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Flock Performance Study shows multiple improvements



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Twelve-year comparison shows genetic progress and advances in disease prevention.

HEN DISTRIBUTION IN TOP SIX STATES IN 2009

State	Hens (millions)	Proportion of U.S. Total (%)
Iowa	52.95	19.20
Ohio	26.51	9.60
Indiana	22.84	8.27
Pennsylvania	21.56	7.80
California	19.28	6.98
Texas	13.30	4.81
Top-6 States	156.44	56.65
*Total U.S.	276.06	

*98.4% of recorded hens representing commercial flocks

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In 2009 Iowa housed over 19% of all U.S. hens, 52.95 million of the total 276.06 million.

Update on welfare— an EU perspective

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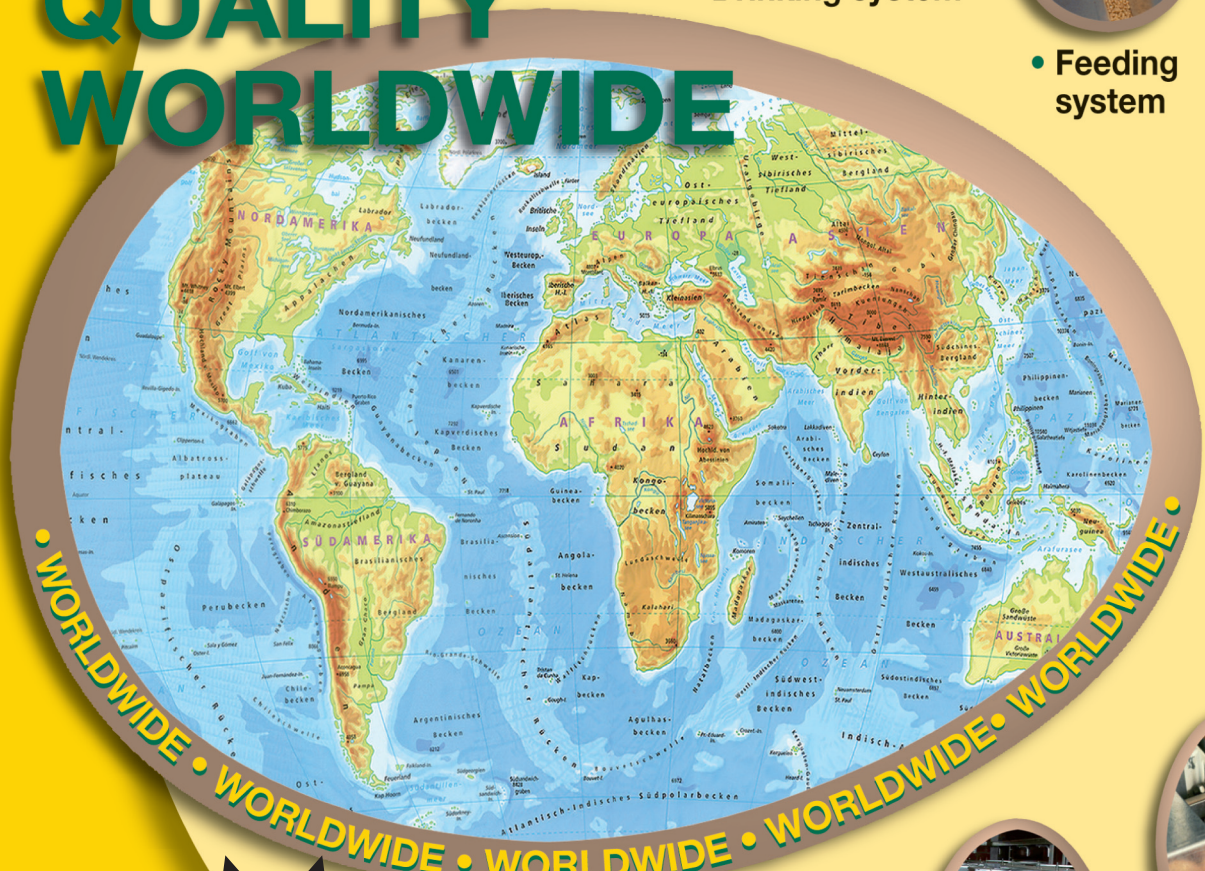
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Physiological parameters in brown-feathered flocks in conventional and multi-tier cages were compared in an Italian study.

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EDITORIAL

BY DR. SIMON M. SHANE

After IPE ... Easter, spring and words of wisdom

Following the extremely cold weather in late January we are all looking forward to spring and especially the run-up in prices to Easter.



Simon M. Shane

Projections of cost of production and unit revenue prepared by Don Bell predict wider margins during the current year as compared to 2009.

Highlights of his extensive reports are included in this issue for guidance on trends and selecting strategies to optimize profitability.

The 2010 IPE in Atlanta is now a memory. For a critical evaluation of the event please refer to my column, "The 2010 IPE-qualified success," on the WATT Web site at www.WATTAgNet.com/13768.html.

It was indeed unfortunate that the

major cage and grading equipment manufacturers elected collectively or individually not to exhibit at the IPE in 2010.

We look forward to seeing them and their products at the Midwest Poultry Federation Convention in mid-March and certainly at IPE in 2011.

We share the wisdom of an industry stalwart, Henry Kuhl, in this edition.

Henry has contributed to efficiency and productivity of egg producers over the past 50 years. He has served the industry in many forums and earned one of the 2010 USPOULTRY Lamplighter Awards presented in Atlanta.

Your comments and suggestions regarding the content of *Egg Industry* and the selection of topics and future articles are always appreciated.

Please contact me with any issues you wish to raise.

Simon

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Flock Performance Study shows multiple improvements

Egg mass increase of 6.6% is attributed to hen-house production and improved livability.

Part No. 27 of the National Flock Performance Study compiled by Don Bell, Poultry Specialist Emeritus, at the University of California Riverside, documents a steady improvement in performance parameters for the industry. Report EEU311, dated January 13 provides an interesting contrast between the survey conducted in 1997 and the most recent 2009 review.

In 1997, 203 flocks with an average of 66,000 hens amounting to 13.4 million birds comprised the sample. In 2009 this number was reduced to 165 flocks averaging 48,000 hens for 7.9 million in total. Given the current flock size of an average in-line complex, the 2009 sample is obviously biased in favor of smaller units. This has obvious implications concerning the interaction of flock size with housing, management, ventilation, disease challenge and feed costs.

