVAILABLE U.S. RODENTICIDES

COMPOUND	CLASSIFICATION	TRADE NAMES	SUPPLIER	PRESENTATION
Warfarin	1st generation anticoagulant	Various	Generic	Meal, Water
Pindone	1st generation anticoagulant	Pival™ Pivalyn™	Generic Generic	Meal, Water
Diphacinone	1st generation anticoagulant	Ramik™ Rampage™ Tomcat™	Neogen Liphatech iphatech	Blocks Blocks Liquid
Chlorophacinone	1st generation anticoagulant	Rozol™	Liphatech	Pellets
Brodifocoum	2nd generation anticoagulant	Havoc™ Jaguar™	Neogen Motomco	Blocks & Pellets Blocks
Bromadiolone	2nd generation anticoagulant	Boothill™ Hawk™	Liphatech Motomco	Blocks Meal & Blocks
Difethialone	2nd generation anticoagulant	Hombre™ Fast Draw™	Liphatech Liphatech	Blocks Soft bait
Difenacoum	Non-anticoagulant CNS toxin	DiKill™	Neogen	Blocks & Pellets
Bromethalin	2nd generation anticoagulant	Cy-Kill™ Rampage™ Gunslinger™	Neogen Motomco Liphatech	Blocks & Pellets Blocks Blocks & Pellets
Cholecalciferol	Non-anticoagulant vitamin D3	Agrid3™	Motomco	Blocks & Pellets
Zinc Phosphide	Non-anticoagulant phosphine toxicity	Eraze™	Motomco	Pellets

**Approved rodenticides are classified according to either first- or second-generation anticoagulants or non-anticoagulant compounds.**

relocation to racks or hooks to create a clean floor area, especially adjacent to walls

- ✓Bait stations should be placed around the exterior of the mill.
- ✓Either two foot wide concrete aprons should be constructed or placement of one inch diameter crush stone over a width of two feet will be required to prevent burrowing and entry to the mill.
- ✓Curiosity traps should be placed on either side of any doorway or entry into the mill.

A program should be implemented to remove any spilled feed ingredients or feed in the vicinity of the uploading or dispatch areas and in the vicinity

maintaining or coordinating the cleanliness of the facility, servicing and re-baiting of stations, recording the number of mice caught in curiosity traps and examination for rodent droppings.

## Control in houses

Bait stations should be located at 50 foot intervals around the perimeter of houses and adjacent to egg collection corridors.

Bait stations containing the selected rodenticide should be placed in approved bait stations along the outer aisles adjacent to the long walls and, if necessary, in internal aisles in addition to the work areas at either end of the house.

▶ *Shoddy construction, deterioration of wooden and metal doors, corrosion of cladding, and damage which accumulates over the years provides for easy entry for rodents.*

In the event of mouse infestation it is necessary to place wax blocks containing a rodenticide on nails at approximately 30 foot intervals staggered on either side of the aisle under the bottom feed trough and on ledges.

When attempting to suppress brown (roof) rats it is necessary to bait cross-beams and in the event of an attic, both liquid and solid bait should be placed both in the center and adjacent to the eaves on top of the ceiling.

Management of manure should include at least annual removal from high-rise houses. Ventilation should allow for drying of the rows so that there is clear access along the entire length of the house to permit placement of bait stations, especially adjacent to vertical support beams. It is virtually impossible to eliminate mice from high-rise houses without intensive baiting with appropriate rodenticides following a program of rotation.

The presence of rat or mice droppings on egg belts before egg collection is evidence of severe infestation denoting a deficient program. Finding mice or rat droppings on belts will be viewed with disfavor by FDA personnel and may result in sanctions or more intensive and intrusive inspections involving both records and facilities.

Storage areas, plant rooms and workshops should be subjected to the same precautions as feed mills and poultry houses.

### Conclusion

Effective control of rodents can no longer be ignored or relegated to a token activity. It is necessary for producers to develop written programs which conform to acceptable standards, planning and implementation. Records will be reviewed by FDA personnel and should quantify rodents captured in curiosity traps, purchases of rodenticides and standard operating procedures for placement, inspection and re-baiting of stations.

Effective rodent control is a vital component of an SE prevention program and should be regarded as being on a level with vaccination and biosecurity as preventive measures.

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# Egg recall expected to take toll on prices

*Projections for the remainder of the year remain in question.*

The actual price projections are optimistic in the light of recent events but the seasonal trends are likely to be repeated.

