Title: Toe Conditioning Turkeys

Revision (date, #): 121007.01

Submitted by: Dr. Shannon Jennings
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Task Force Member(s):

Date Approved:

Key Words: Toe trimming, toe conditioning, claw reduction

Abbreviation(s):

Introduction (limited to 25 words):
Toenail conditioning in turkeys is done to reduce skin tears and injuries

Description (limited to 100 words):

Equipment is properly maintained and regular quality control measures are exercised to ensure adequate operation. Employees using the equipment are trained appropriately.

Recommendation/Criteria:

Reference(s) (same format as for Avian Diseases, http://www.aaap.info/avdis/gdlns.html):


Title: Stunning

Revision (date, #): 082407.01

Submitted by: Dr. Becky Tilley

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Task Force Member(s):

Date Approved:

Key Words: Stunning, slaughter, controlled atmosphere stunning, electroanesthesia

Abbreviation(s):

Introduction (limited to 25 words): The humane slaughter of turkeys requires stunning prior to. Effective stunning results in unconsciousness and insensibility.

Proper stunning can be achieved with either electrical current or gases. (except for Kosher or Halal slaughter, which have separate guidelines). Stunning with electrical current is most commonly used, and occurs when an electrified brine solution creates a circuit between the head of a turkey and the shackle. Tonic muscle contractions restrict movement, allowing for proper positioning for slaughter. Proper power adjustment results in electroanesthesia while avoiding fractures, excitement or electrocution.

Controlled atmospheric stunning is being used, but research is ongoing as to the best gas mixtures and application methods/equipment.

For animal welfare purposes, there are no differences between CAS or electrical stunning when both systems are properly configured and operated.

Recommendation/Criteria:

Effective stunning results in unconsciousness and insensibility. There should be no rhythmic breathing, palpebral reflex, or other reflexes to the touch. Stunned birds may exhibit some gasping movements or uncoordinated reflex limb movements. Non-stunned birds may show either hyperflexion or hyperextension of the neck, wing-flapping, and have dry heads if using electrical stunning. Stunning should be effective in a minimum of 98 percent of birds in a 500 bird sample.

Reference(s) (same format as for Avian Diseases, http://www.aap.org/avdis/gdis.htm):


Lameness Evaluation and Gait scoring in Turkeys

Several gait-scoring methods have been described for poultry (Kestin, Dawkins, Cummings). These methods rely on temporarily confining a group of birds (generally 50 to 100) and releasing them one at a time to observe walking ability. Each bird is given a numerical score. This is a very time-consuming process. While these methods are suitable for small groups of birds in experimental conditions, their use as tools for poultry welfare audits of turkey production facilities is not practical. Human safety and poultry welfare concerns are potential issues when confining market age turkeys into small pens.

The following is a practical guideline for evaluating lameness. Select one growout/finisher house on three different farms:

1. Walk slowly along the sidewall of the facility and observe the birds’ ability to move out of the way. All birds should be able to move out of the way. Exception: Hens that are exhibiting breeding behavior (“squatting”). There should be no birds in the house that are unable to reach food and water. There may be birds present that are injured or lame but are still ambulatory and can still reach food and water. **Count all birds that cannot reach food and water.**

2. Ambulatory birds with severe lameness will use wings to support the body while walking (“wing-walking”). **Count all ambulatory birds that are wing-walking.**
3. Scoring
To account for variance in house population, scoring is on a per thousand basis:

Non-ambulatory birds in house:
- 0 birds/1000 = 25pts
- 0.5 birds/1000 or less = 10pts
- more than 0.6 birds/1000 = 0 pts

Ambulatory “wing walkers”
- 0 birds/1000 = 25 pts
- 1 bird/1000 or less = 10 pts
- more than 1 bird/1000 = 0 pts

4. To obtain the house score, add Non-Amb and Wing walker scores and divide by two. (25 pts is total possible for each growout/finisher house.)

5. Add scores from the three houses and divide by three. (25 points is the total possible for the lameness evaluation on the NTF audit instrument.)