Data documents progress

With these caveats the National Flock Performance Study data reflecting a difference of 12 years denotes genetic progress and advances in disease prevention, nutrition and management. The table comparing average U.S. hen performance shows a 6.6% improvement in contribution margin representing the difference between egg revenue (a function of egg price, feed conversion and egg mass) and feed costs per hen housed (influenced by feed conversion efficiency, daily intake and cost of feed). A review of the significant parameters shows a 37.5% increase in post-peak persistence.

Hens averaged 31 weeks over 90% in the 2009 survey compared to 19 weeks in 1997. This increase was attained despite a 2.5% decrease in average hen-day peak which attained 97.7% in 1997 and

Feed cost expressed in cents per dozen was almost static demonstrating that the escalation in feed cost was offset by improvements in production efficiency.

COMPARISON OF AVERAGE U.S. HEN PERFORMANCE, 1997-2009

Parameter	1997	2009	Difference (%)
No Flocks	203	165	-18.7
No Hens	13.4 million	7.9 million	-41.0
Hen-day peak %	97.7	95.3	-2.5
Weeks over 90%	19	31	+37.5
Hen-day % @ 60weeks	83.2	86.8	+4.3
Hen-housed eggs to 60 weeks	245.4	257.1	+4.8
Livability to 60weeks %	94.0	96.4	+2.6
Av. Case weight lbs	46.9	47.3	+0.9
Egg mass lbs	31.9	34.0	+6.6
Feed conversion lb/lb	1.84	1.82	- 1.1
Feed cost c/doz.	21.6	21.5	- 0.5
H/H egg income - \$/hen	10.77	11.62	+7.9
H/H feed cost - \$/hen	4.41	4.61	+4.5
H/H margin - \$/hen	6.36	6.78	+6.6

Feed cost expressed in cents per dozen was almost static although increasing 4.5% per hen. Values prepared by Don Bell, University of California at Riverside.

Within the limitation of the sample size and bias inherent in selection of flocks which were not in fact matched to type of operation or size, the data shows a steady improvement.

Future studies should contrast the performance on large in-line complexes since this may be a more meaningful measure of the performance attained by the industry.

The 41% decline in the number of hens in the study and the 27% decrease in flock size tend to detract from the relevance of the data.

The application of statistical analysis may also be helpful in understanding the trends and the interaction among parameters especially if this can be correlated with the flock size, the housing system and measures to promote health.

See how producers rated 2009 in Egg Industry's annual survey
www.WATTAgNet.com/13953.html

95.1% in 2009. Total egg mass increased by 6.6% which was attributed to a combination of a 4.8% increase in hen-housed production through 60 weeks and a 2.6% improvement in livability.

Efficiency offsets cost

Feed conversion improved by 1.1% from 1.84 (pounds of feed per pound of egg) in 1997 compared to 1.82 in 2009.



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Update on welfare— an EU perspective

Physiological parameters in brown-feathered flocks in conventional and multi-tier cages were compared in an Italian study.



Science seems unable to provide explicit guidance regarding caged or non-confined systems.

By Simon M. Shane, Editor

1. Laying Hen Production Systems: Welfare and Social Sustainability

This contribution from Dr. Joy Mench of the University of California, Davis and colleagues at Michigan State University, considered an overview of directions in flock welfare primarily driven by EU legislation and the result of the November 2008 California Proposition.

The presentation was predicated on a speculative presumption that the trend against cage housing would extend to other states. This has not been evident and in fact there has been minimal conversion from conventional cage systems in the U.S. The American Egg Board has funded a project to address problems of sustainability and welfare, both “hot button” concerns. It is intended to develop white papers on values and public acceptability, economic issues, flock welfare, food safety and environmental sustainability.

The proposed multi-disciplinary approach involving ethicists, social scientists and presumably poultry scientists will prepare reviews which will be subjected to subsequent evaluation. Basically the approach may generate recommendations for direct application to production.

This cynical observer considers that the exercise will be prolonged, will support an inordinate number of university personnel in diverse areas of the sciences and humanities, and ultimately will be of minimal benefit to the industry and consumers.

The 8th International Conference on Poultry Welfare provided an overview of research on management and housing of poultry flocks. The conclusions of researchers should be carefully monitored since these have an inordinate influence on legislation and regulations. The caveat relating to many of the studies is that they are conducted on a small scale and findings may not necessarily reflect the realities of commercial production.

Much of the research is directed at alternatives to confined systems since

and non-confined housing.

Unfortunately the results of the studies initiated in 2007 are now moot since there is considerable doubt as to the acceptability of this system in terms of both EU legislation and consumer perception. As far as the acceptability of confined housing in the U.S. is concerned the HSUS regards “a cage is a cage is a cage.”

Conclusion: more research

It is striking that virtually all of the studies end with the conclusion that “further research is necessary” suggesting that science is presently unable to provide explicit guidance on the adoption and design of either caged or non-confined systems.

The second significant concern with current welfare research is a complete lack of consideration of the economics of production. Perhaps university and institutional-based scientists, secure in their incomes, are oblivious to the realities of profitability and return on investment, which are in the long run determinants of commercial acceptability and the availability of eggs at prices consumers can afford.

Review of eight abstracts

Abstracts with specific relevance to the U.S. egg industry are reviewed:

Read more on housing
What are the real results of housing regulations
www.WATTAgNet.com/13360.html

conventional cages will be banned in the EU from 2012 onwards and there is considerable question as to the benefits and the disadvantages of barn and range systems. Much of the research conducted in the EU has attempted to define the performance and welfare characteristics of communal cages. This approach has emerged as a system regarded as intermediate between conventional cages

2. The Welfare of Laying Hens in Four Different Housing Systems in the UK

The reviews conducted by the University of Bristol Group, which has a long history of concern for scientific aspects of welfare, contrasted conventional cages, furnished cages, barns and free range systems.

The project involved visits to farms, questionnaires, post mortem examination and observation of hen behavior. It appears that the least skin damage and keel protrusion were associated with conventional cages with free-range producing the most lesions. Barns and enriched cages were intermediate.