**M**aro Ibarburu, program manager for the Egg Industry Center (EIC) located at Iowa State University, released the July-August Statistical Report on September 15.

Unfortunately, the recent egg recall affecting approximately 6 million hens in Iowa has distorted projections of price and hen numbers. The announcement of the recall and the magnitude of the event resulted in a short-term soaring in price followed shortly by a precipitous decline as consumers backed away from eggs in response to negative publicity.

The current report as distributed by the EIC is summarized for readers of *Egg Industry*, but data generated by using models, which are appropriate in times of relative stability, lose validity during short-term turmoil.

✓The U.S. estimated cost of production for August 2010 was 58.2 cents per dozen ex-farm, 0.5 cents per dozen less than the previous month. The range on production costs among regions extended from 53.3 cents per dozen in the Midwest to 62.1 cents per dozen in California.

✓The margin represented by “income

minus cost” for August was 4.2 cents per dozen reversing the negative trend from the past three months. For the first eight months of 2010 the average margin was 9.1 cents per dozen.

✓In evaluating the improved margin for August it was noted that feed cost was 34.7 cents per dozen, with pullet depreciation at 8.7 cents per dozen and other fixed and variable costs of 14.7 cents per dozen, applying the standard cost factors used by the EIC. These values remained unchanged through the first eight months of 2010. Contribution per hen, based on August figures attained 8.1 cents per bird which was an improvement over the -9.3 cents per bird value in July. The cumulative eight-month hen contribution now stands at 136.1 cents per bird.

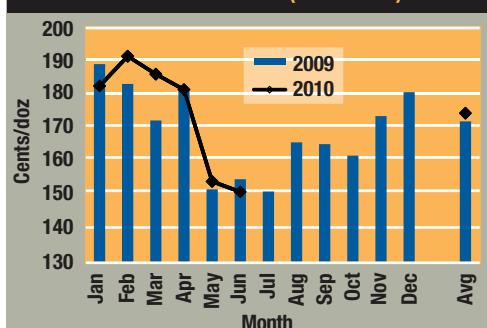
✓The Urner Barry (UB) simple average price for six U.S. regions, assuming 80% large eggs, was 70.6 cents per dozen for August compared to 51.4 cents per dozen in July 2010.

The seven-month simple average UB price was 67.2 cents per dozen.

✓The USDA-AMS determined an ex-farm price of 72.5 cents per dozen for August. Corresponding warehouse/DC and DSD prices were 89.8 and 95.3 cents per dozen respectively.

✓In reviewing retail prices for table eggs, the Bureau of Labor Statistics and the Department of Commerce

U.S. CONSUMER LARGE EGG (2009-2010)



The large to medium grade white egg price was 27.5 cents in August.

estimated a July average of 144.1 cents per dozen, 3.5% lower than the June 2010 value of 149.4 cents per dozen but almost equivalent to the 149.4 cents per dozen recorded in July 2009. The simple average retail egg price for the first seven months of

Egg Industry is indebted to Don Bell and Maro Ibarburu for the collection and presentation of detailed data which form the basis of this summary.

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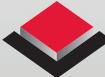
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2010 was 167.4 cents per dozen.

✓The large to medium grade white egg price spread over six regions was 27.5 cents in August compared to 22.1 cents per dozen in July with an average of 19.3 cents per dozen for the first eight months of 2010. Regional spreads ranged from 26.1

cents per dozen in the Southeast to 29.3 cents per dozen in the South Central region, a significant narrowing compared to values for July.

✓During August 2010, layer feed averaged \$211.80 per ton, which is 4.5% higher than the seven-month average of \$202.60 per ton based on six re-

gions. During August the price range among regions was \$186.2 per ton in the Midwest rising to \$232.20 per ton in California. The differential of \$46.00 is equivalent to approximately 8.00 cents per dozen applying realistic industry production parameters.

✓For the first eight months of 2010, commercial-egg strain eggs in incubators has remained almost constant at 38.964 million with a range of 33.4 million in August to 42.9 million in April. The corresponding 2009 value for the first eight months was 36.643 million.

✓Straight run hatch for July attained 38.05 million with an average for the first seven months of 42.2 million.

