

Pullet Quality Assurance

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Objective:

- To discuss the proper method to grow a strong pullet that will have sufficient reserves to lay at a high rate of lay and maintain good shells throughout the entire laying cycle.

Temperature

- Bring house to desired temperature at least 24 hours prior to chick arrival to warm equipment and floor
- Recommended start temperatures vary by breed.
- Smaller chicks generally need higher starting temperatures, 90°F

Temperature

- Temperatures should be measured at chick level, not at caretaker level.
- Brown chicks, in general, need higher brooding temperatures.
- Humidity levels are also very important, a minimum of 70% RH is necessary

Temperature

- Watch the chicks to decide if the temperatures in the barn are correct.
- Cold chicks will huddle and chirp constantly.
- Maintain a minimum ventilation at all times to reduce pathogen concentration.

Temperature

- 88 - 90°F for the first few days
- 86 - 88°F for the rest of the first week
- 84 - 86°F for week 2
- Decrease temperature 2 degrees per week down to 72 - 74°F.

Cage Papers

- MUST cover the bottom of the cage especially up to the waterers.
- Chicks should not be expected to walk off the papers to reach the drinkers.
- Remove the paper between 7 and 10 days of age.

Feed First or Water First

- Debate continues.
- Some say chicks should not be fed until they have been in the cage and found the waterers.
- Others say the chicks should have feed immediately upon placement.

Lights

- High light intensity at placement to see feed and water.
- Some breeds may recommend intermittent lighting for the first few days to stimulate consumption.
- Reduce intensity once feed and water are found and chicks are growing as expected.

Lights

- Stacked deck systems need special attention to lighting in middle and lower decks.
- Water lines are usually in the back of the cages and therefore dark.
- Drop lights should be used in these systems.
- Cage papers will cast shadows on cages below.

Water Access

- Getting to water as soon as possible is critical
- Lower water pressure on nipples and cups to ease access.
- Cage paper should cover enough cage to assure the chicks can reach water without stepping off the paper.

Water Access

- Water temperature that is cold can lead to pasting.
- Vitamins and Electrolytes with sugar-based carriers can lead to pasting and dehydration.
- Trigger waterers to ensure chicks know where the water is.

Lighting Program

- Can influence the onset of production and the egg size distribution to some degree.
- Most breeds are similar in the lighting program used for the first few weeks.
- After this time, breed based recommendation vary and should be followed.

Lighting Program

- Day length the first two or three days should be 22 – 23 hours.
- Long day length gives time to eat and find water.
- Day length should be reduced weekly after that until a constant day length for growth is reached.

Lighting Program

- Optimum growing day length depends on many factors:
 - » Breed
 - » Type of housing (open, totally light controlled)
 - » Time of year
 - » Location of the farm
 - » Egg size demands of the producer
 - » Past history of attaining body weights on pullets

Lighting Program

- The shorter the day length that the bird can be grown on, the more control you have over the onset of production.
- Most recommendations are for growing flocks on about 10 – 12 hours.
- Constant day length for growing helps the bird recognize the stimulation and therefore respond to the day length increase when given.

Lighting Program

- Intensity should also be a consideration in planning.
- Intensity can be stimulatory or a dissimulator, but day length changes overrides intensity changes.
- High intensity early, then lower to prevent possible feather pulling or pecking.

Lighting Programs

- Incandescent versus Fluorescent....
 - Incandescent dimmers are cheap and effective
 - Fluorescents use less hydro.
 - Incandescent bulbs cheap, but burn out sooner

I personally would prefer incandescent as they are more flexible and more easily dimmed. Light is less harsh to the chicks eyes.

Beak Trimming

- Most complicated service done to a flock.
- Often ruins a flock if done improperly.
- All breeding companies select for low levels of cannibalism.
- Higher producing birds tend to be more aggressive towards their neighbors.
- High density housing worsens the effects.

Beak Trimming

- Recommended at 7 – 10 days of age in most housing systems. A second trim may be necessary with open sided housing in the Southern US
- Day-old trim works and is being performed in Quebec and the Prairie Provinces routinely.
- “New” microwave beak trim being tested.

Beak Trimming

- At 7 to 10 days....
 - » Add Vitamin K to the water for two days before through two days post trimming.
 - » Increase depth of feed.
 - » Decrease water pressure.

Beak Trimming

- Blade temperatures are important and should be monitored. Different breeds need different temperatures for effective control of regrowth
- Blades too hot cause “bubble beaks” and failure to heal.
- Non-trimmed birds less efficient.

Vaccination Programs

- Vaccination programs should be developed for local conditions and should not be something that you get out of a management guide.
- Ask local veterinarians and other producers to see what diseases are likely to be present in the area.

Feeding Programs

- Many different programs available that work.
- Key is to develop a strong skeletal system, good lean muscle mass, and sufficient reserves to tap for peak and sustained production.
- Different breeds have different growth patterns.

Feeding Programs

■ Early Development:

- First 8 weeks are most important.
- “can not make a silk purse out of a sow’s ear”
- High energy and high protein diets for starter or prestarter diets. (1360 kcals, 20% CP)
- Mineral quality and quantity are critical for skeletal development. (1.0% Ca, 0.5% av. P)

Feeding Programs

■ Developer Diets

- Most strain to strain variation
- Some breeds recommend increasing energy levels to get weight, others decreasing.
- Watch for development of fat in the abdomen.
- Watch pullet Calcium and phosphorus levels to prevent gout development later.

Feeding Programs

■ Pre-Lay or No Pre-Lay

- Does not matter, if pre-lay is used properly.
- At 5% production, you have 5% of the flock laying at 100% production. Those birds need a layer diet.
- **LAYER FEED BEFORE FIRST EGG!!!!!!**

Feeding Programs

- Calcium and Phosphorus Feeding
 - Feed close to breeder recommendations.
 - Watch for phytase usage by feed company.

Phytase is a good product if given the credit it deserves and not more. Usage and credit should also account for grains and non-grain feed ingredients in the diet.

Plan the Work and Work the Plan

■ Monitoring for Good Pullet Quality

- Body weights weekly- start at about 4 weeks of age.
- House Temperatures/Air Quality- daily.
- Feed and Water Available- every time someone is in the barn.
- Light clocks functioning- daily
- Mortality- daily!!

Monitoring Growth with Body Weights

- Breeder standards
- Attempt to follow the growth curve in management guide.
- Critical ages to attain standards are 8-10 weeks and 15-16 weeks.
- Frame development is important but are reflected in weights.

Weighing Birds

- Scale that measures in increments of 25 grams at the most.
- Should be easy to read, easy to use.
- Salter, Chatillon, electronic scales all can be effectively used.
- Consistency is vital.

Weighing Birds

- Weigh at least 100 birds per house.
- Choose cages to weigh that are spread throughout the house and include outbound and return feed sides, upper and lower tiers of cages and front and back of the house.
- Record weights, average them and react if the weights are not at target.

Weighing Birds

- Under Weight pullets- what to do?
 - Increase number of feedings
 - Decrease house temperatures
 - Adjust feed – increased energy slightly
 - Acidify the water.

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Weighing Birds

- Over Weight Pullets- what to do?
 - Nothing.
 - Increase house temperatures
 - Decrease number of feedings
 - Intermittent lighting program

Uniformity

- Uniformity of weights is important.
- Goals- 80% of the pullets within +/- 10% of the stated target weight from the breeder.
- Improving poor uniformity-
 - Stack feedings
 - Increase length of feeding times