UNITED EGG PRODUCERS

A National Egg Producer Organization

"Leadership By Producers - For Producers"

Animal Husbandry Guidelines for U.S. Egg Laying Flocks 2017 Edition

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The U.S. Egg Industry

As late as the 1940s, small backyard flocks of chickens made up the majority of the egg producing industry. After these chickens had laid a relatively small number of eggs, they were consumed for meat. Then hens entered into a natural molt during the winter months and stopped producing eggs. Consumers wanting to purchase eggs during the winter months had to receive them from cold storage, which quite often meant nothing more than simply the producer's basement. The eggs could be several weeks old by the time the consumer actually received them.

Backyard chickens, continuously subjected to diseases, freezing, predators, poisoning, and infighting, had a precarious existence and a normal mortality rate as high as 40% per year. Average yearly egg production was little more than 100 eggs per year of which many were contaminated by the microbes from poultry diseases.

With the migration of families from the farm to urban areas, egg farming needed to change like all of animal agriculture. Modern egg farming was born in response to this demand.

To meet a changing market, farmers needed to upgrade their production facilities while keeping in mind the health and welfare of their birds. They also recognized the need to deliver eggs to the market in the most economical and quickest manner possible. The modern cage system was found to be a system that could meet both requirements in a commercial market.

The modern cage system has eliminated most diseases of the 1940s, provided the hens with protection against the weather (environmental controlled housing) and predators, while also improving food safety, the environment (air and water), and animal welfare. The first widespread acceptance of the cage system began in the mid-to-late 1940s. Trade journals and books in the 1950s reported that the cage became popular to improve sanitation practices. Housing hens in cages removed the bird from exposure to its own feces, and eliminated many feces-related parasite and health problems. The journals continued to say that as a result of caging, flock nutrition could be better managed, wastes could be handled more effectively, and eggs could be kept cleaner and safer for the consumer.

With fewer farmers to produce eggs and a growing demand, egg farmers needed to find ways in which to manage more birds in the most efficient manner, while using fewer land resources. To a large degree, modern poultry housing and husbandry practices were researched by land grant colleges and universities and have been adopted by the farmers. This research is forever ongoing and egg farmers continue to make changes as credible scientific research provides more answers.

Today, we would estimate that 94% of the commercial egg production in the U.S. and an estimated 90% of the world's egg production are derived from caged layers.

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Alternative systems of egg production continue to develop. In the U.S. approximately 6% of eggs come from cage-free systems. Cage-free systems vary and include barn raised and free range raised hens. Cage-free eggs are niche marketed and provide consumers an alternative choice.

Many egg farmers produce both cage and cage-free eggs. In Europe a new egg production system is emerging. This is an "enriched colony housing system" that combines many of the advantages of both the cage and cage-free systems. Currently UEP is reviewing these colony systems and developing welfare recommendations for possible use in the U.S. Fully enriched systems provide hens with many enhancements to express behaviors normally exhibited in the wild like perching, scratching and foraging areas, as well as secluded nesting areas so she can lay her eggs in private.

Agriculture is not alone in trying to find ways to meet market demand. In fact, the major cause of egg farming being consolidated into fewer but larger farms was the consolidation of retail grocery and restaurant chains. The few remaining small family farms could no longer produce and provide the quantity and quality of product that the retail market now demanded with the required rapid delivery at the lowest price possible. In order to meet this new market, egg farmers needed to grow to the size and scale required by their customers. Today, there are approximately 179 egg farmers with flocks of 75,000 hens or more. These farmers care for about 95% of the approximate 290 million laying hens in the United States.

Modern egg farms operating in a free market system with no government assistance programs require large capital investments. While these farms have grown to meet the market demand, they are still classified as "Family Farms" with the owner still being on the farm making day-to-day decisions.

UEP's Mission

United Egg Producers developed the first industry guidelines in the early 1980s. Recognizing the growing concern for animal welfare worldwide, UEP commissioned an independent Scientific Advisory Committee for Animal Welfare in 1999. This committee was asked to review the scientific literature on specific topics relevant to the well being of laying hens and to identify areas where further research was needed. Additionally, the committee was asked to develop recommendations based upon existing science for presentation to the UEP Producer Committee for Animal Welfare, Board of Directors, and ultimately to the industry. The Scientific Advisory Committee took no responsibility for mandating these recommendations, recognizing that the producers must voluntarily accept and implement them. This historic step led to the development of a responsible working model for the development and implementation of science-based guidelines to improve the welfare of laying hens managed in caged and cage-free production systems.

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UEP's mission was to establish animal husbandry guidelines, based upon science that can be implemented voluntarily by all egg producers regardless of the system of egg production. The recommendations and guidelines found within this document have been accepted and presented by the UEP Producer Committee using the recommendations from the Scientific Committee as a blueprint.

This document will provide recommendations for best management practices for cage and cage-free egg production. This is a living document subject to changes as new scientific information becomes available.

Animal Welfare

Egg farmers sincerely care about the welfare of their chickens and completely understand that poor husbandry practices will result in higher mortality and fewer eggs.

However, with fewer people having an understanding or relationship with farming and a growing public discussion about the well being of laying hens, the industry's trade association, United Egg Producers (UEP) began to question whether there was a need for an independent review of our industry production practices.

To achieve an independent assessment of U.S. egg farming, UEP established a mission, which included: (1) A scientific approach to animal welfare guidelines; (2) guidelines that are driven by the industry rather than government mandates or legislation; (3) guidelines that created a level playing field for both egg farmers and our customers.

The process for this review began with a meeting with Dr. Jeffrey Armstrong (Dean of Agriculture and Natural Resources at Michigan State University), asking if he would be interested in forming his own scientific committee of which he could select all the members without pay. In 1999 Dr. Armstrong assembled his committee comprised of government officials, academicians, scientists, and humane association executives. While in following years there have been a few changes in the makeup of the committee, they have remained engaged and continue providing UEP with recommendations.

The committee reviewed all available peer-reviewed scientific literature, visited egg farms, breeder companies, and equipment manufacturers. They considered all egg production systems (cage and non-cage) but since approximately 95% of U.S. egg-production in the U.S. was in conventional cage systems, the logical starting point was the development of recommendations to ensure welfare guidelines for cage production.

In the fall of 2000, Dr. Armstrong's committee presented their recommendations for major and costly animal husbandry changes. UEP's Board of Directors approved the recommendations and

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embarked upon a plan to put those guidelines into an industry program that could voluntarily be implemented by egg farmers.