✓Projections for pullets to be housed in future months based on the five months' previous hatch and incorporating a 5% mortality factor, include a range in the increase in placements from 15.75 million pullets in April

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# 23.7%

As of the end of June 2010, 23.7% of the national flock was over 72 weeks of age.

to 21.44 million pullets in September 2010. The 12-month average of 18.21 million pullets per month for 2010 is 5.5% greater (1.0 million pullets) than the 12-month average of 17.26 million per month for 2009. The 2005 to 2009 monthly average was 16.8 million pullets placed each month.

✓For August 2010, the USDA-NASS estimated the national flock at 283.9 million hens, which is 3.8 million more than in July 2010, following historical trends. Applying the University of California model based on USDA-NASS data for chickens and eggs, it is estimated that the December 2010 flock will attain 291.8 million hens. This incorporates the assumption of 9% mortality from 20

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through 72 weeks of age.

- ✓ As of the end of June 2010, 23.7% of the national flock was over 72 weeks of age. With the exception of March 2010, which was an aberration, the seasonal pattern of a decline in molted flocks from January through April appears to be holding although this may be affected by depletion of SE positive flocks in the Midwest. For the entire year of 2009, an average of 24.7% of the national flock had been molted compared to 31.7% in 2008.
- ✓ Six regions reported a simple average of 24.2% molted hens in August 2010 reflecting all states surveyed by the USDA-NASS. The actual proportion of molted hens in the U.S. varies widely, from 8.9% in the Northeast to 37.3% in California. The eight-month average of 24.2% molted hens in the U.S. flock and differences among regions reflect production costs, revenue for eggs and realization value for spent hens.
- ✓ According to the projections developed by the University of California, the most recent estimate of the national table-egg flock for September 2010 is 283.0 million hens. This number is expected to increase steadily to 291.2 million in December 2010. Given current projections of prices which are functions of supply and demand, flock sizes could be trimmed by depletion especially following evidence of SE infection and if consumer demand does not increase. Compensatory increased retention of known SE-negative flocks may occur in regions or for specialty product subject to available capacity including re-caging. Prolonged depression in price beyond current estimates will inevitably result in a decrease in hen numbers since flocks will be depleted at a rate faster than projected.
- ✓ The University of California projected an UB large Midwest price of 117.3 cents/dozen for September, which is now obviously unattainable. The projections in the 140s for November and December are in question unless there is a marked restoration in consumer demand attaining approximately 120.0. The University of California forecast a post-January fall to 131.7 cents per

dozen with April and May 2011 forecast to be 111.3 and 98.0 cents per dozen respectively. The actual price projections are optimistic in the light of recent events but the seasonal trends are likely to be repeated. If the UB price bottomed at the end of the second week in September as is hoped, demand — and hence, prices — should increase. The prospect for

a rise depends on there being no further recalls and the media recognizing and projecting that the problem in Iowa is not a general reflection on the industry.

- ✓ Values for the last quarter of 2010, estimated at 63.2 eggs per capita by USDA-ERS, may have to be revised downward in response to the adverse publicity associated with the SE recall. **EI**

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# Case study on control of mice in an SE-positive complex

*The removal of biological waste, sealed openings and bait are used to limit contamination.*

By Simon M. Shane

## The situation

Two out of eight houses in an in-line complex yielded positive SE isolates on routine drag swab monitoring. An inspection of the facility showed mice droppings at three to four inch intervals along the length of all egg belts at 06H00 before commencing egg collection. There was no effective rodent control program in effect or committed to writing and placement of wax blocks and bait stations was as best haphazard.



Twelve curiosity traps were placed in each house.

## Corrective action

Management and supervisors on the farm were made aware of the level of mice in the perpetuation and dissemination of SE. A training program was instituted regarding cleanliness, biosecurity and related measures.

Manure was removed from all pits in the high-rise houses following a program which preserved beneficial insects. Removal of manure from the entire site deprived mice of habitat.

Accumulated junk and debris in work areas, corridors and plant rooms was removed and disposed of. Spare parts and equipment were removed from floors

was removed from all work areas and especially the space under egg conveyors.

All openings were sealed with special attention to door gaps, defects in

vice of a university extension specialist. The program involved placement of second generation anticoagulants rotated at three month intervals with

► *The program involved placement of second generation anticoagulants rotated at three month intervals with the use of a non-anticoagulant central nervous system toxin in each house at the time of flock depletion.*

cladding and ventilation openings.