Vent peck was least obvious in enriched cages followed by conventional cages. Both barn and free range systems showed a higher prevalence of this undesirable behavior. In contrast, conventional cages were associated with the highest percentage of keel fractures at depopulation but this may have been inherent to the methods of handling and removal from cages superimposed on skeletal integrity.

The conclusion that enriched cages contributed to the welfare benefits is subject

to interpretation, especially as cost benefit was not considered.

3. Effect of Housing Systems on Innate Immunity

Scientists in Italy contrasted physiological parameters in brown-feathered flocks housed in either conventional multi-tier cages, barns with and without external access, and fed either conventional or organic diets.

Organic diets were associated with low alpha-tocopherol plasma levels, lower heterophil to lymphocyte ratios and lower levels of immune response as measured by the hemolytic complement assay, lysozyme and aptoglobin values.

As with many studies conducted by scientists evaluating housing, welfare and nutrition there was no data on production efficiency notwithstanding the small size of the comparison groups, comprising 250 hens.

Accordingly it is not possible to correlate physiological findings with production efficiency and hence economic benefits.

4. Effect of Hot Blade and Infrared Beak Trimming on Beak Condition, Production and Mortality of Laying Hens

Dr. P.C Glatz of the Pig and Poultry Institute in South Australia has emerged as a world expert on beak treatment. Currently infrared (IR) treatment at the hatchery is becoming an accepted practice and is used as the only modification through the rearing period. In many cases producers re-trim beaks during the rearing period since re-growth following day-old treatment may be inadequate.

In the study conducted in Australia on 50 chicks, it was concluded that "beak condition" was significantly better for chicks treated by IR, compared to ten-day treatment involving removal of half of maxillary and 1/3 of mandibular beak, using a hot-blade machine. By mid-lay, there was no difference between the treatments with respect to appearance of the beak although the mandibular beak was consistently longer in birds subjected to day-old IR treatment.

Microscopic examination of beak tissue showed that neuromas occurred in mature birds subjected to either IR or hot blade trimming. It was concluded that additional



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| Update on welfare an EU perspective |

research is required to establish the operating parameters to ensure uniform beak treatment using IR technology. This conclusion is supported by field experience in the U.S. It is noted that Dr. Glatz has compiled a manual "Beak Trimming Handbook for Egg Producers" funded by the Australian Poultry Cooperative Research Center. The objective of the handbook which incorporates training and codes of practice is to establish standards for trimming and welfare.

5. Welfare and Acute Phase Proteins in Laying Hens

Establishing a correlation between the physiological parameters in housing systems may be helpful in understanding the response of hens to their environment. In a detailed study conducted in Italy, serum alpha-1-acid glycoprotein [AGP] and albumin were measured as these parameters are apparently correlated with response to stress.

These acute phase proteins were measured at 15 days, 2 months and 4 months after housing. Significant differences were noted among the systems used to house subject hens. At the initial period hens in both conventional cages and enriched cages showed high values for AGP compared to free-range hens. These values declined however over

the two subsequent sampling intervals indicating resolution of the initial stress response attributed to competition among cage-mates.

In contrast, hens housed on free-range showed a progressively increasing level of AGP consistent with prolonged stress presumably related to their environment. These findings are consistent with the fact that feather and vent peck in caged-housed pullets occurs soon after placement but that small groups of up to six hens develop a peck order which reduces competition and aggression.

The high rate of lay at peak production and subsequent persistence in well-managed flocks provided with adequate nutrition and protected against infection tends to negate the influence of stress associated with confined housing.

It is noted that most research on physiological response to housing is conducted on strains which have been bred for production in cages for over thirty generations.

6. Effect of Specific Noise in Laying Hens

Studies conducted in Spain demonstrated the deleterious effect of subjecting laying hens to sound levels exceeding 90dB for five hours during the daylight period compared to a standard environment with sound measured at 65dB. The experiment

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was conducted for an eight week period from 28 weeks of age onwards.

Fluctuating asymmetry comprising measurement of bi-lateral anatomical structures (wing, leg and wattle) showed differences between the groups with a greater degree of asymmetry in hens subjected to high dB values simulating truck, train and aircraft noise.

7. Effects of Human-Animal Contact with Layer Pullets Un-fearfulness

Docility in a flock is generally associated with frequent interaction with caretakers passing through houses during the rearing period. This aspect was studied at Wageningen, the Netherlands as a component of their Welfare Quality Project.

Treatments were applied over a five day period from 10 days of age onwards and then at 16 weeks of age. Floor-housed pullets were exposed to a caretaker walking through the house without talking, walking slowly while talking or walking slowly with intervals of squatting and broadcasting feed to pullets.

Fear tests were performed at 20 and 40 weeks of age. The trial was compromised by intrusion of workers during construction in some rearing flocks.

No differences were noted in either body weight although there was a minor influence on uniformity. There was no difference in performance during the laying period. The researchers questioned whether human contact of greater duration would be beneficial.

Field experience in the U.S. has shown that placid laying flocks result from a program of "socialization" by exposing young flocks to human contact during rearing.

8. Technical Results from Aviary Systems

Aviary Systems were evaluated by the Wageningen Group in a structured retrospective study involving five different flocks. Mortality ranged from 3% to 31% with higher levels attributed to cannibalism. Flock production ranged from 70% to 85% and there were large differences in the prevalence of floor eggs.

The conclusion from this study is that there are considerable inherent differences in performance from aviaries. Based on experience in the U.S., factors which influence livability and production include the similarity in design and lay-out of rearing and laying units, configuration of feeding and

perching installations in aviaries, nutrition, stocking density, ventilation, lighting system and management including confinement of flocks to modules in the critical two week period following transfer.


Evaluate all results

The results presented by a diverse group of scientists and allied researchers

must be carefully evaluated.


It is imprudent to base legislation and regulation on laboratory-scale trials or experiments with narrow objectives.




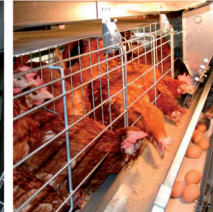
All trials and studies should take into account the commercial realities with production parameters incorporated into the evaluation of housing systems and practices. **EI**



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Egg production increased 1% in 2009

Prices expected to maintain triple digits throughout 2010, peaking at 141.9 cents in November.

The latest compilation of flock statistics by the USDA and processed by Don Bell in association with Maro Ibarburu was released on February 1. Over the next few months responsibility for maintaining the database and the calculation and distribution of reports will be transferred from the University of California, Riverside to the National Egg Industry Center at Iowa State University.

