ABC’s of Poultry Handling

Penny Lawlis MSc.
Professional Livestock Auditing Inc.
The Process

It is important to consider bird welfare throughout the slaughter process:

Several stages:

1. Catching
2. Carrying
3. Loading onto the truck
4. Transport (including lairage)
5. Unloading/Shackling
6. Stunning
The Process

• Handling, is defined as the process of removing birds from a building to a transport system. This is an integral part of the poultry industry

• Three components:
  1. Catching
  2. Carrying
  3. Loading onto the truck
Definition of Welfare

Five Freedoms:

1. FREEDOM FROM HUNGER AND THIRST - by ready access to fresh water and a diet to maintain full health and vigour.

2. FREEDOM FROM DISCOMFORT - by providing an appropriate environment including shelter and a comfortable resting area.

3. FREEDOM FROM PAIN, INJURY OR DISEASE - by prevention or rapid diagnosis and treatment.

4. FREEDOM TO EXPRESS NORMAL BEHAVIOUR - by providing sufficient space, proper facilities and company of the animal's own kind.

5. FREEDOM FROM FEAR AND DISTRESS - by ensuring conditions and treatment which avoid mental suffering.

(Brambell, 1965)
Chicken Catchers needed. Experience preferred, not essential.

Call 1-888-694-4045
Course for Catching Crews
Course Goals

• To increase awareness among supervisors of the relationship between catching and damage to birds = reduced welfare.
• Also provide supervisors with tools to train catchers in the proper methods of catching birds:
  • Power-point
  • Booklet
  • CD
  • Foreperson checklist
Employee Attitude Makes the Difference!

• Dr. Temple Grandin has found that the most important aspect which influences how animals are treated is management attitude (Grandin, 1994).

• The quality of employees and their proper supervision largely determines how many birds are injured (Kettlewell & Turner, 1985).

• If catchers are careful, conscientious and properly supervised then manual catching can result in low levels of injuries (Ekstrand, 1998).
Definition of Welfare

• Welfare encompasses the physical and mental wellbeing of the animal (Knowles & Broom, 1990).

• States such as fear, frustration, pain and discomfort may have adverse effects on the welfare of the individual (Duncan & Dawkins, 1983).
Why Treat Birds Humanely?

• Prevent pain and fear or injury or distress in the birds.

• Possible outcomes of inappropriate treatment:
  • Death, metabolic exhaustion, bruising, broken bones, emotional stress, torn skin & thermal stress.
  • Dislocated legs, crushed skulls, dislocated and broken wing bones, broken breast bones.
Why Treat Birds Humanely?

• Physical injuries (i.e. bruising, fractures, dislocation of bones, etc.) have huge economic implications (Elrom, 2001)

• It is estimated that downgrading losses are in the range of 8-25% (Elson, 1986)

• A large proportion of downgrading is due to physical damage and about 90% occurs in the 12 hours before slaughter (Elson, 1986)
Why is training needed?

• Catching, handling and loading of poultry are sources of stress and trauma to turkeys.

• Training will raise awareness of the importance of humane handling.
Employee Attitude Makes the Difference!

Four circumstances when humans are responsible for suffering of animals:
1. Ignorance – not knowing what to do
2. Inexperience – knowing what to do but not knowing how to do it
3. Incompetence – inability to do it
4. Inconsideration – not caring (Gregory, 1998)

You must prevent these circumstances from occurring in your crews.
The welfare of effects of different methods of depopulation on laying hens – Catcher Survey

• Sixteen poultry catchers from 4 companies.
• All poultry catchers had rec’d some form of training.
• Poor air quality, high temperatures, poor barn design.
• Majority of catchers regarded poultry as being sentient.
History of the Chicken

• Ancestors of domestic fowl were jungle fowl, probably the Burmese red jungle fowl.

• Domesticated for approximately 5000 yrs.

• Original relationship between humans and chickens was a predator/prey one which results in fear.

(Duncan, 2000)
History of the Turkey

• Ancestors of domestic turkeys were North American wild turkeys.