An intensive program of baiting was initiated both inside and outside houses using wax bait blocks placed in farm-fabricated plastic pipe T-stations. Blocks on nails were placed at 20 to 30 ft. intervals on the edge of aisles staggered down the length of the house and on ledges where there was evidence of mouse activity. Bait stations were also placed at 30 ft. intervals along the aisles adjacent to the long walls and in the work area at the ends of the houses. Selection of baits was based on the ad-

the use of a non-anticoagulant central nervous system toxin in each house at the time of flock depletion.

Twelve curiosity traps were placed in each house in work areas at the ends of the units, in corridors and along the aisles adjacent to the long walls to monitor for presence of mice. A recording system was initiated to determine trends in mouse catches from data noted when traps were cleared twice weekly. Management was required to inspect egg belts daily for the presence of droppings. **EI**

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and placed in secure storage on racks, and tools were hung from walls.

Accumulated biological material including egg remnants, feathers and dirt



# Which came first the chicken? or the egg?

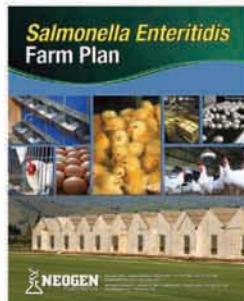


## Ready for the FDA's Final Rule? Neogen can help.

The FDA's new Final Rule to ensure egg safety, which became effective on July 9, 2010 for most egg producers, in part requires the testing of egg production environments, and in some cases eggs, for *Salmonella Enteritidis* (SE).

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An attitude of “lowest-cost-what-ever-it-takes” and disregard for the safety of product is intolerable.

# The SE recall: Inevitable or accidental?

*A review of what industry standards were ignored and which otherwise may have averted the episode.*

By Simon M. Shane

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It was considered prudent to refrain from commenting on the August recall following the SE traceback to Wright County Egg and Hilldale Farms of Iowa until more facts emerged. As a cynical observation, the HSUS was not as restrained since its publicity immediately implicated intensive cage housing with an unjustified and unsubstantiated epidemiological relationship between SE infection in consumers and commercial production systems — but I digress.

Let us return to what we do know from the FDA reports on its initial findings.

✓The outbreak appears to be associated with a single source comprising what is essentially a contiguous biological unit of 5 to 6 million hens in Wright County in North Central Iowa. This

✓Despite initial concerns, the incidence rate of egg-borne salmonellosis in consumers due to the specific strain of *Salmonella enteritidis* typed by PFGE has declined as the implicated eggs, dating back to June, have been either consumed or destroyed.

✓This outbreak was detected by traceback, confirming the capabilities of *FoodNet* and *PulseNet* to identify foodborne disease in diverse populations in many states.

✓The CDC and FDA clearly have the ability to determine the source of an infection based on diligent patient interviews, using data on carton labels, wholesale and retail invoices and documentation with coordination among metropolitan, county and state public health investigators.

✓The extent of sale and transport of nest run eggs for packing and distribution can result in multi-state outbreaks of SE. Traceback is obviously complicated by the profusion of brands and packs and packing plant imprints on cartons which do not necessarily relate to flock of origin.

✓In contrast to previous SE episodes, the FDA as the principal federal agency has acted forcefully and expeditiously to investigate the source and to motivate the recall and diversion of eggs to pasteurization. The quantity involved probably exceeds 12,000 cases per day

unless affected flocks, farms or in-line units are depleted.

Now that the FDA has identified the source of infection and knowing the past history of the ownership of the enterprise concerned, it would be productive to consider the following questions to ascertain what procedures and accepted industry standards were ignored and disregarded which otherwise may have averted the episode:

✓What SE detection program was followed and for how long? Most of the industry has subscribed to the UEP's 5-Star Total Quality Assurance Food Safety Program, which only requires one environmental drag swab assay within two weeks of depletion with obvious implications for the duration of possible vertical transmission to consumers in the event of infection of a flock. In contrast, the most stringent EQAP, applied in Pennsylvania since the mid-1980s, requires four assays during egg production extending over two cycles. Some producers satisfying customer requirements monitor all units on a complex, irrespective of flock age for environmental SE at quarterly intervals. A nationally distributed brand has required their franchisees to monitor flocks at four ages during production for the past five years.

