

Breeder House Profitability

The rule in any business transaction is that everyone must win in the end for a company to prosper. So what do you do when your egg supplier wants more money to run their operation? The bottom line is you have to use modern techniques to reduce costs and improve performance in the breeder house to maximise profits.

As the world becomes one big marketplace, poultry companies must be able to take on new competitors. They must become efficient to become profitable. All this increase in competition for pricing is overshadowed by a need for more profits to pay for the changes needed to stay in business. Labour, utility costs and building costs have soared in the last few years. As labour costs increase, the industry has to become more labour-efficient. More equipment such as automatic egg collection systems and male feeder systems have been developed to reduce costs. There is a big difference in just adding more equipment and making the most efficient, profitable breeder operation. How can a hatching egg producer make more money while at the same time a broiler company wants to reduce their costs?

A company must look to its management to streamline operations to reduce costs. To do this in an integrated operation, one must determine the 'value' of each part of the company. If the operation is made up of completely different companies which supply feed, eggs, chicks etc, then it is not much easier to determine fair payments for the different components which make up a broiler.

All factors involved in the production of hatching eggs, such as labour, equipment, utilities and housing have increased in cost. How can you decrease costs on one side when all of the factors entering into the costing are increasing?

There are several ways to make more money on an operation:

1. You can charge more for the product, if the market will bear it. With international competition, this is not a viable option.
2. You can become more efficient at what you do. You need to have good advice, if you want to be more efficient, but where do you get that advice?
3. You can increase production/bird by improving management, but genetically the number of eggs/bird and hatch are inversely correlated with reproductive efficiency and chick numbers/breeder are going down rapidly.
4. You can try different management techniques which will increase the money generated per unit floor area of your operation. But you still need advice on how to change your management.

Everyone wants to make more money by just charging more for their services instead of making what they do more efficient or updating their management techniques to increase their profitability. Most breeder manuals will tell you that you must have 3 sq ft/bird. A normal size breeder house is 40' x 300'. Using breeder standards this allows for the placement of 4000 breeders. If you calculate 150 eggs/hen, then you obtain 600,000 eggs/house. Breeder manuals are written for the 'average' operation. That is taking into account everything from a



One of seven parent stock laying houses, each 87 x 12m, belonging to Avicola Aurora in Trapani, Sicily. Each house is equipped with two rows of automatic nests; two thirds of the floor area is raised wooden slats; feeding is by high-speed chain feeder. Natural ventilation is provided by 1m high continuous windows with winchable curtains. (Photograph courtesy SKA.)

bamboo pole building in the jungles of Africa to a sophisticated power ventilated house on a modern poultry farm. What if you provided better ventilation and management? You could place birds on 1.65 sq ft/bird. You may lose one or two eggs/hen, but you would still obtain 1,069,091 eggs from that same house. Increasing bird density would mean almost twice as many eggs or income/unit. The labour and overheads would be similar. Why are egg producers reluctant to do this?

What is our objective when we design a breeder facility? Make the most money/bird, make the most money/hour/sq ft of breeder housing or have the best records for egg production? Can you do all three? As in any situation, there are compromises. I believe that you should look at a building and say how can I make the most out of this facility? There are several factors which influence profitability:

1. Equipment necessary for efficient operation;
2. Building design for maximum bird comfort while providing minimal energy usage;
3. Labour efficiency;
4. Building construction.

Equipment

As the industry becomes more efficient, more specialised equipment is developed. If the farm is all-in all-out, then you have a tremendous outlay on

equipment that sits idle during either the rearing or laying period. Or worse, you move equipment around the farms to maximise your investment, thus negating the biosecurity that you originally planned with an all-in all-out facility. Many poultry companies insist that all-in all-out housing, day-old to death, is the only safe path to biosecurity. But I have watched these same companies transport equipment from one farm to another to save costs on equipment. This is particularly true of the brooding equipment, claiming that the equipment is clean. I believe that the risk would be less if that chance of cross-contamination is not taken. The alternative is to 'grow and shift' or pay extra for more equipment. I have been told by die-hard all-in all-out people that they do not have the pullet moving equipment. The pullet moving equipment consists of a '3rd wheel' trailer with cages on it. The trailer should be easy to clean and be kept maintained. Let's look at the equipment needed for successful hatching egg production and its relationship to the different ages of the bird:

Rearing:

1. Brooders
2. Satellite drinkers
3. Brooder guards
4. Dark-out curtains
5. Beak trimmers
6. Ventilation during darkout period.

Laying:

1. Slats
2. Nests
3. Male feeders
4. Egg coolers
5. Higher intensity lighting
6. Egg collecting devices either conveyor or automatic nest collectors.

What are the advantages of all-in all-out?