Here are highlights from the report:

1 Estimated egg price for 2010, Don Bell applying the California prediction model estimates a May UB Midwest Large-grade price of 97.8 cents per dozen as the lowest value during the coming year. All other months in 2010, including the actual value for January of 131 cents per dozen will be in the triple digits rising to 141.9 cents in November with a slight dip to 140.7 cents per dozen in December. Average egg price for the year will be 119.3 cents per dozen compared to 106.0 cents per dozen in 2009.

2 Flock numbers will remain fairly constant with a seasonal decline during mid-summer. Flock levels during 2009 averaged 280.4 million hens. The projected U.S. table egg flock, less than 72 weeks of age (presumably first cycle) will average 209.5 million hens compared to 211.5 million for the first five months of 2009. The average first cycle hen population represents approximately 70% of the national flock.

3 According to statistics released by USDA, in 2009 the industry produced 77.601 million eggs, approximately 1% more than in 2008.

4 In 2009, average U.S. flock rate of lay increased to 75.8% compared to 75.0% in 2008.

5 Pullet placement for the first five months of 2010 is estimated to attain a monthly average of 17.07 million based on the USDA prediction model. Placements should be fairly constant ranging from a low of 15.75 million in April to 18.05 million in February taking into account the size of parent flocks and applying appropriate hatchability and livability factors. The 2010 value is approximately 1.8% higher than the corresponding first five months of 2009.

6 During 2009 shell eggs broken under Federal Inspection attained 5.539 million cases per month or 66.472 million cases for the year. This value is approximately 2.6% lower than in 2008 and represents 30.8% of all table eggs produced compared to 31.9% in 2008.

HEN DISTRIBUTION IN TOP SIX STATES IN 2009

State	Hens (millions)	Proportion of U.S. Total (%)
IA	52.95	19.20
OH	26.51	9.60
IN	22.84	8.27
PA	21.56	7.80
CA	19.28	6.98
TX	13.30	4.81
Top-6 States	156.44	56.65
*Total U.S.	276.06	

*98.4% of recorded hens representing commercial flocks

In 2009 Iowa housed over 19% of all U.S. hens, 52.95 million of the total 276.06 million.

7 In 2009 USDA ERS estimates per capita consumption at 248 eggs compared to 248.9 in 2008. Fortunately population growth is supporting the growth in total egg production despite the decline in unit production. It is noted that in the annual series extending from 2003, the highest per capita consumption was recorded in 2006 at 257.8 eggs or a reduction of 3.5% from the peak.

8 The state average table egg price as estimated by USDA-NASS was 166.4 cents per dozen in 2009 compared to 198.7 cents per dozen in 2008. During the past year monthly retail egg prices ranged from a low of 150.1 cents per dozen in May to a high of 185.0 cents per dozen in June 2009. This value compares with the extraordinary post-Christmas peak of 217.5 cents per dozen in January 2008.

9 For the first 11 months of 2009 combined export of shell eggs and products amounted to 2.91% of production apportioned between 1.14% shell eggs and 1.77% products. The case equivalent values for the two items were 2.248 million cases and 3.481 million cases respectively. The major importers of shell eggs in 2009 were Canada—34% of 2.248 million cases, Hong Kong—34% and Mexico—4%. The major importers of egg products were Canada—22% of product shipped, Japan—19%, Germany—15%, Mexico—7% and Korea—3%.

10 The estimated cost of production based on prevailing corn and soybean meal prices was 58.7 cents per dozen ex-farm in 2009 compared to 65.9 cents per dozen in 2008.

11 The distribution of hens among the six leading production states in 2009 is shown in the accompanying table. **EI**

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Product, market expansion defines Kuhl Corporation

Fourth generation prepares to continue the company success during centennial year.

The Kuhl Corporation was founded in 1909 by Paul H. Kuhl. As this third generation business enters its centennial year *Egg Industry* considered this an opportune time to review the scope of the company and to share the experiences and vision of Henry Kuhl, son of the founder. The company is structured as a partnership with Henry and his brother Paul R. Kuhl as principal shareholders.



Henry Kuhl

The third generation comprises Rick as CFO, Kevin as CEO and Jeff as COO. The fourth generation of Kuhl family members have started part-time employment while still studying.

Egg Industry: Please review the history of your company and your own involvement.

Henry Kuhl: Kuhl Corporation is a family business in its third generation. My father Paul H. Kuhl established the company to supply the burgeoning poultry industry in the Northeast. Although we still retain many of these products in our Poultry Division including laying nests, egg trays, Peeco vacuum egg lift systems and small incubators our Machinery Division specializes in commercial washing, hatchery automation and related equipment for the baking and red meat industries.

I started with the company while still in school and continued working there through my university training, graduating with a degree in business administration. Soon after joining the company I recognized that the industry needed improved egg trays and egg washers.

EI: How did you address the demand for new products?

HK: My brother Paul R. Kuhl who is still active in the business, helped develop the first U.S. plastic egg trays. The range has been extended to egg transportation cases, pallets, divider boards, leg bands, waterers, chicken feeders and other specialty items. I was directly involved in developing

the non-immersion egg washer which could handle 6,000 eggs per hour. Existing egg washers were virtually motorized garbage cans which spread contamination from batch to batch. We increased capacity and are capable of providing installations of up to 500 cph.

EI: How has the industry received Kuhl Corporation's egg washing equipment?

HK: Over the past 50 years we have achieved increasing penetration of both the U.S. domestic market especially among breakers and packers where yield is an important consideration and also in the export market. Although the EU disfavors egg washing we have sold all the washers in use in Sweden and we have sold installations into Russia, the Middle East, Asia, Australia and Latin America in addition to our NAFTA neighbors, Mexico and Canada. The EU still maintains outdated regulations concerning egg washing. These are undergoing review based on the high prevalence rates of egg-borne salmonellosis in consumers attributed to shell contamination.

EI: How have you managed to market your egg washing equipment against competition from manufacturers of graders that supply integral units?