Recognizing the need to have support from our customers, UEP presented the science-based guidelines to the Food Marketing Institute (association of retail grocers) and the National Council of Chain Restaurants (association of fast food restaurants) and received their endorsement.

UEP launched the UEP Certified program in April 2002.

Today, more than 76% of all eggs produced in the United States are produced under the UEP Certified guidelines. Any egg farmer desiring to be recognized and market eggs as UEP Certified must implement the scientific guidelines on 100% of their flocks. An auditing program was established to assure each farmer's compliance with the guidelines.

USDA's Agricultural Marketing Service (AMS-Poultry Programs) and Validus Services conduct the audits based upon procedures written by them.

The UEP Certified program is now recognized as a leader among all of animal agriculture world-wide in the establishment of science-based guidelines. The International Egg Commission (an organization of most every major egg producing country in the world) has endorsed the UEP guidelines as the model for creation of guidelines for egg-laying hens.

Independent Scientific Advisory Committee

The independent committee was comprised of government officials, academicians, scientists, and humane association members with all having been selected by the Chairman of the Committee. The Scientific Advisory Committee meets on a regular basis to review the science and make recommendations to the UEP Producer Committee.

When this effort started approximately 95% of U.S. egg production was from hens kept in cages, the logical starting point for the Scientific Advisory Committee was the development of recommendations to ensure caged production was humane. The recommendations and guidelines within UEP's first Animal Husbandry Guidelines published in October 2000, were based upon those recommendations made by the Scientific Advisory Committee. A goal was also set to eventually publish guidelines to cover cage-free egg production.

In 2006, the Scientific Committee was requested by UEP to undertake the assembly of recommendations for the production and management of hens housed under cage-free conditions. The recommendations would be combined with those for cage egg production to comprise a comprehensive guideline for egg producers. The guidelines presented in this publication represent

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the recommendations of the Scientific Advisory Committee for best husbandry practices to assure the welfare of hens managed under cage and cage-free conditions.

Current 2016 Scientific Advisory Committee Members:

- Dr. Patricia Y. "Scotti" Hester, PhD (Chairwoman) – Purdue University
- Dr. Cia Johnson, DVM – American Veterinary Medical Association
- Dr. Jose A. Linares , DVM
- Dr. Joy Mench, PhD – University of California/Davis
- Dr. Suzanne T Millman (Hartline), PhD – Iowa State University
- Dr. Ruth Newberry, PhD – Norwegian University of Life Sciences
- Dr. Janice Swanson, PhD – Michigan State University
- Dr. Paul Thompson, PhD – Michigan State University
- Dr. Tina Widowski, PhD – University of Guelph
- Dr. Don Conner, PhD – Auburn University (liaison)
- Dr. Hongwei Xin, PhD – Iowa State University (liaison)

A Visual Presentation of Guidelines

UEP considers employee training as a vital part of assuring the welfare of laying hens and this training is an important component of the audit process. Therefore, a visual presentation, both in English and Spanish, of these guidelines is provided to all UEP Certified companies for the training of employees to assure personnel involved in bird care are properly trained and qualified to perform their jobs. Training video updates will be made periodically as the needs dictate.

United Egg Producers Certified Compliance

Certification

A company desiring to be recognized as "United Egg Producers Certified" must file an "Application for Certification", successfully pass an audit and pay the annual administrative and public relation fees. Upon completion of a successful audit, the company will be fully certified and UEP will issue an annual Certificate. To maintain this certification, the company must continue to meet all guidelines and pass future annual audits.

Audit

To assure compliance with the Animal Husbandry Guidelines, each UEP Certified company will be audited each calendar year by independent auditors (USDA/AMS or Validus), designated and approved by UEP. Audit guidelines, audit score sheet, and a point scoring system have been developed by the auditors and will be used for all compliance audits, thereby assuring consistency for all participants. The auditing firms will provide the company with seven (7) days advanced

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notice of when the audit will be conducted. Results of the audit will be provided directly to UEP and the UEP Certified company. Copies of the audits may not be shared by UEP with anyone else without written approval by the UEP Certified company.

Currently, audits require 180 points of a 200 total for a passing score. Failure to meet the space allowance guidelines, evidence of backfilling cages, comingling Certified and non-certified eggs or the use of a feed withdrawal molt will be cause for failure of the audit regardless of the total points achieved.

A company failing the audit will have 30 days for corrective actions followed by a re-audit. The company will be required to call the auditor to schedule the re-audit at their expense. Re-audits will focus only on the areas where points were lost in the initial or prior audits. Failure to pass the re-audit will result in the formation of a committee composed of a UEP staff member and two other appropriate non producers which will determine the UEP status of the company.

United Egg Producers Certified Logo

To identify eggs in the marketplace as having been produced by UEP Certified companies, a logo has been developed and made available for use on egg packaging.

A Certified company may use the United Egg Producers Certified logo only on those eggs or egg products produced by UEP Certified companies. The company may authorize the use of the logo by their retail customer only for those eggs produced from UEP Certified companies.

All egg packaging displaying the United Egg Producers Certified logo must display the www.uepcertified.com website and the tag line "Produced in Compliance with the United Egg Producers' Animal Husbandry Guidelines" on the package. All must be printed in close proximity¬ to the logo. For example, directly below, above, or to either side of the logo.

Marketing of United Egg Producers Certified Eggs

Only UEP Certified companies (or non-certified marketers that have signed a license agreement) and are meeting the requirements of those agreements are authorized to sell "United Egg Producers Certified" eggs or egg products.

No one owning egg production flocks may market eggs as "UEP Certified" unless they are a UEP Certified company. This policy also applies to egg producers that may purchase eggs from UEP Certified companies.

A "License Agreement" is available for companies that do not own layers in company owned, contract farms, or affiliate facilities as well as for companies having made a commitment to meet the 100% rule while implementing the cage space requirements of UEP's hatch schedule. An annual audit will be conducted of companies using the "License Agreement".

Returning to the UEP certified Program

Any company that was once a "UEP Certified" company and has dropped off the program may return by meeting UEP's hatch schedule for repopulating houses or may depopulate houses to meet the required cage space allowance, meet all other guidelines, have an audit and pay required program fees.

Additional Requirements for United Egg Producers Certified Companies

UEP's Board of Directors has established additional requirements for companies that have filed applications to be recognized as an UEP Certified company.

