The Poultry Practice
POULTRY PRODUCTION PRACTITIONERS

NEWSLETTER

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Are your point of lay pullets ready for the stress of laying?

THERE is considerable evidence to suggest that the conditioning of pullets both during rearing and in the early period on the layer farm affect both the persistency of the flock as well as the overall flock production. We expect layers to produce even up to 100 weeks, but do we pay enough attention to the pullets who need to be prepared properly for the demanding conditions during lay. While it is true that most of the preparation is done by the pullet rearer, it is important for the layer farmer to play his or her part as well. Pullet preparation is what makes the difference between a flock that is persistent and has low mortality and a flock that has low productions and rising mortalities in the second half of the layer period.

UNDERWEIGHT OR OVERWEIGHT PULLETS

It is essential that the pullets that arrive on the farm are the correct weight and uniformity. Not only is the final pullet weight important, but it is equally important that the weight during each part of the development closely follows the recommendations of the breed company. This allows the correct development of the frame at the correct age and avoids putting on fat. It is important that the pullets continue to put on weight as they move to the layer farm. Failure to maintain weight gain can occur as the result of the change of diet and other stress factors. This must be avoided as it will affect egg mass and the total number of eggs that each hen will produce in her lifetime.

During the first few weeks of lay, the young hens are still growing and the oviduct and ovaries are still developing. Feed intake must be encouraged at this time. Feed should be highly palatable and available at all times. Birds can to a certain degree regulate their energy intake according to the energy in the diet. The higher the energy content, the lower the intake. Conditioning pullets to consume enough feed in lay is very important. Higher energy diets must be used initially to satisfy the pullet's requirement for growth, despite the effect of the energy level on intake. Once egg production has been established, the energy requirements of the bird decrease and the diet can be adapted accordingly to prevent birds from becoming overweight. If the particle size of the feed is too large or too small in relation to the beak size intakes

will decline effect on intake and attention should be given not only to composition, but also to the uniformity of the feed.

So what can a layer farmer do for the pullets that are arriving on the farm? Reduce stress by limiting standing time, getting the birds off loaded as quickly as possible with optimal handling. Feed and water lines should be primed so that the birds consume feed as quickly as possible. The pullets that arrive on the farm need to be assessed for readiness to lay. Underweight pullets or pullets that are very young may benefit from being brought into lay more slowly. In this instance the use of a pre-lay feed with a lower calcium to encourage intake, and a slightly delayed lighting programme may be beneficial.

Monitoring feed intake and weighing birds weekly is extremely important so that timeous interventions can be implemented. When feed intake is low as the birds come into lay, birds are going to draw more nutrients from the metabolic stores to lay eggs. This will affect the bird in the later part of the cycle and will be seen in production drops after 40w as well as increasing mortality. Everything possible needs to be done to improve feed intake when this is seen to be below par.

THE ROLE OF CALCIUM

A layer hen requires 2.2 g of calcium for every egg she lays. Two thirds of this calcium is taken from the diet, but one third is drawn from the bone under the influence of Oestrogen. This occurs mainly at night when the bird is not eating. This resorption of calcium can affect bone strength leading to cage layer fatigue if the bone calcium is not replaced. Layer hens have an appetite for calcium in the late afternoon and if calcium is to be supplemented, this is the correct time to do it.

All the breeder companies recommend the use of a pre-lay feed with an intermediate level of calcium for 2 weeks to allow the pullet to deposit calcium in the bones in preparation for laying. Hurwitz and Barr in the 70s found that supplementation of calcium in the pre-laying period improved bone metabolization and resulted in better egg shell quality. During the period immediately before lay, the pullet will consume enough feed to get the required amount of calcium. Using a pre-lay with a lower calcium can therefore lead to increased feed intakes and increased weights and even fat deposits around the liver. This will decrease the persistency of the flock.

If a flock is underweight, or if there are issues on the farm that lead to a failure to maintain weight

increases as the birds come into lay, using pre-lay for the 2 weeks before the birds come into lay can be helpful. It is strongly advised to have the pullets on a layer mash with a higher calcium as the birds come into lay. Low calcium intakes at the beginning of the layer cycle will affect the high producing birds who will draw calcium from their bones to produce eggs and eventually will manifest cage layer fatigue.