HK: Kuhl installations are robust and efficient achieving high throughput. Our brushes follow the form of eggs and cover a greater surface area of the shell compared to our competition. Spraying between the brushes provides lubrication to facilitate their cleaning action. We incorporate a patented method to remove soil from the ends of eggs. A significant advantage of Kuhl systems is that our brushes do not remove the cuticle of the shell. This has been demonstrated in trials conducted by universities in Sweden, Belgium and Scotland to make our equipment acceptable in the EU. With appropriate sanitizers we can remove over 99% of shell-borne bacterial contaminants including salmonella.

EI: How does Kuhl communicate with clients regarding both innovations and existing products?

HK: We consider the major exhibitions to be extremely important. We have been a strong supporter of the IPE and its predecessors for over 50 years and we regularly exhibit at the VIV shows. Although we have cut back on some of the regional exhibitions we still feel that it is important to show machines so that prospective clients can view our features and assess our quality. We always have a comprehensive range on display at the major shows including tray washers, pallet washers and hatchery automation equipment.

We are making available videos and DVDs of our equipment and upgrading our website. It is said that I will "go anywhere, any place to sell machines." I have been active

Read Q&A with Douglas Mack of
Diamond Moba Americas
www.WATTAgNet.com/13369.html

in the allied industry and attend the IEC and UEP meetings were I do my utmost to promote the industry and to interact with clients and friends.

EI: What future developments do you envisage for Kuhl Corporation?

HK: We will continue to expand in both the domestic and foreign markets. Currently about half our business is export and we have received a number of awards including the Presidential E. We are extremely interested in countries with developing poultry industries and we can supply equipment for a variety of needs as the size of operations increases. One of our strengths is that we are extremely flexible and our design and manufacturing capability allow us to customize equipment to suit special applications and plant layouts in packing and processing plants. We can adapt in-feeds to suit various breakers and plant layouts selected by our clients. We are continually evaluating the market to identify needs and develop solutions. We strongly believe in the principle that "If Kuhl makes it, it works."

EI: How do you view the current trend towards industry consolidation?

HK: Consolidation is inevitable in a free enterprise industrial economy. Companies will merge and acquire to achieve economies of scale and efficiencies in cost. We will continue to be able to supply a range of clients from small family-op-

erated farms to the largest complexes. We believe our combination of low maintenance, ease of cleaning and efficiency will continue to generate repeat business. Our research shows that 65% of our sales are based on reputation and the experience of our customers.

EI: Where do you see the United States egg industry in five years?

HK: We believe that for a developed nation, there should be as many hens as consumers. The U.S. has considerable advantages including the availability of grain, a good distribution infrastructure and relatively low costs. We foresee a gradual increase in demand based on the inherent nutritional advantages of eggs. The animal welfare movement is however slowing expansion and will inevitably drive up costs of production. It is hoped that the UEP and other groups will successfully lobby against restrictive legislation since consumers and poultry farmers will be harmed by unjustified restrictions on confined housing.

EI: Do you have any message for the egg industry?

HK: Everyone should promote eggs as the perfect meal. I eat two eggs every day and I'm in perfect health with a low cholesterol level. We have to intensify generic promotion to increase demand for eggs and derived products. The UEP, IEC, AEB and national Egg Boards are helping to achieve this goal. **EI**

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Readers are invited to share their comments, problems and solutions with the editor at sshane@wattnet.net

Promoting quality: an interactive exercise

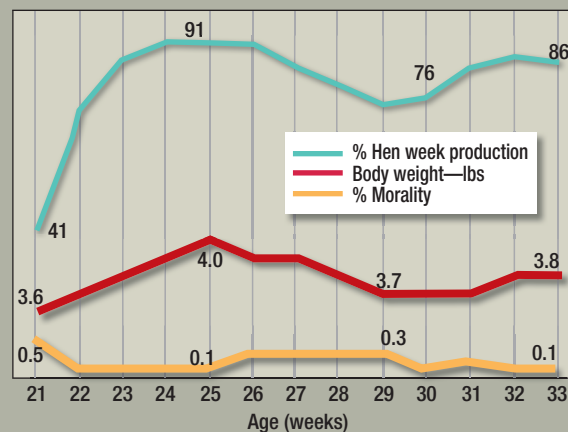
What to look for during house inspections.

Egg Industry will continue to document cases which are encountered in practice representing problem areas in commercial production and processing. Readers are encouraged to submit their comments and to share cases.

A review of production records from a flock of 14,000 floor-housed brown-feathered hens demonstrated acceptable egg production, livability and weight gain for the first five weeks of the production cycle. Thereafter there was a pause in production over a week followed by a reduction of 13% over the next three weeks. Over this period an elevation in mortality occurred and body weight gain initially plateaued and then declined. The production manager, noting the decline in performance visited the farm during the 30th week to investigate the problem.

The flock showed uneven distribution over the floor area with a higher proportion of hens on the left side of the house. Passing down the house it was noted that there was virtually

PRODUCTION RECORDS SHOWING PERFORMANCE DECLINE



A defective limit switch resulted in reduced weight, a concurrent drop in hen week production and an increase in mortality.

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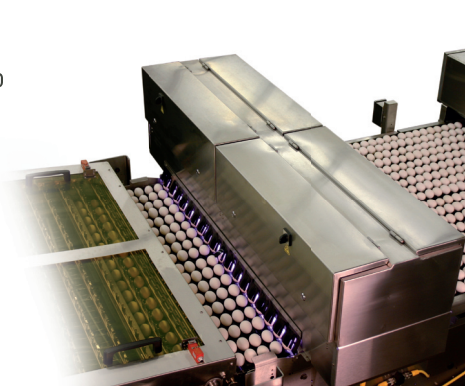
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no feed in the trough of the right hand circuit compared to a normal depth of feed in the left circuit.


Faulty mechanics reduce production

This discrepancy was caused by a defective hopper level limit switch, activating the cross auger from the feed bin. Effectively this restricted delivery of feed to the right hand circuit.

The result was increased competition for feed since hens were forced to eat from only one of the two circuits. The consequence was reduced weight, a concurrent drop in the hen week production and an increase in mortality.

Replacement of the defective limit switch resulted in even distribution of feed in the house and resolution of the problem. It is estimated that losses amounted to 4,400 dozen eggs valued at \$3,300 over the approximately six-week period when the feeding system was defective.

This case illustrates the need to systematically inspect houses at least twice daily observing for any abnormalities in function of ventilation, feeding, lighting or watering systems and noting the clinical appearance and behavior of flocks.

Weekly evaluation of accurate flock records is essential to detect any deviations from predetermined production standards. 