1. A UEP Certified company must implement the animal husbandry guidelines on 100% of the company owned, contract, or affiliate facilities (site or location) regardless of where or how eggs may be marketed. The term "affiliate" for this purpose will mean that the affiliate must be subject to the control of the party with which it is affiliated, typically as a result of interlocking or related ownership or corporate control. For example, two corporations that are owned by the same group of shareholders – even if the corporations are not in a parent-subsidiary relationship would be affiliates. Business entities that share only a contractual relationship (vendor and customer), for example would not be within the meaning of the term affiliate as it is commonly understood. Supplier-customer relationships would not be affiliates for the purpose of the 100% rule.
2. Effective June 1, 2006 any new company wanting to become a UEP Certified company will have two options for entering the program.
    a. The company may depopulate all existing houses to the required cage space allowance, meet all other program requirements, pass an audit and then be immediately recognized as a UEP Certified company.
        i. (Or)
    b. The company may repopulate houses based upon the UEP hatch schedule and meet all other program requirements. Eggs may not be marketed as "UEP Certified" until the company has met the 100% rule for all company owned, contract, and affiliate facilities. During this transition a Non-Certified License Agreement will be authorized for the marketing of "UEP Certified" eggs purchased from other UEP Certified companies.
3. A Certified company must file Quarterly Compliance Reports with UEP.
4. A certified company or any marketer may not commingle and sell as certified any eggs or egg products purchased from a non-certified producer.
5. A certified company or any certified marketer may not pack eggs from cage production into packages marketed as cage-free or organic.

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6. Every UEP Certified company as well as those making an application for the repopulation hatch schedule must pay the annual administrative and public relation fees as established by the UEP Board of Directors.

Timeline for Implementation

The guidelines for beak trimming, molting, handling and transpiration were implemented July 1, 2002.

Beak Trimming and Treatment

Bird behavior, production, physiological measurements of stress, as well as neural transmission and anatomy of the beak have been used as criteria to determine if beak trimming/treatment compromises animal well-being. In addition, the welfare of those birds that are pecked by beak-intact birds has been evaluated. Advantages of beak trimming/treatment may include reduced pecking, reduced feather pulling, reduced cannibalism, better feather condition, less fearfulness, less nervousness, less chronic stress, and decreased mortality. Welfare disadvantages may include reduced ability to feed following beak trimming/treatment, short-term pain, perhaps chronic pain, and acute stress.

Guidelines for beak Trimming and Treatment

1. *Birds whose beaks were recently trimmed may have difficulty activating watering devices; therefore, caretakers should take actions that will facilitate the bird's ability to drink. Examples include lowering water pressure or manually triggering cup waters for several days following trimming.*
2. *To minimize weight loss, birds should be fed a prestarter, starter, or high-density stress diet for about 1 week following beak trimming.*
3. *If a trimmed beak grows back, a second trim may be needed when pullets are 5 to 8 weeks old. A second trimming is more permanent in that the beak does not grow back as easily. A preventive second trim is not recommended after birds are 8 weeks old. However, therapeutic beak trimming may be performed at any age if an outbreak of cannibalism occurs.*
4. *When avoidable, birds should not be subjected to stressful conditions (e.g., handling, moving, vaccination) for two weeks following beak trimming.*
5. *After beak trimming, the levels of feed and water should be increased until beaks are healed.*
6. *Birds whose beaks were recently trimmed may have difficulty activating watering devices; therefore, caretakers should take actions that will facilitate the bird's ability to drink. Examples include lowering water pressure or manually triggering cup waters for several days following trimming.*
7. *To minimize weight loss, birds should be fed a prestarter, starter, or high-density stress diet for about 1 week following beak trimming.*

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8. *If a trimmed beak grows back, a second trim may be needed when pullets are 5 to 8 weeks old. A second trimming is more permanent in that the beak does not grow back as easily. A preventive second trim is not recommended after birds are 8 weeks old. However, therapeutic beak trimming may be performed at any age if an outbreak of cannibalism occurs.*
9. *When avoidable, birds should not be subjected to stressful conditions (e.g., handling, moving, vaccination) for two weeks following beak trimming*

Molting

Molting is a normal process of chickens and other feathered species. In the wild state, birds usually shed and renew old, worn plumage in preparation for cold weather and their migratory flights. Chickens kept for commercial egg production have a different molting pattern. They have been bred for high performance, and their environment, with respect to temperature and light, is usually modified to remove major seasonal influences.

Scientific evidence suggests that primary breeders of egg laying birds can select a more docile bird and minimize the need to beak trim from a behavioral point of view. However, under certain management systems (e.g., exposure to high intensity natural lighting) and with some genetic stocks, beak trimming/treatment may be required. Whenever possible, genetic stock should be used that require little or no beak trimming/treatment. UEP recommends beak trimming/treatment only when necessary to prevent feather pecking and cannibalism and only when carried out by properly trained personnel monitored regularly for quality control.

There are two acceptable practices for treating beaks. Those being day old infrared beak treatment at the hatchery and beak trimming at 10 days old or younger. When beak treatment is used, the equipment manufacturer recommendations should be followed and the UEP Certified company should receive a Certificate of Conformance (COC) from the hatchery. Also, when contract services are used for on farm beak trimming, a Certificate of Conformance is required from the contractor.

In commercial egg production, an induced molt provides a way to extend the life of the hen and rejuvenate the reproductive cycle of the hen. The practice of inducing a molt allows the farmer to bring all hens into a molt at the same time rather than waiting for a natural molt to occur thereby, sustaining more efficient rates of egg production and improved egg quality. With respect to the egg production industry, molting results in the need to add approximately 40 to 50% fewer hens each year than would be needed without induced molts. This in turn results in significantly fewer spent hens that have to be handled, transported, and slaughtered. Without molting, a flock's life is usually terminated at about 75 to 85 weeks of age. Under the right economic conditions, the useful life of a flock may be extended to 110 weeks or longer.

Recognizing the need to introduce new molting procedures, UEP requested proposals from the scientific community to develop practical alternatives to molt programs that required feed removal

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with emphasis on performance and behavior. Five universities were granted research funds to pursue these objectives including the University of Illinois, University of Nebraska, North Carolina State University, University of California, and University of Arkansas.

After having reviewed the findings of the university research projects for non-feed withdrawal molt programs as well as field trials by egg producers, the Scientific Advisory Committee modified their recommended guidelines in February 2005. Based upon these recommendations, UEP amended the "Animal Husbandry Guidelines for U.S. Egg Laying Flocks" and has adopted the following guidelines for inducing a flock molt.