✓What vaccination programs were fol-

Read about the proposed  
mandatory vaccination against SE  
[www.WATTAgNet.com/17965.html](http://www.WATTAgNet.com/17965.html)

complement of hens represents approximately 2% of the nation's flock of 280 million laying birds. No other farms, cooperatives, integrations or companies with an aggregate of 275 million hens have been identified as producing contaminated product as of the end of August.

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**The SE recall: Inevitable or accidental?**

lowed and for how long? Did management of the affected complexes commence vaccination only when environmental positives were detected when testing was initiated within months of promulgation of the FDA Final Rule? It is a matter of record that for many years prudent producers have carried out pro-

grams of administering two or three successive doses of live mutant *Salmonella typhimurium* vaccine to pullets. In addition many operations also have administered inactivated emulsion vaccines prior to onset of production. Vaccination may be regarded as a cornerstone of an SE prevention program and as such is basically an industry standard. The FDA erred in not mandating

this effective modality in its Final Rule for reasons that are inexplicable.

- ✓ To what extent did the affected complexes apply appropriate biosecurity procedures with respect to parent flocks, their hatchery, rearing pullets and laying hens? Of obvious concern are precautions to prevent introduction and dissemination of SE during movement of flocks, equipment and personnel. Exclusion and baiting of rodents and especially mouse populations, which serve as reservoirs of SE, are critical components of an integrated control program.
- ✓ What role did contaminated feed ingredients, especially animal proteins, play in either the introduction of infection or subsequent propagation of SE? Did their common contaminated feed mill, delivery vehicles or personnel contribute to an ongoing cycle of infection? Was byproduct derived from ruminants and supplied by one or more rendering plants contaminated?



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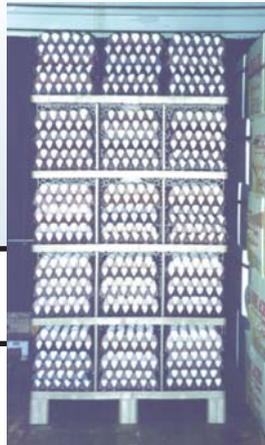
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From the initial reports and comments by FDA officials and applying accepted knowledge within the industry we can immediately consider the following approaches to alleviation:

- ✓ Disabuse ourselves of the incorrect notion that “SE is everywhere; it’s just a matter of looking.” In fact all the complexes I have been associated with as an auditor and consultant are free of SE environmental contamination. The “universal infection” point of view is flat wrong, self-serving and anachronistic in the face of the FDA Final Rule.
- ✓ We have sufficient knowledge of the epidemiology of SE in commercial flocks to implement successful and effective programs of prevention and monitoring given commitment and resources, which will add only fractionally to the cost of eggs. Programs must include biosecurity, vaccination, rodent suppression, placement of SE-free chicks, all-vegetable diets and effective QC and monitoring at all levels of production. The legal implications and costs associated with persistent SE infection will be untenable in the future.
- ✓ Unless the industry commits to rigid

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and effective control, consumer confidence will be eroded and SE will become the “new cholesterol” as a restraint to consumption

- ✓Purchase of nest run eggs should be supported by documentation of freedom from SE in all supply flocks. Did any of the companies taking advantage of the cheap price of the approximately 10,000 cases traded daily ever question the SE status of the implicated supplier?
- ✓An attitude of “lowest-cost-what-ever-it-takes” and disregard for the safety of product is intolerable. The “bad eggs” will have to adapt to acceptable practices or be “culled” by rejection of their products, lawsuits and regulatory action. Certainly condoning the deficiencies of irresponsible producers and receiving support from industry organizations is counterproductive and ultimately damaging to our image.

The final question arises as to how the industry will be affected by this outbreak and recall?

- ✓If we experience a subsequent recall from another source there may well be a marked erosion of confidence in shell eggs, a decline in consumption and further reduction in margins. The present “UB windfall” may well be transitory as supply and demand attain equilibrium.
- ✓The trend towards a lower proportion of breaking noted during the past three years will be reversed and more pasteurized further-processed consumer and food service products will become available in response to consumer demand.
- ✓Supply of in-shell pasteurized product will increase at a slow pace unless innovative technology such as microwave processing is introduced or more effective thermal immersion units are developed.
- ✓The need to counteract negative and distorted publicity from the opponents of intensive livestock production will be intensified. It will be critical to characterize the SE outbreak as a result of mismanagement if the facts support this contention. Complexes with cages demonstrated

to be free of SE do not represent a risk to consumers. Intuitively, free-range and floor systems must have a greater potential for SE contamination than well-managed cage units with belt manure removal.