Example: Growout/finisher houses with 5,500 birds

<table>
<thead>
<tr>
<th>Step#</th>
<th>Observation count</th>
<th>Hse 1</th>
<th>Hse 2</th>
<th>Hse 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Non-ambulatory:</td>
<td>0 birds</td>
<td>5 birds</td>
<td>2 birds</td>
</tr>
<tr>
<td>2</td>
<td>Wing walkers:</td>
<td>4 birds</td>
<td>5 birds</td>
<td>10 birds</td>
</tr>
</tbody>
</table>

3 Scoring
Note: Since there are 5500 birds/house, divide counts by 5.5 to get per 1000 basis:

Non-Amb score: 0.0 = 25 pts 0.9 = 0 pts 0.4 = 10 pts
WingWlkr score: 0.7 = 10 pts 0.9 = 10 pts 1.8 = 0 pts

4 House score: 17.5 pts 5 pts 5 pts
5 Total score: 27.5 divided by 3 houses = 9.2 pts

Reference(s) (same format as for Avian Diseases, http://www.aaap.info/avdis/gdlns.html):
Title: Turkey Wing Damage

Revision (date, #): 120507.01

Submitted by: Dr. Dave Hermes

Task Force Member(s):

Date Approved:

Key Words: Pre-stun Turkey wing damage, wing breakage

Abbreviation(s):

<table>
<thead>
<tr>
<th>General Observations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Majority of wing lesions are luxations of the radiohumeral joint.</td>
</tr>
<tr>
<td>2) Most luxations occur after the stunner.</td>
</tr>
<tr>
<td>3) Most wing luxations are caused by excessive flapping. Birds are more likely to flap excessively if:</td>
</tr>
<tr>
<td>a) Loaded during daylight</td>
</tr>
<tr>
<td>b) Driven too fast or flagged excessively</td>
</tr>
<tr>
<td>c) Carried or shackled by one leg</td>
</tr>
<tr>
<td>d) Inappropriately stunned/exsanguinated/picked</td>
</tr>
</tbody>
</table>

Introduction (limited to 25 words):

Description (limited to 100 words):

Recommendations: Minimize wing flapping pre-stun
1) Load birds in low light conditions when possible
2) Keep cages in good repair so as not to catch wings.
3) Minimize light in shackling area, but bright enough to ensure worker safety
4) Ensure that both feet are securely in shackle
5) Use breast rub for the entire length of receiving shackle line.
6) Minimize rises, drops, and turns in shackle line. Ensure smooth flow of receiving line
7) Remove sites that can catch wings.

Recommendations for Animal Welfare Auditors.

Training: Auditors must be able to determine whether wing damage has occurred before or after stunning. Auditors not specifically trained in this area should not complete this section of the audit.

Position: Auditors should position themselves after the bird is on the receiving line and before the stunner in order to evaluate the birds for loading/shackling wing damage.
Inspections: Auditors should watch for birds that have extended/drooping wings that cannot be contracted back to the body. Infrequently, a bloody wing may also be seen.

Time/Number: The percentage of the birds with wing damage should be determined. Historically, the sample set has consisted of approximately 500 birds. Calculate number of birds by determining the line speed times the number of minutes and seconds the birds are observed.

Calculating percent: There are two different ways to calculate the percent of damaged wings, either by the number of wings or the number of birds checked. When using the number of wings, the number of affected wings should be divided by the total number of wings and multiplied by 100 to get the percent. For 500 birds, there would be 1000 wings. When calculating by the bird, the number of affected wings is divided by the number of birds (500). A bird with both wings damaged would count as one bird.

1. Acceptable Goals:
   a) By wings - ≤1% calculated as the (total number of damaged wings ÷ the total number of available wings) x 100. Critical limit – ≥2%.
   b) By birds - 2% calculated as the (total number of damaged wings ÷ the total number of birds evaluated) x 100. Critical limit – ≥3%.

   Note: Birds stunned with Carbon Dioxide after shackling may have higher wing damage due to flapping during the stunning process. It is required that birds be observed prior to the stunning process. If this is not possible, 2.5% damaged wings (5% by bird) is the upper limit for CO2 stunned birds.

Reference(s) (same format as for Avian Diseases, http://www.aaap.info/avdis/gdlns.html):
NTF Animal Care Guidelines: Addendum Fact Sheet

Title: Foot Pad Scores

Revision (date, #): 082407.1

Submitted by: Dr. Steven Clark

Task Force Member(s): Dr. Steven Clark, Dr. Eric Goner, Dr. Becky Tilley, Dr. Dave Hermes, Dr. Shannon Jennings, Dr. Helen Wojinski, Dr. Dave Mills, Dr. David Pyle, Dr. Bob Evans

Date Approved:

Key Words: footpad, foot pad, paw, pododermatitis, ulcer, burn

Abbreviation(s): FB (footpad), PD (pododermatitis)

Introduction (limited to 25 words):
PD is common in turkeys, unlike in broilers. Both dietary factors, consistency of droppings, age and litter conditions are documented etiologies of footpad lesions.

