

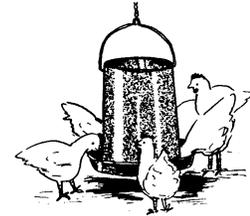


The University of Georgia

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COMMERCIAL EGG TIP . . .

A BRIEF LOOK AT DIFFERENT HOUSING SYSTEMS FOR COMMERCIAL LAYERS

Concerns for laying hens' welfare began in the 1960's and led to an aversion to eggs produced by hens housed in conventional battery cages. As a result the European Union (EU) has banned the use of battery cages beginning in January 2012. This move has resulted in the development of alternative housing systems for laying hens. While the EU ban does not currently apply to the commercial egg producers in the United States, some states have made moves towards banning the use of battery cages for laying hens, the most recent being California. With the passing of Proposition 2 in California there has been a renewed effort to develop alternative housing systems to meet all the requirements of good hen welfare.

A number of different systems are currently being used to house laying hens, but the majority of laying hens in the US are still housed in conventional cages. Each of the systems used have advantages and disadvantages that vary based on location, management, and genetic strain of the hens.

Conventional Cage Housing System

Conventional battery cages for laying hens were first developed in the US during the 1920s to 1930s. The system was developed to reduce the incidence of disease and parasites and also to reduce cannibalistic pecking. Cages makes management of the birds easier and requires less space than the other systems. No bedding material is used in this system as the cages are suspended above the floor allowing the bird droppings to fall through the mesh floors and collect below the cages. As there is no litter to deal with this allows easy collection or clean-up of bird feces. The system is the most economical of all currently used systems, with the best production, quality and efficiency. These cages are typically wire enclosures with sloped floors to allow the eggs to gently roll to the front of the cages making it easy to collect them.

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Advantages:

Apart from the obvious advantage of protection from predators, cages also reduce the incidence of exposure to manure which can result in exposure to roundworm infestation and coccidia. When hens are reared in cages, there is a reduction in injurious pecking and mortalities. This is a result of smaller social group sizes in each cage. Due to the cage design there is lower incidence of dirty eggs thereby reducing the probability of a negative impact on food safety. When birds are housed in cages it is easier to monitor the health and well being of each bird. There is a lower risk of contracting infectious diseases in caged housing systems compared to hens housed on litter, also, the absence of litter in the caged system means there will be lower levels of ammonia, dust and bacteria.

Disadvantages:

There are several disadvantages associated with the cage housing system. The most obvious one is the restriction of the natural behavior of hens. They cannot dust-bathe or forage, there is relatively little or no space for them to walk around, they cannot flap or stretch their wings. Hens cannot wag their tails and nesting and roosting behavior are not an option in these conventional cages. It is possible for hens to get trapped between wires that can at times result in injuries. They can also damage toes from the breaking of overgrown claws in the wires of the cage floors. Feather pecking can also take place in the conventional cages, which will often necessitate beak trimming.

Enriched/Furnished Cage System

This system is somewhat similar to caged housing system; however, they provide additional features in each house. These cages will often include perches, a nest box and litter or an area where the hens can scratch. They also offer more space per hens allowing them room to walk around. The size and construction of the cages may vary with some cages having the capacity of holding up to sixty hens.

Advantages:

The major advantage of the enriched/furnished system is the environmental features it provides for the hens. The birds are able to engage in natural behaviors such as perching and nesting. Substrate materials can be provided for birds to engage in dust bathing behavior which improves feather condition. The presence of litter can reduce the incidence of feather pecking as hens can spend time foraging in the litter rather than pecking at their cage mate. When a nest box is available most hens will make an effort to lay in it and the number of damaged eggs is similar to that of the cage system. As with the conventional cages the enriched/furnished cages also offer protection from predators.

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Disadvantages:

The predisposition of laying hens to bone weakness results in more incidences of bone breakage and fracture due to increased activity in these cages. Also, the additional features in the cages have the potential to increase incidence of injury. Poorly designed perches can cause keel bone deformation and bumble foot. There is the potential for a negative impact on food safety because a portion of the eggs are laid outside of the nest boxes making them more likely to become soiled or cracked. Cracked eggs may promote egg-eating behavior and eggs laid outside the boxes will require extra effort to collect.

Barn/Aviary Housing System

These systems are quite similar in description. They are both sheds in which the hens are housed on an open floor where they have access to litter and nest boxes. Aviary houses have additional platforms or perches.

Advantages:

The major advantages of these systems are; improved bone strength and plumage and lower levels of hyperkeratosis in birds that do not have access to perches. Hyperkeratosis is the thickening of the outer layer of the footpad caused by increased pressure load on the foot while perching or standing on wire floors. Hens in this system spend a lot of time walking and there are also increased natural behaviors such as foraging, dust bathing and comfort behaviors such as stretching wings and wagging tail. Hens are protected from predators

Disadvantages:

There is an increased possibility of reduced health as birds raised on open floor are more likely to come into contact with pathogens in feces. This may require handling of hens to administer treatment or vaccinations. As with the enriched/furnished cage system, hens that have access to perches are more prone to injuries. There is also more incidence of pecking which can result in increased mortality. This could be a result of increased numbers of social groups in the house. There is reduced air quality in litter based systems. Increased ammonia can result in eye problems such as keraconjunctivitis and can also have a negative effect on the respiratory tract.

Free Range Systems

Birds housed in this type of system have access to an outdoor area during the day. This area may be covered or uncovered. They are provided with an indoor area where they come in at nights and are able to roost.

Advantages:

Hens which are free ranged have the greatest range of natural behavior and hence have better feather condition when compared to the other housing systems.

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Disadvantages:

The main disadvantage is hens are exposed to toxins, wild bird diseases, predators and extreme climatic conditions.

Summary

- Consumers and animal welfare groups are pushing for a change in the US commercial layer industry.
- That change involves moving away from the traditional conventional housing system to one that is more natural for the birds.
- The enriched/furnished cage system enables the hens to perform some natural behaviors.
- The barn/aviary systems enable the hens to walk more resulting in improved bone strength.
- Free range hens are allowed the most natural behavior.
- The conventional cage system is the most economical system and consumer will pay more for eggs from the other housing systems.
- Birds in conventional cages are less prone to infectious diseases and their eggs are less likely contaminated by feces.
- While changes from conventional cages will allow more natural behaviors in hens, there are also disadvantages associated with each of the other systems that are currently available.



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“Your local County Extension Agent is a source of more information on this subject.”

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