1. Improved biosecurity: but this factor is negated when companies move equipment between facilities to try

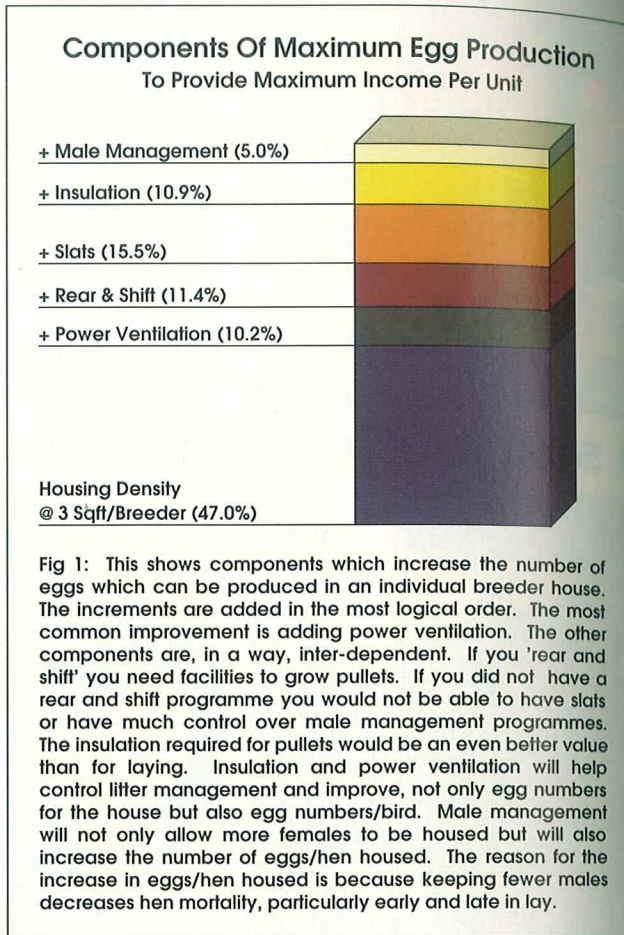
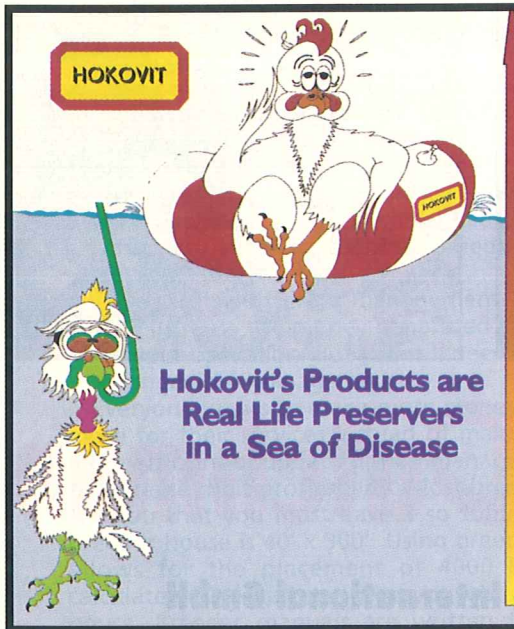


Fig 1: This shows components which increase the number of eggs which can be produced in an individual breeder house. The increments are added in the most logical order. The most common improvement is adding power ventilation. The other components are, in a way, inter-dependent. If you 'rear and shift' you need facilities to grow pullets. If you did not have a rear and shift programme you would not be able to have slats or have much control over male management programmes. The insulation required for pullets would be an even better value than for laying. Insulation and power ventilation will help control litter management and improve, not only egg numbers for the house but also egg numbers/bird. Male management will not only allow more females to be housed but will also increase the number of eggs/hen housed. The reason for the increase in eggs/hen housed is because keeping fewer males decreases hen mortality, particularly early and late in lay.

2. Less stress on the birds by not moving but, if done properly, this is not a factor. I do not agree that this causes less stress since the birds are in the house so



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long, faecal material builds up. Conditions during rearing will make litter slick and leg problems rampant. Not everyone agrees.

Disadvantages of all-in all-out:

1. More equipment needed for housing;
2. Harder to plan and make changes as needed;
3. Dirty eggs due to poor litter conditions before lay;
4. Two types of lighting systems with different intensities are needed or there may be loss of production due to insufficient light intensity;
5. Cannot use slats as this limits the number of birds that the building would house.

Building Design

Are you going to continue to build a multipurpose breeder facility or are you ready to admit that specialisation is the way to improve profitability? If you can admit that all-in all-out is not the best way to handle birds, then how should you manage them? I believe that rear and shift is the best way to handle breeders.