EXPOSURE TO DISEASE ON THE LAYER FARM

Inadequate cleaning of houses leads to pullets being exposed to a high disease challenge when they are at their most vulnerable. Most South African layer flocks will be exposed to Mycoplasma gallisepticum (MG) during lay as the result of multi-aged sites which make effective site cleaning impossible. It is therefore essential that pullets coming to the layer farm are well vaccinated against MG. High levels of bacteria in the water lines can affect gut health and lead to decreased absorption of feed and nutrients which will also affect pullet performance. House cleaning and flushing of the waterline before placement are therefore essential elements of preparation for pullet performance.

LIGHTING

The lighting programme is used to stimulate the pullets to become sexually mature so they will lay eggs. Pullets naturally respond to increasing day length and this has been used to artificially bring them into lay. Ensuring that the lights are coming on and going off as planned is an important check on a layer farm. Sticking to the lighting programme supplied by the pullet rearer is also strongly advised. In cases where the pullets are underweight or immature, the light stimulation can be held back as long as the dark period is not actually increased. There is some evidence that the type of lighting in rear (i.e. incandescent) needs to be matched to the type of lighting in lay to reduce the time spent adapting.

SUMMARY

The arrival of the point of lays at a laying farm is a critical period as what happens will establish the success or failure of the flock for the entire laying period. Attention should be paid to matching the disease challenges of the laying farm to the vaccinations done on the rearing farm.

Reducing stress of point of lays by having a clean layer house and clean water lines, offloading birds as soon as possible and allowing birds to eat and drink as soon as possible are essential for establishing the flock.

Weighing the birds and monitoring the feed intake will establish the layer readiness of the flock. Feed intake should be encouraged by paying attention to the palatability and texture of the feed.

WHY ARE CERTAIN PRODUCERS BETTER THAN OTHERS?

After spending three decades as a consulting veterinarian in the industry and having had the privilege of visiting producers in over 10 different countries, one tends to look at factors other than disease control as to why some producers are technically better than others.

The following factors is my estimation as to why some producers are better than others:

They have good people

We first farm with people. High performing companies have good leaders with the ability to appoint good people.

They have good systems

Mature companies have well written standard operating procedures that describes what should be done. These documents are well communicated to reach all those that should perform the tasks , and

proper training is given.

Regular audits are done to ensure that the procedures are properly executed, this is a crucial function and will be discussed in more detail.

They keep good records.

Records are the guiding light for all producers, and good producers turn data into information that can be used to make informed decisions.

They have good infrastructure

The modern poultry breeds require good climatic conditions, and this can only be provided by good infrastructure and equipment.

Good infrastructure also refers to the location of farms in relation to each other, as well as processing plants, feed mills or pack stations. Experience has shown that multi-age complexes do not work.

THE VALUE OF ROUTINE AUDITS

Audits can be a powerful management tool when done well, it should not be used as a beating stick but rather an objective evaluation of the management on the farm.

The following guidelines should be followed with an audit:

- It must be relevant; will abnormal finding impact production, welfare or food safety?
- The audit must be done against a standard, ideally the standard as described by the company, if that is not available then industry accepted standards should be used.

The audit is not about opinions, just facts.

- The farm manager must be informed about the audit, the audit requirements must be made available to him/her.
- The auditor should be skilled in poultry production
- The audit is based on a series of questions, physical or written proof is the only acceptable answer.
- The level of the audit will depend on what detail management require

STRUCTURE OF THE AUDIT

There are many ways to approach a farm audit, our structure had been distilled over many years.

1. **Nutritional requirements**

- Feed: program, physical quality, nutrient quality, feeding program, what should be in the feed.
- Feeding systems: feeding space, height of feeders, functionality.
- Water: birds/nipple or drinker, microbiological and chemical quality, chlorination.

2. **Environmental conditions**

- Temperature control
- Ventilation
- Lighting program
- Litter conditions
- Densities: birds/m^2, birds/nest box

3. **Biological risk control**

- Control of people, vehicles and equipment
- Control of wild birds, rodents and insects
- Vaccination program and monitoring
- Cleaning, disinfection and downtime

4. **Health evaluation**

- Systematic evaluation of all the systems in the bird

SCORING SYSTEM

There is a saying that one can only manage something if you can measure it and express it in numbers. Various scoring systems can be used (yes or no, or ranking 0 – 10), this can then be used to highlight deficiencies and tract improvement or deterioration.

SUMMARY

Routine audits is a practical tool to evaluate the level of management on a farm.

The recent outbreak of Avian influenza had limited audits on various farms, much to the delight of farm managers, but it was interesting to note how management deficiencies started to creep in.

THE POULTRY PRACTICE HAS EXPANDED!

Congratulations to Dr. Nadia De Swardt on the birth of your son. We all wish you a lifetime of good health, happiness and love.