- ✓The FDA will attempt to recover their tattered image by applying a zealous approach to otherwise compliant producers, citing technicalities

and deficiencies in documentation. Ultimately a lack of understanding and resources will overwhelm the agency. The entire food industry will ultimately fall under the purview of a consolidated food safety agency paralleling changes in the UK and the EU where departments of agriculture have been discredited as protectors of consumer interests. **EI**

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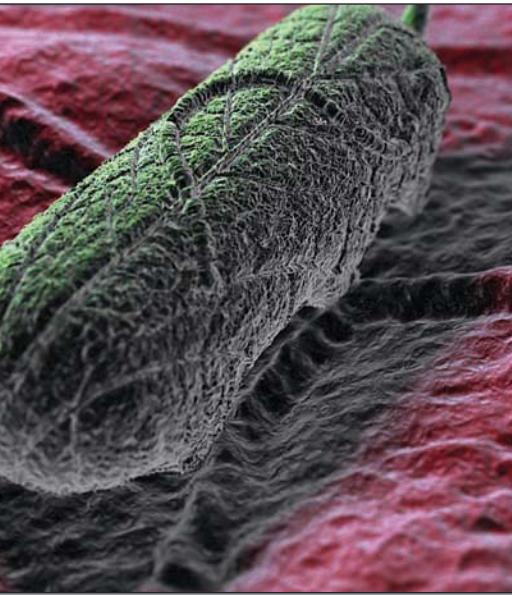
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# Examining events of the SE recall

*Learning from the mistakes will help the industry overcome this incident.*

By Simon M. Shane

The entire U.S. egg industry has been dominated by the fallout from the extensive egg recall associated with the DeCoster-owned Wright County Egg Complex and the associated operation of Hillandale Farms of Iowa.

The commentary “The SE recall: Inevitable or accidental?” outlined the facts as known and raised questions which must be answered if the industry is to aggressively respond to maintain consumer confidence, support the UB price, which has crashed and prevented SE being the “new cholesterol” of the current decade. As of the second week in September, there is no evidence that the outbreak involved other than the index

The fact that the recall involved many states and numerous packing plants highlights the risks associated with large-scale trading of nest-run eggs, which are purchased without certification that flocks of origin are certified free of SE and with no concern for the operating standards applied by producers of lower-cost trade eggs.

## Misinterpretation by the media

The published 483 documents from the FDA have been subjected to amplification, misinterpretation and sensationalism by the media. Unfortunately, the impression has been created that the obviously suboptimal conditions on the affected farms reflect procedures, housing and management which are not representative of the industry as a whole.

The FDA website states, “Our investigators are trained to ensure that each

observation noted on the 483 is clear, specific and significant.” The website adds “the observations are cited when in an investigator’s judgment these

conditions as observed indicate that a FDA-regulated product is in violation of FDA requirements.” This approach is valid for a food processing or pharmaceutical plant. There are profound questions as to the training of investigators and their subjective interpretation of findings.

## Lack of communication

It is a matter of fact that the FDA has not communicated with other federal

agencies including USDA-APHIS, with university personnel, avian disease specialists or veterinarians trained in epidemiology and food safety relating to eggs. This is denoted by the fact that the guidance document relating to the Final Rule was incomplete and had not been issued at the time that the directives came into effect on July 1.

The FDA either ignored or rejected the principle of vaccination, widely regarded as an important component to any SE prevention program. The FDA failed to appreciate the logistic problems associated with routine microbiological procedures for surveillance of flocks. They failed to harmonize their laboratory requirements with those of the NPIP and were apparently oblivious to the advantages of PCR technology.

## Multiple deficiencies found at infected facilities

Notwithstanding the level of competence of FDA inspectors, it is evident from the reports of alleged deficiencies, which were noted at the Wright County Egg Division of Quality Egg LLC and the affiliated DeCoster feed mill, that these facilities functioned at a level which promoted both the introduction and dissemination of SE.

The deficiencies which were apparently documented related to failure to control rodents, incorrect manure management to the point of slurries and accumulation of material displacing doors at the ends of houses, neglect of fly control, allowing wild birds to enter the feed mill and layer houses and failure to implement an appropriate SE monitoring program.

Unfortunately, FDA inspectors appar-

**Is feed a vehicle of SE transmission?**

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farm although nearly 1,500 individual cases of SE involving numerous localized outbreaks have been documented.