Guidelines for Molt Program

1. *Only non-feed withdrawal molt methods will be permitted after January 1, 2006.*
2. *Hens should be provided with a feed source that is suitable for non-producing hens.*
3. *Water must be available at all times.*
4. *The light period should be reduced to no fewer than 8 hours in closed houses, or to natural day length in open houses, for the duration of the rest period. When the flock is placed back on a layer diet, lights should be returned to the normal layer program.*
5. *During the molt period, body weight loss should be sufficient so as not to compromise hen welfare in the subsequent laying period.*
6. *Total mortality during the molt period should not substantially exceed normal variations in flock mortality.*

Handling, Catching and Transport

Leghorn-type hens tend to have relatively weak bones by the end of lay. Bones become weak when structural bone is broken down to obtain calcium for eggshell formation. It is important that all hens are able to consume sufficient calcium and phosphorus to support eggshell formation without loss of structural bone. As a result of this, there is a high risk of bone fractures occurring when they are handled prior to slaughter. Catching appears to be the primary source of injury prior to arrival at the slaughter plant.

Houses should be designed to enable transport vehicles and/or transport containers to be moved close to the locations where birds will be caught or released so that the distance that birds are hand-carried is minimized.

Whenever possible, the same containers used to transport live birds on vehicles, such as pullet carts, mobile racks with drawers, or coops, should be use to move live birds from the house to the transport vehicle, or from the transport vehicle to the house, rather than carrying birds in and out of

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the house by hand. Doorways, loading ramps, and alleys should be designed to accommodate the safe use of pullet carts or other containers.

Birds must not be abused by being thrown, kicked, crushed, or otherwise mishandled. Escape and dropping of birds must be minimized.

Guidelines for Catching and Transport

1. *Catching of pullets and hens must be done in a manner that avoids crowding or piling in corners, which could result in suffocation of birds. Sudden loud noises and other disturbances alarming to birds should be minimized.*
2. *To minimize the risk of bone breaks and other injuries, all people involved in catching and transport must be trained, knowledgeable and skillful in handling hens. Crews must be supervised by experienced personnel.*
3. *When catching birds, use the lowest light level possible that will not impinge on worker safety, or use blue lights, which will calm the birds while providing better visibility for catchers. If possible, in cage-free houses, catch the birds at night.*
4. *Hanging racks should not be used to move birds.*
5. *Birds moving into or out of cage production systems should be handled so as to minimize bone breakage or injury. Therefore, pullet and hen handling methods must include: (a) removing birds from the cage one or two at a time by grasping both legs at the hock; (b) supporting the bird's breast as she is lifted over the feed trough; (c) handle birds in an upright posture.*
6. *Birds in cage-free systems should be caught individually and held in a comfortable upright position with both hands as they are transferred directly into or out of a transport container. If this is not possible, birds should be carried by both legs with no more than three (3) birds in each hand. Hens should not be carried solely by a single leg or wing, or by the head, neck or tail. Whenever possible, passing birds from one person to another or transferring birds from one container to another should be avoided.*
7. *The size of openings such as container doors, cage doors, and panels on trucks should be large enough to permit easy passage of hens to avoid bone breakage and other injuries.*
8. *Containers must not be dropped or tipped such that birds pile up against the side. Stocking density should be such that all birds can sit comfortably at the same time.*
9. *Birds must be loaded only into clean, well-maintained transport containers and vehicles. The doors of the containers must be closed securely so that birds do not escape during loading or transit. Visibly unfit birds must not be loaded for transport. They should be euthanized.*
10. *The drivers of transport vehicles must be aware of climate conditions and make necessary adjustments (e.g., to bird density, tarps, fans during standby) to keep birds thermally comfortable.*
11. *Catching and transport must be planned so that feed is withdrawn no more than 24 hours prior to slaughter or depopulation.*
12. *Water must not be withdrawn prior to catching.*

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Euthanasia and on-Farm Depopulation of Entire Flocks

When euthanasia of a chick or grown bird is necessary, the industry's best management practices support only those approved methods that are instantaneous and painless.

It is the producer's responsibility to ensure that euthanasia of sick or injured birds during the production cycle, and on-farm depopulation of spent hens, are conducted in a humane manner and that workers treat birds with respect. A person with authority should be assigned by the producer to be in charge of continuous monitoring during on-farm depopulation to ensure that bird welfare is protected by adherence to these guidelines.

All producers should have a written Standard Operating Procedure (SOP) for emergency depopulation for use in the event of a disease outbreak or other disaster requiring emergency culling of the entire flock. The SOP should be developed in consultation with a veterinarian and updated as new and better methods are approved. The SOP should adhere to the humane principles established by the World Organization for Animal Health (OIE).

All workers should be trained on euthanasia and this training should include information about the ability of hens to experience pain and fear, the risk of bone fractures when handling spent hens, proper use of equipment, methods of identifying unconsciousness and death, worker safety, biosecurity procedures, and proper carcass disposal.

Water-based foam may only be used for depopulation in accord with performance standards issued by the U.S. Department of Agriculture's Animal and Plant Health and Inspection Service (available at: www.avma.org/KB/Policies/Pages/Poultry-Depopulation.aspx). Use of water-based foam may be acceptable for poultry infected with a potentially zoonotic disease; or that are experiencing an outbreak of a rapidly spreading infectious disease that, in the opinion of state or federal regulatory officials, cannot be contained by conventional or currently accepted means of depopulation; or that are housed in structurally unsound buildings that would be hazardous for human entry, such as those that may result from a natural disaster.

Guidelines for Euthanasia and On-Farm Depopulation of Entire Flocks

1. *All workers involved in euthanasia and on-farm depopulation must receive training and be regularly evaluated for their ability to carry out the method(s) in use on the farm in a skillful, safe, and compassionate manner in accord with these guidelines.*
2. *Methods must cause rapid death or rapid loss of consciousness lasting until death or, if loss of consciousness occurs more slowly, it must be induced in a manner that does not cause pain or panic. Methods currently considered acceptable for euthanasia and on-farm depopulation when properly applied include carbon dioxide (or other suitable gases), which can be delivered using a modified atmosphere killing (MAK) cart or similar device, cervical dislocation, non-penetrating captive bolt, and electrocution.*
3. *Birds must be confirmed to be dead prior to disposal. Any birds found to be still alive must be rapidly euthanized in an acceptable manner.*