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www.usabluebook.com

BEC UK nesting box



BEC UK (also known as the Broiler Equipment Company) offers the Chick Box, a

plastic injection-molded poultry nesting box. The box is designed to be easy to clean and resist infestation from red mites and other pests. It can be retrofitted to an existing barn or double-stacked. The Chick Box has an optional egg tray for ease of collection.

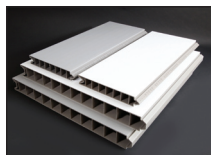
www.chickbox.co.uk

Lohmann Animal Health salmonella vaccine

Lohmann Animal Health's AviPro Megan Egg is a live attenuated salmonella vaccine developed to protect egg layers against *Salmonella enteritidis* infection. The vaccine reduces the colonization of the intestinal tract and ceca, with a claim to protect ovaries and oviducts. AviPro Megan Egg is administered through coarse spray vaccination at two, four and 16 weeks of age. It can be used in association with inactivated, autogenous salmonella vaccines.

www.lahinternational.com

Hanco Agricultural plastic paneling system



Hanco Agricultural's Multiboard system of plastic panels for livestock buildings is suitable for pen and wall partitions and ceilings. The Ultimate ceiling, Multiplans

and Combiboard panels slot together to give a smooth, easy-to-clean surface that is chemical resistant. The panels are available in various sizes and thicknesses. Combiboard and Multiplank panels have a recycled PVC core and a virgin PVC top layer.

www.hanco.co.uk

Chore-Time control pan light



Chore-Time offers a bright white control pan light to attract birds to control pans. It features

a 9-watt LED bulb that does not cause heat buildup. The pan light can be mounted on any 1.75-inch diameter feeder line tube with a 220-volt AC power supply. Powered by the control pan's power unit, the light remains lit whenever the timer activates the feeder.

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www.alpharmaah.com

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www.clevelandvibrator.com

Once Innovations LED poultry light

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color on poultry. This LED light is available in two versions that are dimmable from high-intensity white light to either low-intensity monochromatic blue (465 nm) or red (625 nm). The Agrishift light is rated for 50,000 hours and has a substitutive equivalence of a 100-watt incandescent bulb.

www.onceinnovations.com

Gasolec America Inc. infrared heater

Gasolec America Inc. is a producer of gas-fired infrared heating systems and its monochromatic light concept. Gasolec offers the DSI (direct spark ignition) system for its M8 & G12 Infrared Heaters. The DSI system gives greater convenience, reliable start-up and even greater fuel savings.

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Motomco offers AgriD3, a rodent bait registered by the Environmental Protection Agency for use in organic production. It contains the active ingredient cholecalciferol, also known as Vitamin D3. It kills anticoagulant-resistant rats and mice, while reducing the risk of secondary poisoning and posing low toxicity to birds. It is also labeled for use in and around agricultural buildings.

www.motomco.com

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www.sanovogroup.com

Petersime incubator

Petersime incubators include a tailored documentation box available in 11 languages, including Turkish. The resource guide, part of the "24/7 Access to Service Station" service pack,



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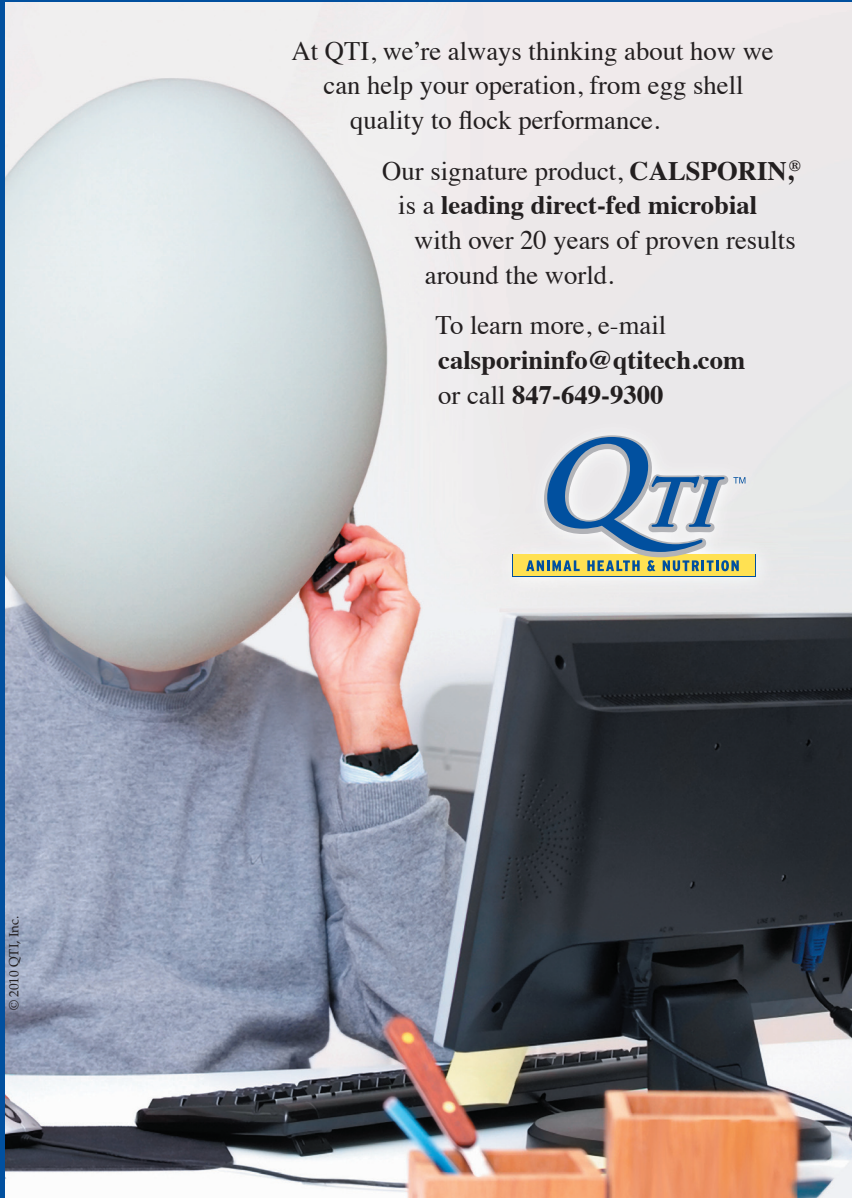
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INDUSTRY NEWS

Still time to register for free online forum

The agribusiness industry's second educational virtual forum, WATT Poultry Nutrition and Health Forum that will address poultry nutritional and health issues. The free forum is scheduled for Thursday, 25 March, from 03.00 hrs.- 18.00 hrs. CST (-6 GMT).