• Original relationship between humans and chickens was a predator/prey one which results in fear.
Review

• Unique anatomy:
  • no diaphragm
  • hanging up-side-down (shackling) will exert pressure on heart
  • poultry are the only species that could be shackled prior to stunning and slaughter?
• Scaly skin enriched with nociceptors (pain detection)
• Lack neocortex
• Nine air sacs (4 paired)
• Unidirectional air flow in lungs
• No lymph nodes
Bird Behaviour

- Chickens are very social animals.
- Will have a tendency to synchronize their activities and do things as a flock.
- All social activities are controlled by visual and vocal signals (Duncan, 2000).
• The space surrounding an animal which will cause avoidance or escape when entered into

• For birds, generally think of the **flight zone** in terms of the area around a flock.
Bird Behaviour (cont’d)

• Bird Behaviour - move quietly, slowly, no yelling or shouting
• Ensure you move quietly among the birds to reduce fear.
• Handling - Do not throw, minimize passing, carry by wings, neck, one leg, etc.
Skeletal System of the Turkey
Skeletal System of the Chicken
Number of Birds with Dislocated or Broken Bones in a Sample of 1324 Carcasses of Birds Dead on Arrival

<table>
<thead>
<tr>
<th>Dislocations</th>
<th>n</th>
<th>Fractures</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thigh (femur)</td>
<td>360</td>
<td>Crushed skull</td>
<td>35</td>
</tr>
<tr>
<td>Gastrocnemius Tendon</td>
<td>13</td>
<td>Breastbone (furculum)</td>
<td>10</td>
</tr>
<tr>
<td>Wing (humerus)</td>
<td>12</td>
<td>Drumstick (tibiotarsus)</td>
<td>10</td>
</tr>
<tr>
<td>Wing (ulna)</td>
<td>6</td>
<td>Thigh (femur)</td>
<td>7</td>
</tr>
<tr>
<td>Wing (radius)</td>
<td>5</td>
<td>Wing (radius)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wing (ulna)</td>
<td>6</td>
</tr>
</tbody>
</table>

(Gregory & Wilkins, 1992)
Lighting

• Bright lights and rapid movements can stress birds.

• Best practice to catch birds using lowered light intensity.

• Results of an experiment by Duncan (1989) showed broilers to have less stress when moved in the dark in comparison to the light.
Effects of Moving Birds in the Light and Dark

<table>
<thead>
<tr>
<th>Manual Catching/Carrying</th>
<th>Light</th>
<th>Dark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corticosterone (ng/ml)</td>
<td>8.50</td>
<td>2.29</td>
</tr>
<tr>
<td>Duration of TI (min)</td>
<td>3.15</td>
<td>2.10</td>
</tr>
<tr>
<td>Heart rate increase (beats/min)</td>
<td>108</td>
<td>88</td>
</tr>
</tbody>
</table>

(Duncan, 1989)
Prevention of Piling

When you walk through the barn birds will move away from you in a similar manner to the diagram below:

There is potential for danger in that birds may pile into corner “A” and smother. To avoid this problem move birds out of corner “A” before beginning catching.
Placing Birds

• Place gently into the crate or module to prevent damage to the bird.

• Ensure birds are in an upright position - if a bird is left upside down in the crate it will not right itself and will probably die during transit.

• Ensure no part of the bird is protruding from the container before closing the lid.
Load Densities

• Depends on available floor space in the crate, body size of birds and environmental conditions.

• Maximum density should allow all birds to rest on the floor if they are evenly distributed.

• Birds should be able to freely move their heads when resting on the floor.

• Loading density will vary based on the size of bird and air temperature.

(Recommended Code of Practice for the care & handling of farm animals, 2003)
Special Considerations

Cold & Wet Conditions:

• In extreme cold weather, broilers can be loaded at higher densities.

• Minimize extreme changes in temperature - it is helpful to lower the temperature in the barn before loading in winter.

Hot Conditions:

• Reduce the number of birds per crate or bin by 15-20% to keep the load temperature within an acceptable range.
Catching Report ✔

What is it?

• Checklist for the foreperson to evaluate the barn conditions and review the catching procedures

Why do we have it?

• “We manage what we measure”
• To evaluate the working environment
• To ensure that birds are being treated humanely throughout the entire catching period.
Humane Handling

• Do **not** carry by wings or neck

• Carry 2 - 4 birds per hand or as instructed by supervisor
  
  • Do **not** swing, throw or drop birds

• Minimize passing birds from person to person
Sick & Injured Birds

Do Not Load Sick & Injured Birds

How do I tell when not to load a bird?

✓ Down or off its legs
✓ Obviously sick (hunched, head drawn in, feathers ruffled)
✓ Not alert
✓ Birds that are exceptionally light
Guidelines for Dealing with Poultry

Identification of Sick or Injured Birds

- Weak, not alert
- Emaciated
- Unable to walk
- Swollen head
- Discoloured comb
- Broken leg
- Unable to rise/walk due to physical abnormality
  (Do not confuse with fatigue)