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4. *When using a modified atmosphere killing (MAK) cart or similar system (e.g. barrels on dollies) or other receptacles into which gas is introduced to kill birds using CO2 gas in air, the following additional points should be observed:*
    - *The container should be moved into close proximity to the birds, and birds should be placed directly into the container with a minimum of handling as described in the catching and handling section above.*
    - *The system must be designed to ensure that all birds are exposed to sufficient vaporized CO2 to rapidly induce and maintain unconsciousness until death.*
    - *To render birds rapidly unconscious, the container should be pre-charged with vaporized CO2 prior to introducing birds. Because CO2 escapes when birds are introduced to the container, and CO2 tends to stratify over time, containers should be designed and equipped to enable addition of CO2 during and after loading as needed to ensure that the birds do not revive. (A two-phase system may be used whereby a lower CO2 concentration is used to induce loss of consciousness, followed by a higher CO2 concentration to kill the birds.)*
    - *CO2 should be added to the container slowly so that it does not freeze. The gas distribution system should be designed such that CO2 is evenly distributed throughout the container.*
    - *The process should include observations that permit determination of the effectiveness of the system. For example, the container could include a window or transparent door or be constructed of material that enables visual monitoring of bird movement inside without opening it.*
    - *Birds inside the container must be unconscious before introducing any additional birds on top of them.*
    - *Containers should not be tipped or dropped while they contain conscious birds. The slope of the container floor must not be so great that conscious birds pile up against the wall.*
    - *After the last birds have been placed in the container and sufficient gas has been added to kill the birds, the container should be left closed for at least 2 minutes to ensure that all birds are dead. Birds must be confirmed to be dead before removal from the container.*
    - *Producers must document the amount of CO2 used and the number of birds killed for each house that is depopulated. Use of containers to kill birds without adding an adequate amount of gas is unacceptable.*

Biosecurity and Animal Health

Biosecurity continues to be one of the most important requirements in a laying hen operation.

- Each company should have a biosecurity and animal health plan.
- Houses must be kept in good repair and all areas to which the birds have access should be kept free of materials hazardous to the birds.
- Poultry houses must be cleaned following each flock.

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- Facilities must practice pest, rodents, small animals, wild birds, insects, and predator control.
- All birds should be inspected at least daily.

Guidelines for Biosecurity and Animal Health

1. *Only necessary personnel should be allowed in poultry buildings. If it is necessary to enter more than one building, personnel should move from the youngest to the oldest birds, and from the healthiest to the least healthy birds.*
2. *Access to property by visitors should be restricted. Visitors must not be allowed into the poultry house without proper supervision.*
3. *Birds should not be exposed to disturbing noises or visual stimuli or strong vibrations. All caretaking activity should be conducted with slow deliberate movements to avoid birds "piling" into corners or around equipment.*
4. *Wild birds, rodents, pets, and other animals should not be permitted in poultry houses.*

Public Trust

Concerns about the welfare of farm animals have risen because of public interest in, and expectations regarding, the use and treatment of animals. Maintaining the public's trust and consumer confidence is critical to the egg production industry. Company ownership and supervisors should take responsibility for employee conduct. At a minimum, employees should be required to have regular training of how to handle birds using UEP's latest employee training video.

- Require all poultry caretakers and service crews to sign the Code of Conduct form included on page 16.

UEP'S RESPONSE TO ANIMAL ABUSE ALLEGATIONS

- A UEP investigative standing committee will be established to work with staff.
- The committee will consider the allegations, approve any Public Relations statements, contact the targeted UEP Certified company, schedule an on-farm investigation, and determine who will be involved in the farm investigation team.
- Upon completion of an on-farm investigation the "Farm Investigative Team" may do the following:
    1. Publish a timely report.
    2. Make recommendations to UEP's Investigative Committee for future actions including the possible termination of a company's UEP's Certified status.
    3. Call for another 3rd party audit by a different firm than did the previous audit.

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CODE OF CONDUCT FOR POULTRY CARETAKERS
(EMPLOYEE)
Employee Name _____(Print) Date _____

1. Fresh feed must to be made available on a daily basis. If not, correct the problem or contact supervisor.

2. All lights should be in working order. If lights are not in working order, correct the problem or contact supervisor.

3. Air should be moving through the house at all times. If fans, air inlets or curtains are not in working order, correct the problem or contact supervisor.

4. Water must be available at all times. Water supply issues must be corrected or brought to the attention of the supervisor.

5. Shelter should be appropriate for bird's age, type, and production. Correct the problem or notify supervisor if you should see equipment that is broken or worn out to include cages, nest boxes, perches, litter areas, netting, and fencing.

6. Biosecurity rules and standard animal welfare practices need to be obeyed. If biosecurity rules are not being followed by fellow employees contact the supervisor immediately.

7. Safety rules of the farm must be followed. If the safety rules of the farm are not being obeyed contact the supervisor.

8. Injured or sick birds need to be cared for. Contact supervisor if you have questions about the action to be taken with such birds.

9. Proper euthanasia of sick, injured or cull birds will be conducted by a trained employee. Contact supervisor if you are unable to perform this task.

10. Dead birds will be removed from bird living areas on a daily basis and properly disposed of. Contact supervisor if procedure is not being followed by all employees.

11. All birds (live or dead) will be handled with respect and dignity. Proper handling and catching methods to minimize stress must be followed. Any person not adhering to this should be reported to supervisor.

Employee Signature _____
Supervisor's Signature _____ Company: _____

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CODE OF CONDUCT FOR
NON-EMPLOYEE SERVICE CREWS

Company Name_____

Crew Member Name_____ (Print)

Date _____

1. Biosecurity rules and standard animal welfare practices need to be obeyed. If biosecurity rules are not being followed by fellow employees, contact supervisor.

2. Safety rules of the farm must be followed. If the safety rules of the farm are not being obeyed, contact the supervisor.

3. Injured or sick birds need to be cared for. Contact supervisor if you have questions about the action to be taken with such birds.

4. Proper euthanasia of sick, injured or cull birds will be conducted by a trained employee. Contact supervisor if you are unable to perform this task.

5. All birds (live or dead) will be handled with respect and dignity. Proper handling and catching methods to minimize stress must be followed. Any person not adhering to this should be reported to supervisor.

Crew Member Signature: _____

Supervisor Signature: _____ Company: _____

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Recommendations for Reporting of Animal Cruelty, Abuse, Neglect, or Possible Contamination

It is the responsibility of every employee to continuously watch for employees or other persons who may engage in animal cruelty, abuse and/or neglect of the birds, and for signs of possible flock contamination, evidence of cross-contamination, or people trespassing on Company property that may lead to contamination.

The company does not tolerate animal cruelty, intentional abuse or neglect of any animal under its care. Anyone who is witnessed doing so, or suspected of doing so, must be reported to the company management immediately and the report should include the person's name, the location and the time of the incident. The failure of an employee to report cases of animal abuse or neglect may result in that employee's termination of employment.