## Tracking points out risks

Given the resources of the CDC in detection and recognition of outbreaks, it must be appreciated that the combined resources of FoodNet and PulseNet are capable of ascertaining the presence of an infection and establishing relationships between patients and their source of infection.

ently regard movement of personnel and failure to compartmentalize houses in an in-line unit as a deficiency in biosecurity. There is little point in requiring a change in clothing for workers and managers moving through houses on a complex since mice will migrate between houses especially after depletion of a flock. Air-extraction rates may exceed 500,000 cfm and egg collecting

The adoption of the UEP's self-serving 5-Star Total Quality Assurance Food Safety Program of monitoring flocks only two weeks before depletion meant that producers on finding an environmental positive could ignore the finding until adjacent houses were depleted ignoring the possibility of lateral extension to adjacent units. In cases where I have been involved in

***Had the industry adopted an effective program, we would not be faced with the current level of concern among food marketing chains, the food service industry and consumers.***

belts and conveyors move product along internal corridors passing the front of egg elevators.

A number of industry professionals have noted that there is limited to no inter-house biosecurity on a complex with up to 12 separately housed flocks. This commentator has always maintained that there are only SE-negative and SE-positive complexes. The concept of a negative house on a positive complex is a function of low sensitivity of environmental drag swabbing.

investigating SE "breaks," neighboring houses are frequently shown to be infected by environmental swabbing of manure, fan blades and louvers or assaying the gastrointestinal tracts of trapped mice.

**Questions remain**

A number of significant questions have yet to be addressed in the epidemiologic investigation of practices and events on the affected farms. Most of these relate to biosecurity, immuniza-

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tion, rodent control, maintenance of facilities, training of management, and commitment of the owners to programs which would unfortunately perpetuate SE infection.

Since the legal implications and cost associated with persistent SE infection

will be unacceptable in the future, the industry will have to adopt a new attitude towards food safety and specifically suppression of SE.

Measures such as enhanced biosecurity, vaccination, rodent control, exclusion of rodents through structural

modifications, appropriate manure handling in high-rise houses and realistic and frequent monitoring will add to the cost of our product. Expenditure will be critical to survival going forward into the current decade.

### Industry must overcome recall with grace

The industry as a whole is on notice that further episodes will result in additional negative publicity and demands for greater legislative control over our production practices. We must also appreciate that the negative publicity arising from the recall has provided ammunition to opponents of intensive egg production and it is difficult to now differentiate between food safety and flock welfare.

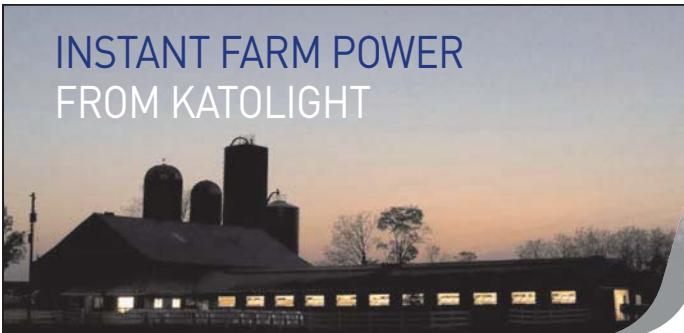
There will obviously be an increase in demand for pasteurized egg products especially for the institutional and food service markets. The trend in the reduction in breaking will be reversed in coming years. This may in fact represent an advantage for the industry as consumer demand will favor further-processed and convenience egg-based items which will enhance margins compared to commodity shell eggs.

As an industry, we must demonstrate that individually and collectively we are pursuing programs which provide a nutritious and safe product to our consumers. Defending companies and individuals who deviate from acceptable standards is counterproductive.

Opposing the FDA and other federal agencies will not prove to be productive. Failure to disassociate substandard operations by imposing expulsion will be detrimental to future acceptance of our product.