**WATT ONLINE
POULTRY
NUTRITION & HEALTH
FORUM**



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The educational event offers five Web seminars with live Q&A sessions, on-demand content, virtual sponsor booths and networking – all the components of a live tradeshow, and more – in a format that is held on the Internet.

During the virtual event, participants may attend five educational presentations, including “The New Nutritional Bottomline: Decision Making in Volatile Markets (Panel)” moderated by Dr. Edgar Oviedo, with Dr. Rob Gous, nutritionist-consultant, South Africa, and Dr. Frank Ivey, nutritionist-consultant, USA.

To register or for more information visit www.WATTevents.com.

Willardsen elected USPOULTRY chairman

Steve Willardsen, president of Cargill Value Added Meats, was elected chairman of the U.S. Poultry & Egg Association board of directors at its meeting during the 2010 International Poultry Expo. He was previously vice chairman and has served on the USPOULTRY board since 2001. A graduate of Utah State University with a degree in agribusiness, Willardsen has been in the poultry industry for more than 26 years. Monty Henderson, retired president of George's Inc., is immediate past chairman.

Gary Cooper, vice president and chief operating officer of Cooper Farms, was elected vice chairman. Cooper is a past president of the Ohio Poultry Association and is a member of the Midwest Poultry Consortium board.

The new treasurer is Mark Waller, sales and processing director for Ingram Farms. He is a past president of the Alabama Poultry & Egg Association.

James Adams, president and CEO of Wenger's Feed Mill, was named secretary. Adams joined Wenger Feeds in 1980.

Other members elected to the 2010 USPOULTRY board of directors are Bill Bradley, CCF Brands; Lampkin Butts, Sanderson Farms Inc.; Lyman Campbell, Koch Foods of Alabama LLC; Tim Davis, Pfizer Poultry Health; Einar Einarsson, Marel USA; Larry Gandy, Marshall Durbin Companies; Lester Gray, Perdue Farms Inc.; Greg Hinton, Rose Acre Farms; Jay Houchin, Farbest Farms Inc.; Donnie King, Tyson Foods Inc.; Richard King, Foster Farms; Kenton Kreager, Hy-Line International; Don Mabe, Aviagen Inc.; Don McIntyre, Hybrid Turkeys; Elton Maddox, Wayne Farms LLC; Pete Martin, Mar-Jac Poultry; Sherman Miller, Cal-Maine Foods Inc.; Ron

Prestage, Prestage Farms of South Carolina; Keith Shoemaker, Butterball LLC; Walt Shafer, Pilgrim's Pride Corporation; and Todd Simmons, Simmons Foods.

Bountiful 2009 harvest

In January the USDA documented the size of the most recent harvest. Record corn production of 13.2 billion bushels was 1% above the previous record set in 2007 and was 9% ahead of the 2008 harvest. The quantity produced is attributed in part to a record yield of 165.2 bushels/acre and a planted area of 86.5 million acres. The release of the mid-January figures resulted in an immediate softening of corn futures which will come as a relief to livestock producers.

The 2009 soybean harvest attained 3.36 billion bushels or 5% above the previous record in 2006 and 13% above the previous year. Average yield was 44 bushels per acre over 76.4 million acres harvested.

It is evident that the Renewable Fuels Standards (RFS) passed in 2007 has resulted in increased corn production. The downside has been conversion of grassland to cropland especially through the prairie pothole region. This has adversely affected wildlife species according to a University of Michigan study. Iowa, Minnesota and both Dakotas have been impacted.

The dramatic decline in grassland birds between 2005 and 2008 is yet another example of the Law of Unintended Consequences arising from passage of the 2005 Energy Act and the RFS of 2007 which should increase ethanol production from 10.6 billion gallons in 2009 to a projected 15 billion in 2015.

Researchers are calling for government mandates and financial support for cellulosic ethanol to replace corn ethanol. This approach is considered impractical as no meaningful production from non-food crops is anticipated for at least a decade. Scientists are also calling for a strengthening of the Conservation Reserve Program. This also seems unlikely with a bipartisan coalition of Midwest politicians in both the Senate and the House supporting an apparently unstoppable expansion of ethanol production presumably justified on the basis of “national security.”

The University of Michigan study can be accessed at www.nwf.org/farmland



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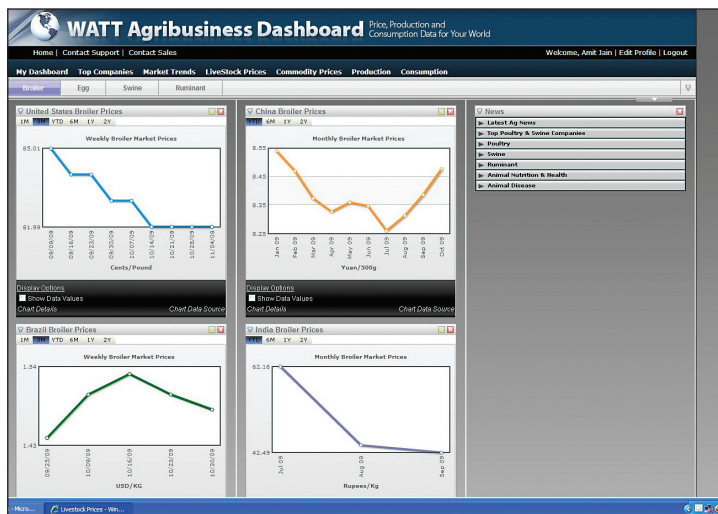
Industry news |

WATT launches agribusiness data resource

The recently launched WATT Agribusiness Dashboard provides market data and news on the worldwide poultry, egg, feed, swine and related animal agribusiness industries.

In addition to providing instant access to industry news gathered from over 400 sources on the Internet, this powerful business tool displays price, production and consumption data in easy-to-view charts. Charts can easily be exported to .csv, .txt or .jpg formats.