Furthermore, any employee who observes anything that may indicate a bird or flock is or may be subject to contamination must also notify management immediately . Possible contamination can be determined from an employee violating the bio-security policies, the physical appearance of a bird or a flock, or having knowledge that an employee has exposure to any other type of fowl outside the workplace, including keeping pet birds or a small flock of chickens. Also, trespassers on property pose a significant risk of flock contamination. The potential damages from contamination or cross contamination can be disastrous for the animals and it is critical that all employees be aware of possible contamination or cross contamination.

Again, all incidents of potential animal abuse, neglect, or cruelty, or possible contamination should be reported immediately.

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Guidelines for Cage Production

Housing and Space Guidelines

Numerous studies have shown that decreasing space allowance in cages to below a range of 67-86 square inches per hen significantly reduces the welfare of the hen, hen-housed egg production, and increases mortality.

Cage space will vary depending on type of cages and birds being housed. For example, space allowance can be at the low end of the range in shallow cages in which small Leghorn strains are housed, but should be at the higher end of the range in deep cages housing larger strains like brown hens. (Science has shown that additional space may be more stressful as more aggressive tendencies become manifest.)

Housing for chicks, pullets, and hens should be constructed and maintained to provide protection for the birds from environmental extremes, manure contact and predators. The birds should be managed in a manner that minimizes transmission of disease, infection with parasites, and vermin infestation in accordance with accepted principles for disease prevention. House and cage design must facilitate optimal daily care and inspection of the birds.

Cages should be designed and maintained so as to avoid injury to the birds. Cage, feeder, and waterer construction should take into account proven advantages for bird comfort and health, and facilitate the safe removal of birds.

Guidelines for Cage Production Systems

While most of these guidelines are currently being used or can be implemented rather quickly, the recommendations dealing with cage configuration and size are intended for new construction and are to be implemented along the recommended phase-in schedule found later in this document. Variances due to unalterable features of existing equipment will be permitted for the useful life of that equipment.

1. *Cage configuration and equipment maintenance should be such that manure from birds in upper cage levels does not drop directly on birds in lower level cages.*
2. *All hens should be able to stand comfortably upright in their cage. The slope of the cage floor should not exceed 8 degrees.*
3. *Space allowance should be in the range of 67 to 86 square inches of usable space per bird to optimize hen welfare.*
4. *Feeder space should be sufficient to allow all birds to eat at the same time.*
5. *Layers, pullets and hens should have continuous access to clean drinking water. However, water may be shut off temporarily in preparation for administration of vaccines or medication in the water. The*

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manufacturer's guidelines for the number and placement of drinkers should be consulted, but general recommendations for watering space for layers are as follows:

Age	*Linear trough space/bird*	*Max # birds/cup or nipple*
>18 weeks	*1.0 inches*	*12*

Perimeter space needed for round waterers can be determined by multiplying linear trough space by 0.8.

6. *Water pressure must be regulated carefully with some automatic devices and watering cups. Manufacturer recommendations should be used initially and adjusted if necessary to obtain optimal results. Automatic watering devices may require frequent inspection to avoid malfunctions.*
7. *Poultry houses should be designed to provide a continuous flow of fresh air for every bird. Sufficient ventilation to minimize levels of carbon monoxide, ammonia, hydrogen sulfide and dust is critically important. The ammonia concentration to which the birds are exposed should ideally be less than 10 ppm and should not exceed 25 ppm, but temporary excesses should not adversely affect birds health.*
8. *Lights should be provided to allow effective inspection of all birds. Inspection of the birds should be conducted daily. Light intensity should be 0.5 to 1-foot candle for all birds at feeding levels during production.*
9. *Birds should not be exposed to disturbing noises or visual stimuli or strong vibrations, whether originating inside or outside the house. Visitors should not be allowed without proper supervision, because they could cause birds to panic and injure themselves in their rush to escape and for biosecurity reasons. Wild birds, pets, and other animals should, likewise, not be allowed in the poultry house.*
10. *Environmental conditions within the house should allow the birds to maintain their normal body temperature without difficulty.*
11. *Nutritionally adequate fresh feed must be easily accessible to all birds and care shall be taken at each rehousing of flocks to insure that the birds find the feed.*
12. *In layer houses that require mechanized ventilation stand-by generators with alarm systems must be provided and tested regularly. Such systems should be sufficient to supply emergency power for lighting, watering, ventilation, and feeding.*

Backfilling

Other than a catastrophic event, backfilling of cages to replace mortality is prohibited under the United Egg Producers Certified program. A catastrophic event is defined as a natural disaster, disease problem, or other event beyond the control of the producer resulting in a loss of at least 6% of the flock in a very short period of time (typically less than a week). Under these circumstances, backfilling of hens up to 100% of the flock at the time of the catastrophic event shall be permitted provided that new layers are placed in empty cages. The event causing the excess mortality shall be documented on the company's quarterly compliance report along with the calculation for backfilling

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hen numbers and the source of the new birds backfilled including the house number and flock number. Prior approval for backfilling must be requested from and approved by UEP.

Incomplete Flock

A house that is not completely filled on the original date of housing will be considered as an incomplete flock and may accept additional pullets at a later date to complete the filling of the house to the UEP Certified allowable cage space allowance. Mortality that may occur during the period of the original date of housing and the date of new pullets being added may not be replaced in the count . Company records must document when the layer house was supplied with pullets and when additional pullets were added. Empty cages at the date of original housing must be set aside to accept the additional pullets to assure that no commingling of the original pullets and additional pullets occurs.

Time Period for Implementations

In regard to the space allowance per hen, the required egg supply to meet the market demand could be disrupted by immediate changes. Therefore, a phase-in period was necessary to assure no disruption to the market needs as well as to allow egg producers the opportunity to complete the current production cycle including replacement pullets currently being grown. The house average phase-in schedule shown below was used to accomplish these goals as well as create a level playing field for both producers and the market place. The square inches of space is based upon using the total cage space within existing houses to arrive at an average space per hen on the date of housing hens at 18 or 20 weeks of age.

The ultimate goal is to meet the minimum cage space per hen as recommended within the Housing and Space Allowance section of these guidelines. Therefore, it is recommended that all new houses or remodeled houses be constructed to accommodate minimum standards rather than the house average concept.

The "house average" space allowance will be permitted for all equipment installed by December 31, 2003. Any equipment purchased or contracted for or built after this date must accommodate the placement of hens after August 1, 2008 at a minimum of 67 square inches per hen for White Leghorn hens and 76 square inches for Brown Egg Layers.