Advantages of 'Rear and Shift':

1. Less housing area needed for growing birds;
2. More flexibility because you can have range of time to move;
3. Clean litter at start of egg production;
4. Can use slats for breeders so eggs are cleaner;
5. Specialised equipment saves time and money;
6. Better utilisation of specialised equipment such as the darkout system, automatic nests, slats, egg coolers, male feeders, brooders and brooder guards;
7. Easier to provide different lighting programmes to maximise performance;

8. Better labour utilisation. Staff can do a better job because it is easier to learn one job than two. Since 'turns' are quicker, then people don't forget what was done last time before it is time to do it again. This is most important for growing birds. You have three cycles a year if you are only growing pullets. You can do a better job with fine tuning. Specialised crews can handle beak trimming and vaccination so that birds are better handled. If you were doing this only once a year, you may not be good at it;
9. Male management is improved because it is easier to have spiking programme, to have separate male rearing, to have proportional male placement coming into lay;
10. Encourages at least one good cull when moving birds;
11. Saves extra handling of birds, since most people give injections during move.

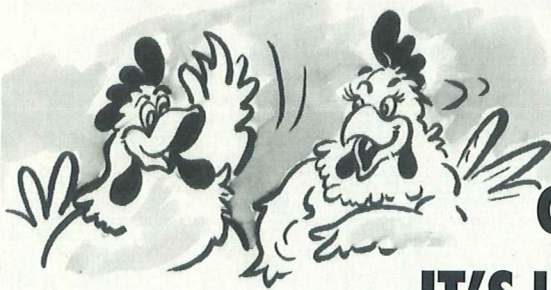
Disadvantages:

1. Be sure that you have compatible drinker systems or restrain birds at the laying house;
2. If birds are moved too late you may have problems with floor eggs. This would be a similar problem for all-in all-out when you wait too long to put up nests which happens often;
3. If improperly caught, males could have leg problems;
4. Slat training must be done when the move is made;
5. More sophistication is needed in farm management.

Labour Efficiency

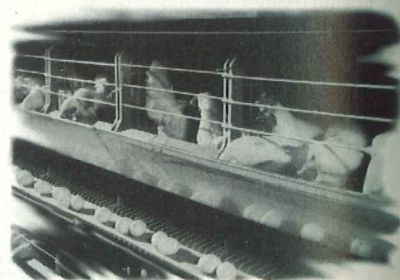
If you have designed your facility properly and are using modern techniques for 'rear and shift', then you are

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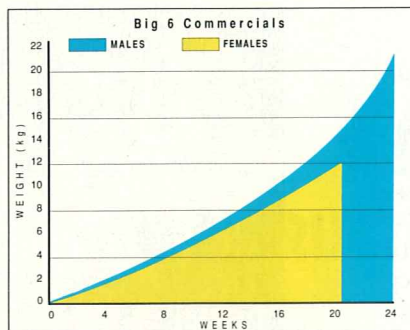
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Breeder House Profitability

ready for the next step. specialisation of labour. Pullet crews which are specially trained to vaccinate and debeak become proficient and will save labour. You need to practice biosecurity, but these people if taught properly in the first place, will do the best job for the company.

If you have 'rear and shift', then you can have designated people to move the birds and train them to mount the slats and eat in different types of feeders. If a grower gets breeders every 40 weeks instead of every 70 weeks, then he will remember more about handling the birds coming into lay. Work with your egg suppliers to improve their performance, it will save you money in the long run. Have a quality control programme to evaluate how they are doing. Bird weighing and feed calculations are important and should be done by a designated crew, not just by a novice who only practices this art every year and a half. Breeder management techniques are changing by leaps and bounds. The breeder companies cannot even keep their own manuals up-to-date. If you don't have a programme which changes with the times, then you will not get the most out of their birds.

A company should track all the breeders to see how they come into lay and compare. Don't just keep records by weeks of the year, but also by weeks of lay for your birds. There are many programmes available which will augment your management techniques and make everyone more money.

Building Construction

Insulating birds against variations in temperature is vital for economical egg production. Insulating the bird to reduce differences in temperature during the day will improve their uniformity. Better uniformity will give better egg production and chick quality. This will save much more money for the company than the cost of the insulation. If the temperature varies more than 5 degrees F, then it changes the energy requirements for the maintenance of the birds. If you try to feed the birds enough feed to overcome the problem, you will pay more than the cost of the insulation in less than one flock cycle. If you don't feed to compensate, you will lose eggs and get fat birds.

Power ventilation pays for itself even when it seems that utility costs are high. With a controlled environment, you can increase the number of birds/house and provide a more uniform temperature. A more uniform temperature translates into more quality chicks. Air canons will provide needed ventilation while actually saving utility costs.

Slatted raised floor areas will allow a 30% increase in placement numbers/house. But slats are hard to manage for young birds. This is why rear and shift is so important. Slats also improve the egg quality by allowing a cleaner egg to be produced. But there are management changes which must be made in nest, drinker and feeder placements which are necessary or you will lose eggs with the use of slats.

In Summary:

There are many management alternatives available when trying to make more profit. But as the industry becomes more sophisticated, if you don't keep up with these management changes, you will lose.

What companies need is guidance to learn all the management techniques needed to make these systems work. — *Dr Marilyn Coleman, MAC Associates, Columbus, Ohio, USA.*