Fully customizable, this subscription-based Web site can be purchased month-to-month, semi-annually and annually. For more information and a free trial, go to www.wattdashboard.com



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Former Diamond Regional Sales Manager
New replacement parts are also available.
Contact Matt Poole: 804-387-6602
mpoole3447@yahoo.com

Check out our new website at:
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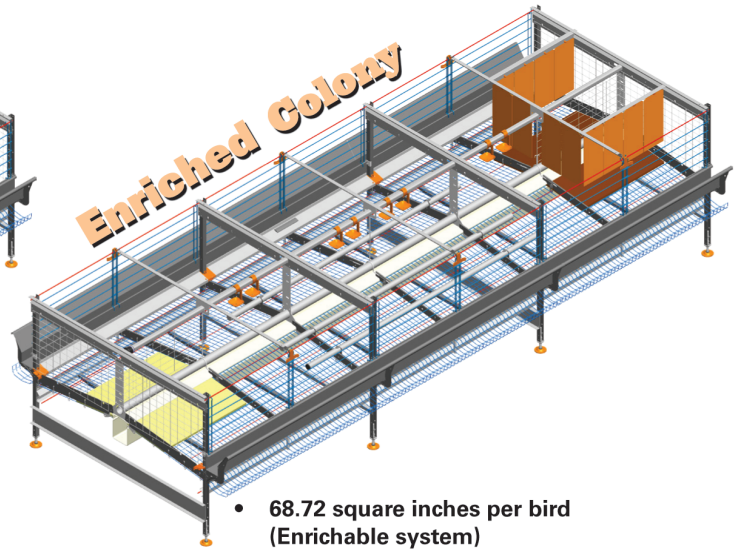
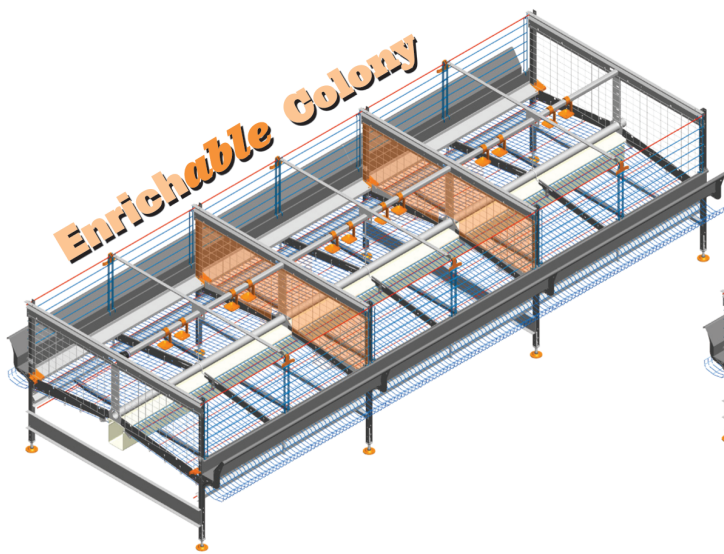
FOR SALE
Diamond 8400
Electronic Egg Grader

- recently professionally reconditioned
- electronic scales
- 12 wide
- 6 packers
- crack detector
- stainless washer
- 8400 loader
- triple basket carriage (can be expanded to 16 packers)
- dirt detector optional
- all the software and hardware have all been updated.
- can be used in-line, off-line or both
- capacity of 200-300 x 15dz/hr but can be expanded to 800 x 15dz per hr
- easily fits on 2 tractor trailers
- free delivery anywhere inside Canada

For more information, please contact
Tony at eggdude@explornet.com or (613) 240-7612



Adaptable Versatile Enriched Colony Housing



AVECH (AVEK) is a system which gives you the ability to start off with an **ENRICHABLE** system, and then move into a completely **ENRICHED** system when you're ready. The **AVECH** is designed to **meet and adapt to the complexities of the different markets you serve, and the continued regulatory changes your business faces.**

With **over 24,000,000 birds (and growing)** living in these systems throughout the world, you can be confident in the proven performance, and reliability of the **AVECH** system.

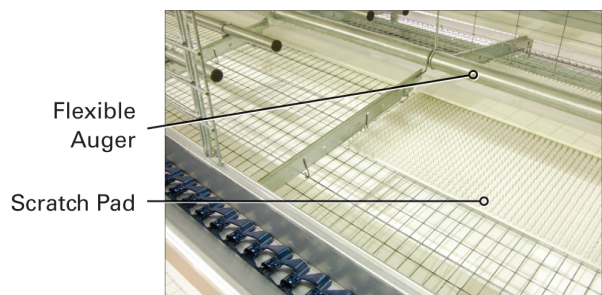


Contact a Big Dutchman representative to learn more, or go to www.enrichable.com

AVECH™

**Adaptable
Versatile
Enriched
Colony
Housing**

- 68.72 square inches per bird (Enrichable system)
- 60 - 72 birds per compartment (Enriched system)
- Height for chickens to stand upright increased to 17.72" center - 21.1" outside



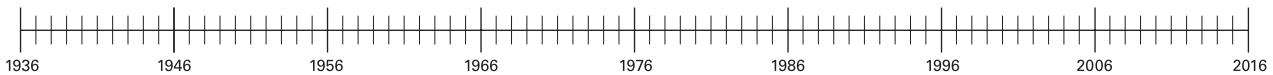
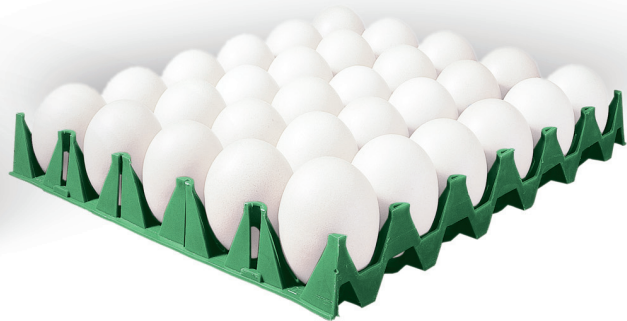
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That's why we started selecting for it generations ago.

Feed conversion is not a new concept at Hy-Line. Our never-ending research goal has been selecting layers that produce more eggs with higher egg mass on less feed. And since we started that research project in 1936, generations of efficient, high performance layers have been successfully adding to the profitability of egg producers around the world. And will be for generations to come.

More eggs—less feed; that's the Hy-Line advantage.



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