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Guidelines for Cage-Free Production

Housing Guidelines

A variety of production and management programs can be used to raise egg-laying hens humanely . All systems currently available can present challenges to animal welfare if good management practices are not employed. Understanding the scientific basis for hen welfare and identifying systems features that promote good welfare are as important to cage-free production as they are to caged production. The UEP Cage-Free guidelines are science-based recommendations for keeping laying hens humanely in cage-free systems. Please note that for the purpose of this document cage-free refers to all floor, aviaries and systems with access to the outdoors.

Compared with research available concerning cage systems, relatively little research has been conducted on the welfare of modern hen strains in the wide variety of cage-free systems used in the United States today. Many factors can affect bird welfare in cage-free indoor housing systems and systems providing access to covered and open outdoor areas. Whereas new cage-free equipment is appearing on the market at a rapid rate, much of the published research on cage-free space allowances dates back to a half-century ago or reflects small pen experiments. Nevertheless, reasonable standards are necessary and these must be based on the best knowledge currently available. Future adjustments will be needed in light of new research findings.

The guidelines for cage-free production have been established for UEP Certified companies that have all or at least some production in cage-free systems. Compliance with these guidelines is required for a UEP Certified company that has cage-free production.

For the production of cage-free eggs, UEP guidelines are provided for 1) floor systems completed bedded with litter; floor systems consisting of a combination of 2) litter and wire; or 3) litter and slats; or 4) litter, wire, and slats; and 5) multi-tiers that utilize vertical space. With systems 2-5, the littered area should cover at least 15% of the useable floor area of the house (including the floor area of tiers).

Incomplete Flocks

A house that is not completely filled on the original date of housing will be considered as an incomplete flock and may accept additional pullets up to a maximum of 3 weeks later to complete the filling of the house to the UEP Certified space allowance. Birds added after this period must be segregated so that commingling of birds from multiple ages does not occur. Company records must document when the layer house was originally supplied with pullets and when additional pullets were added.

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Floor Space Per Hen

There are three general types of cage-free indoor housing systems: 1) multi-tiered aviaries with a litter floor and slatted-floor platforms over manure-removal belts, 2) partially-slatted systems with a litter area and a raised slatted-floor area through which manure drops into a storage pit below, and 3) single-level, all-litter floor systems.

Depending on the system type, a minimum range between 1.0 - 1.5 sq. ft. per hen should be provided to allow for normal behavior. Because multi-tiered aviaries and partially-slatted systems provide hens with access to vertical space within their house, the hens effectively have more space to move around than hens in all-litter floor systems. In more modern multi-tiered aviaries and partially slatted systems, a minimum of 1.0 sq. ft per hen must be allocated. In a single-level all-litter floor system where hens have limited access to vertical space, the space allocation per hen is increased to 1.5 sq. ft. per hen.

Usable floor space consists of the combined litter and drop-through area including elevated tiers, and covers over belts, but excludes nest boxes where the kick-out feature is being utilized.

Please note that outdoor areas are not included as usable floor space.

Feed and Water

The guidelines for feed and water must be fully implemented for all flocks hatched after April 1, 2008.

Diets for producing hens must be formulated and fed to promote good health and normal production. To minimize the risk of bone fractures, hens in lay should be able to consume enough calcium and phosphorus daily to support eggshell formation without loss of structural bone.

Guidelines for Feed

1. *Access to fresh feed must be provided at all times. Feed must not become stale, moldy, rodent or insect infested, or contaminated with litter or feces.*
2. *A minimum of 1.5 linear inches of feed trough must be provided per hen when straight troughs are used (3 inches per hen when only one side of the feeder is accessible) or 1.5 perimeter inches of circular feeder space when round pans are used.*
3. *Hens should not need to travel more than 26 feet within the house to reach feeders.*

Clean, fresh water must be accessible at all times, except when water is shut off temporarily in preparation for administration of vaccines or therapeutic medications in the water. Water must be

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provided in quantities sufficient to promote normal hydration, health, and productivity. Water must not become contaminated with litter or feces.

Drinkers should be designed to prevent water spillage.

Birds should be monitored closely for their ability to find and obtain water when first moved to the layer house, especially if the type of watering device differs from that used previously by the birds. Water cups should be filled manually or water nipple may need to be triggered for a few days (or even a few weeks) until the birds learn how to operate the drinker. Birds need to learn to use watering devices that require them to press a lever or other releasing mechanism. If birds are not familiar with these types of drinkers when they are moved to the layer house, adjustments to the drinkers should be made as needed to ensure adequate water intake. It is recommended that pullets be raised with the same type of drinker that will be supplied in the layer house.

Water pressure must be carefully regulated when using automatic watering devices. Pressure regulators and pressure meters should be located close to the level at which water is being delivered . Water meters should be used to measure consumption. Manufacturer recommendations should be used initially and adjusted if necessary to obtain optimal results.

Water being consumed by hens should be tested at least once per year to ensure the water is potable.

Guidelines for Water

1. *Hens should not need to travel more than 26 feet within the house to reach drinkers.*

Nest Space

Nests are provided in cage-free systems to facilitate egg collection, to minimize the risk of cloacal cannibalism, and for food safety and sanitary reasons. Every effort should be made to avoid eggs being laid outside nests. All eggs laid outside nests should be gathered at least once daily. It is permissible to use management tools (e.g., electric wire) to discourage eggs being laid near the wall/outside nest.

Pullets should be transferred to the layer house before the onset of lay to give sufficient time for birds to explore the house and find the nest prior to onset of lay. Pullets should be reared with access to raised areas and perches from an early age to become adept at moving up and down in space . (Research indicates that access to perches by 4 weeks of age reduces the risk of eggs being laid on the floor during the laying period).

Nest should be draft-free and dark inside. Research indicates that lights in nest boxes increase the risk of cannibalism. Nest should be constructed and maintained to protect hens from external parasites and disease organisms. Nest should be closed to bird access at night and re-opened prior to lay early in the morning.

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Guidelines for Nest Space

1. *A minimum of 9 square feet of nest space per 100 hens must be provided. 2. Nest should be provided with a suitable floor substrate that encourages nesting behavior. Nests with wire floors or plastic-coated wire floors alone should be avoided. The provision of loose litter material in nests (e.g., fresh straw) can be useful for training pullets to use nests.*
2. *Nest should be regularly inspected and cleaned as necessary to ensure that manure does not accumulate.*
3. *Access to water must be provided at a minimum rate of:*
   - *1 bell drinker per 100 hens (0.4 inch of circular space per hen (or)*
   - *0.5 linear inch of water trough per hen when straight troughs are used (1 inch per hen when only one side of the trough is accessible) (or)*
   - *1 nipple drinker or cup per 10 hens.*

Perches

For pullets hatched after January 1, 2010 all cage-free houses will be required to provide 6 inches of elevated perch space per hen at a minimum of 16 inches above the adjacent floor space for20% of the birds within the house. This timeline is established with recognition that further research projects are needed to determine the benefits of perches and therefore may change when research warrants a change.