Description (limited to 100 words):
PD is common in turkeys, unlike in broiler chickens. Both dietary factors (soybean meal, biotin, methionine) and poor litter conditions (wet litter) are documented etiologies of footpad lesions. In the United States (USA), both live production managers and processors monitor lesions. The incidence of PD in toms is higher than hens. Further research is needed to identify (1) what management factors are associated with PD, and (2) what the association is between PD and welfare, if any, since most birds appear neither lame nor in pain.

Recommendation/Criteria:
1. FP lesions are a result of multiple factors (i.e., multi factor causes) and are associated with poor litter conditions.
2. Scores: A simple scoring system (not severe = 0; severe = 1) is designed, based on established "Poultry Intellimetrics" industry standards (Clark, 2002). An Intellimetrics score of 1 - 3 is equivalent to FP audit 0-score (not severe); an Intellimetrics score of 4 - 5 is equivalent to an audit 1-score (severe). Refer to Figure.
3. Location: Feet should be collected at the processing plant to avoid undue live animal stress. FP may be scored at a variety of locations, preferably after the hock cutter or while on the carcass after scalding and picking.
4. Sample size: Evaluate 100 birds or 200 paw samples. Sampling should be divided between at least two different lots, to account for inherent variation with U.S. production systems, i.e., flock to flock, barn to barn.
5. Pass/Fail percentage: <40% "1-score" is acceptable and >40% "1-score" is unacceptable. If one sample indicates
unacceptable percentage "1's", then another sample should be examined.

6. The use of external foot pad scores to assess the welfare of growing turkeys is unclear contraindicated because there was no association of foot pad scores with body weight and they are poorly associated with histopathology scores. The potential association between FPD and pain requires experimental verification since mobility and activity do not appear to be affected. (Mayne, 2007).

Reference(s) (same format as for Avian Diseases, http://www.aaap.info/avdis/gdlns.html):

15. Harms, R.H., B.L. Damron, and C.F. Simpson. Effect of wet litter and supplemental biotin and/or whey on the production of
29. Mayne, R.K., Else, R.W., and Hocking, P.M. High dietary concentrations of biotin did not prevent foot pad dermatitis in growing turkeys and external scores were poor indicators of histopathological lesions. Submitted. 2007.
32. Murillo MG, Jensen. L.S. Sulfur amino acid requirement and foot


Figure 1. Post-scald turkey footpads. Poultry Intellimetrics (USA) pododermatitis scoring system\textsuperscript{A} from “1” (healthy, no lesion) through “5” (severe). Footpad audit 0-score\textsuperscript{B} is not severe, versus a 1-score\textsuperscript{C} is severe.
NTF Animal Care Guidelines: Addendum Fact Sheet

Title: Litter Conditions

Revision (date, #): 082207.01

Submitted by: Dr. Becky Tilley

Task Force Member(s): Dr. Steven Clark, Dr. Eric Goner, Dr. Becky Tilley, Dr. Dave Hermes, Dr. Shannon Jennings, Dr. Helen Wojinski, Dr. Dave Mills, Dr. David Pyle, Dr. Bob Evans

Date Approved:

Key Words:

Abbreviation(s):

Introduction (limited to 25 words): Litter conditions significantly influence turkey well-being. Litter absorbs moisture, dilutes fecal matter, promotes drying by increasing surface area, and cushions/insulates birds from the floor.

Litter should be maintained to prevent:

1) dampness resulting in bird chilling
2) lameness associated with pododermatitis
3) excessive ammonia production
4) excessive dust

Management strategies to control litter conditions include:

1) Till weekly or as needed
2) Remove cake and wet litter from spills
3) Use litter amendments to control ammonia if excessive
4) Ventilate to control litter moisture and dust
5) Maintain height of drinkers and water depth in drinkers to minimize water spillage without compromising water consumption.
6) Add litter if it can be done safely

Recommendation/Criteria: To estimate litter moisture, squeeze a handful of litter in multiple locations in the barn. If it adheres tightly and remains in a ball, it’s too wet. If it adheres slightly, it has the proper moisture content. If it will not adhere at all, it may be too dry.


Reference(s) (same format as for Avian Diseases, http://www.aaap.info/avdis/gdlns.html):