LOAD & TRANSPORT HEALTHY BIRDS
1. Identify
2. Cull
3. Dispose

CFIA Livestock Emergency Transport Line
1-877-814-2342

Environmental Considerations

<table>
<thead>
<tr>
<th>Maximum Loading &amp; Transport Guidelines</th>
<th>Moderate Density</th>
<th>Extreme Heat Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler Chickens</td>
<td>63 kg/m²</td>
<td>54 kg/m²</td>
</tr>
<tr>
<td>Broiler Breeders</td>
<td>66 kg/m²</td>
<td>56 kg/m²</td>
</tr>
<tr>
<td>Turkeys</td>
<td>98 kg/m²</td>
<td>63 kg/m²</td>
</tr>
<tr>
<td>End-of-Lay Hens</td>
<td>63 kg/m²</td>
<td>54 kg/m²</td>
</tr>
</tbody>
</table>

Factors to Consider
- Duration of transport (including loading and lairage)
- Weather at load out, along travel route and at processing plant
- Time of day of load out
- Number of birds in the barn
- Ventilation in barn
- Condition of barn (eg. litter)

Recommended Code of Practice for the Care & Handling of Farm Animals

Air temperature in load should be maintained at 5°C to 30°C for all birds, except end-of-lay hens, which should be maintained at 13°C to 30°C.

Recent research (Mitchell and Kettlewell, 2008) recommends for broilers, an upper in load temperature limit of 24°C.

Reference: The Recommended Code of Practice for the Care and Handling of Farm Animals - Poultry
Sick & Injured Birds

What do I do with an unfit bird?

• Producer to humanely euthanize birds using cervical dislocation or other humane method.

What does Cervical Dislocation do?

• Dislocation of the neck vertebrae from the cranium damages the lower brain region, causing quick unconsciousness.

(Centre for Animal Welfare: Euthanasia of Poultry, 2003)
At the plant

- Monitoring – heat, cold stress:
  - Look for shivering (cold), open mouth breathing (heat).
- Shelter – from inclement weather.
- Crates moved in a horizontal position.
- No throwing, knocking over or dropping of crates.
Moving Crates

Keep crates horizontal
Unloading/Shackling

- Blue or low-intensity lighting should be used – will calm birds
- Recommend use of a breast comforter
- Recommend regular breaks for staff
- Escaped birds must be caught ASAP
At the Plant...

Shackling:
- Blue or low-intensity lighting should be used – will help calm birds
- Birds must never dumped or crates dropped
- Birds must be shackled by both legs
- Shackles must be appropriate for the size of the bird
- Recommend use of a breast comforter
- Minimize time in shackles – long enough for wing-flapping to stop
- Recommend regular breaks for staff
Shackling

• Lift birds using both hands – one leg per hand

• No squeezing or tugging into shackles

• Place firmly but gently
Do Not *Shackle* Obviously Sick or Injured Birds

How do I tell when not to shackle a bird?

- Obviously sick (hunched, head drawn in, feathers ruffled)
  - Birds with obvious broken bones or injuries
  - Birds that are exceptionally light
What do I do with an unfit bird?

• Present bird for euthanasia.
• Leave in crate and move to the euthanasia station.

What does Euthanasia mean?

• A quick and painless death with immediate loss of consciousness.
Bleeding

- A ventral neck cut is made across main blood vessels
  - Carotid arteries
  - Jugular veins

- Birds are bled in order to
  - Ensure animal is dead
  - Drain as much blood as possible
  - Improve quality of meat

Image: HSA, 2005
Bleeding

- All birds must be cut and show no signs of sensibility entering scald.
- Backup person for missed birds.

Source: [http://www.grandin.com/poultry.audit.html](http://www.grandin.com/poultry.audit.html)
Auditing Poultry Welfare

Handling Measures:
- Percentage broken wings
  (More than 3% on a per bird basis fails (all bird weights)
  1% is excellent for light weight birds)
- Percentage of broken legs.
- Percentage of bruised birds.
- DOA’s (<.6% per day)
- Percentage of birds that are not able to lie down in the transport crates without being on top of other birds.
- **Poor bleed machine cutting - 100% must be effective.**
- Live birds in the scalder - There must be no uncut red birds. All birds that miss the bleed machine must be cut by the backup bleeder person.
Auditing Poultry Welfare

Core Criteria

- Poor cage maintenance - Must have 95% of the chicken compartments in good repair. No loose wire ends or broken plastic parts.
- Poor stunning - 99% of the birds must be rendered insensible by the stunner.

Acts of Abuse or Neglect

- Throwing birds
- Stomping on birds
- Putting live birds in the trash
PACCO

- Professional Animal Auditor Training Certification.
- Trains auditors to meet the demand for third-party bird welfare auditors.
- Teach auditors how to interpret the audit instrument.
- Farm-to-fork audits.
Canadian Livestock Transporters

Poultry Module
Ontario Poultry Handling and Transportation Manual
Questions?