Perches are designed to allow hens living in large flocks to roost comfortably with a minimum of disturbance, to provide hens with a refuge from injurious pecking, and to minimize flightiness.

Perches should be constructed of material that is easily cleaned, does not harbor mites, and minimizes keel, foot, and nail damage. Perches should have no sharp edges. The ends of hollow perches should be capped. Perches should be designed and constructed to prevent injury to hens that are mounting or dismounting as well as any hens nearby.

Perches should not extend into the nest area. The width of perch must allow hens to wrap their toes around the perch and balance evenly on perch in a relaxed posture for an extended period. Too wide of a perch prevents hens from wrapping their toes around the perch in a locked grip. Perches are generally 1.6 to 2 inches in diameter or have a top surface width of 1.6 inches. A perch width less than 0.75 inches or greater than 3 inches is not allowed. A minimum gap of 0.5 inches is needed on each horizontal side of any perch so that hens can grip the perch without trapping their nails

Adjacent perches must be at least 1 foot apart horizontally to allow hens to easily perch simultaneously. Perches should be at least 8 inches from the back wall to encourage locomotion behind the perches, thereby reducing manure build-up

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Guidelines for Perches

1. *A minimum of 6 inches of usable linear perch space should be provided per hen so that all hens are able to perch at the same time.*
2. *At least 20% of the perch space must be elevated a minimum of 16 inches above the adjacent floor and at least 1 horizontal foot away from adjacent perches and walls, to allow hens to get away from aggressors and avoid injurious pecking.*
3. *Perches must be positioned to minimize fecal fouling of birds, feeders or drinkers below.*
4. *A minimum distance of 7.5 inches from the top of the perch to the ceiling or other structures is needed for hens to be able to use the perch comfortably.*

Litter

All cage-free houses will be required to provide a minimum 15% of the total space for litter. Further research projects are needed as to the requirement for the amount of litter space and may change when research warrants a change.

Scratch areas covered with litter are provided for hens living in large flocks to reduce the risk of feather pecking and cannibalism, and to minimize flightiness. Many types of litter can work in an egg production system. The most important feature of keeping hens on litter is proper management of litter condition. Litter entering the house should be free of visible mold or soiled areas. Litter with stale or "off" odors should not be used.

Litter should be of adequate depth throughout the scratch area to insulate birds form direct contact with the floor and to mix with the manure but not so deep as to encourage egg laying on the floor . Litter should be removed and replaced with fresh litter between cycles.

If the scratch area provided does not allow for adequate claw wear, surfaces that hens scratch with their claws when feeding should be covered with an abrasive material that helps to prevent overgrown claws.

Litter should be provided during rearing of pullets to minimize the risk of birds developing injurious pecking behavior.

A ramp between the scratch area and the slats aids movement between these areas and may help to reduce the risk of floor eggs, injurious pecking and bone fractures.

Guidelines for Litter

1. *Hens must have continual access to a scratch area covered with litter. (Note: restriction of access during the early morning hours to prevent floor laying is permitted.)*
2. *The scratch area should cover at least 15% of the useable floor area of the house (including the floor area of tiers).*
3. *The litter must be maintained in a loose, friable condition. When wet and hard packed areas occur, they must be corrected daily.*

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Lighting

Lighting should be brighter in the scratch area than elsewhere in the house to reduce the risk of eggs being laid on the floor. Light intensity should be lowered gradually or in steps prior to lights going out for the night to encourage hens to move up onto slats, tiers and perches and get settled for the night. Natural light during dawn or dusk is adequate to meet this recommendation.

Guidelines for Lighting

1. *Light intensity must be at least 0.5 foot candle at feeders and drinkers throughout the house during the daytime.*
2. *Sufficient lighting must be provided to allow for effective inspection of all birds at least once daily.*

Temperature and Air Quality

Housing should protect birds from exposure to anticipated adverse environmental conditions, including excessive heat, cold, and precipitation. Bird movement and litter in cage-free systems can result in higher concentrations of bacteria, fungi, internal and external parasites, noxious gases, and dust in the air when compared with cage systems. Air quality can deteriorate rapidly when the ventilation rate is reduced in winter to conserve heat. Good husbandry, appropriate house construction, proper ventilation, and careful attention to sanitation are needed to ensure acceptable temperature and air quality.

House temperature should be adjusted in a timely manner if bird behavior indicates that birds are too hot (panting, sitting with wings held out) or too cold (huddling and ruffling of feathers).

Guidelines for Temperature and Air Quality

1. *Housing must allow birds to maintain their normal body temperature without difficulty.*
2. *Houses must be designed and operated so that a continuous flow of fresh air is provided for every bird. Sufficient ventilation must be maintained at all times to avoid excessive concentrations of carbon monoxide, methane, ammonia, hydrogen sulfide and dust.*
3. *The ammonia concentration to which birds are exposed should ideally be less than 10 ppm and should rarely exceed 25 ppm.*

Multi-Tier Systems

The following are additional guidelines specific to multi-tier systems. For topics not covered in this section, refer to other relevant sections of these guidelines.

For tiers above head height, access must be provided to allow animal caretakers to access the hens without having to climb on the side of the multi-tier configuration.

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Guidelines for Multi-Tier Systems

1. *Multi-Tier Systems must be designed to allow proper inspection of hens at all levels, and must permit personnel to access sick and injured birds and remove dead birds.*
2. *Only the floor area and the tiers (defined as the slatted area that may provide water, food, or perches for the hens) can be counted as usable space when calculating stocking density.*
3. *Each tier must allow hens to safely access other vertical tiers, including the littered floor. For example, a ramp can be used to allow birds to move from the littered floor area to the first raised tier. Hens must have free access to the entire littered floor area, including the area under the raised tiers.*
4. *Raised tiers must have a system for removal of manure.*
5. *Vertical distances between tiers, which also includes the floor to the first tier, must be between 1.6 and 3.3 feet. Measurements are taken from the floor or slat area to the underside of the manure belt.*
6. *When adjacent tiers are staggered to allow for diagonal access to tiers at different heights, the hen's angle of descent from one tier to another should not be steeper than 45 degrees.*
7. *It is recommended that the horizontal distance between tiers should not be more than 2.6 feet. Where design discourages horizontal movement between different tiers, there should be a minimum distance between tiers of 6.6 feet.*

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