Adopting accepted principles of crisis management and response and avoiding the blame-the-victim game will all be required to reverse the adverse publicity which has been imposed on us by the actions of a single large producer. Indirectly, the companies that purchase and re-pack "cheap eggs" under their own brands and plant numbers without regard to quality or safety bear a proportionate share of the blame for the current episode. **EI**

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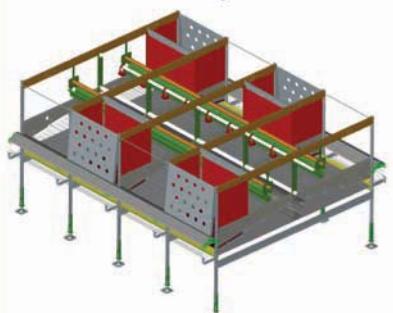
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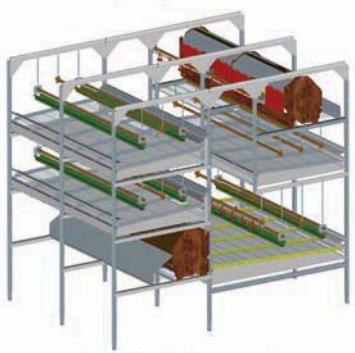
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# The future of **DDGS** in poultry rations

*The U.S. is rapidly expanding use of distillers grains.*

By Sheila E. Scheideler, Ph.D., University of Nebraska

range of topics including transportation logistics, economic supply and demand predictions, mycotoxin concerns and the needs of poultry producers.

The future of the ethanol industry and production of ethanol byproducts is currently in a holding pattern until Congress reaches agreement on the “Green Jobs Bill” and the “Renewable Fuels Reinvestment Bill.” Until this legislation is finalized, production of ethanol and DDGS products will remain stable with very limited increase in production. If enacted, one can expect further investment and expansion in the

ethanol industry with a focus on alternative carbon sources such as cellulosic fiber or algae-based production systems if appropriate technology is available.

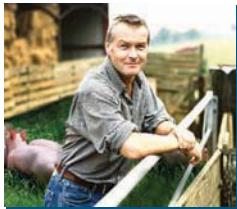
## Export potential of DDGS

Dr. Hoffman, an agriculture economist from the USDA, estimates present livestock use of DDGS to be distributed among beef (63%); dairy (23%); swine (9%); and poultry (5%). Poultry is predicted to grow in the future to attain 9% of total use. Of 30 million tons of DDGS produced in the U.S., 22% is exported to Mexico, Canada



Dr. Scheideler

**T**he Distillers Grains Technology Council held its annual symposium this past May, covering a diverse



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### The future of DDGS in poultry rations

and China. This nation is rapidly expanding use of DDGS products, primarily in poultry and swine production, and volume is expected to more than double in 2011. Exports will represent major competition to the domestic supply of DDGS.

### Domestic use of DDGS

Dr. Mike Blair, nutritionist at Pil-

grim's Pride, reviewed relevant factors influencing use of DDGS by integrators. He stressed the importance for suppliers to address factors such as availability, consistency, nutrient content and quality, ease of handling, transportation and effects on feed production and performance.

### Mycotoxigenesis

Prior to the 2009 corn harvest, testing

indicated higher than normal levels of mycotoxin contamination in corn from the upper Midwest region of the U.S. Unfortunately, mycotoxins will accumulate in DDGS products during ethanol production. Dr. Siegel from Purdue University presented information that 62% of the DDGS samples tested in 2009 were positive for zearalenone and 70% for deoxynivalenol (DON) respectively. There is debate over the level of sensitivity of poultry to these mycotoxins. Despite uncertainty, the market price of DDGS can be very competitive against high priced corn and attractive to poultry producers.

### DDGS futures market

It is of interest to poultry ingredient brokers and purchasing agents that DDGS is now traded on the grain futures market. The unit of purchase is 100 short tons with a minimum of 26% protein, and 8% fat, a maximum of 12% fiber and 11.5% moisture. Delivery is based at either Chicago or Des Moines. Trad-

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ing commenced in April 2010, so no significant volume had been traded by the time of the meeting in May 2010.

### Conclusion

The future of DDGS in poultry rations appears firm based on cost considerations. The supply of DDGS and related products is likely to increase with impending legislative action and further diversion of corn in the short term. Competition with export markets is likely but market share and use of these products in poultry diets is likely to increase. DDGS can be a financially attractive alternative displacing a proportion of the corn and some vegetable protein sources in diets. **EI**

*Dr. Sheila E. Scheideler is an Extension Poultry Specialist and Professor of Animal Science at the University of Nebraska. Dr. Scheideler conducts research and extension programs primarily in the field of applied poultry nutrition.*

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Additions have been made to this chart that originally appeared in September's article, "Dietary additives for egg-producing flocks."

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