



An Aviagen Brand

## *Arbor Acres*

Broiler Carcass Condemnation  
and Downgrade Management  
Pocket Guide



2014

#### **Introduction**

The purpose of this pocket guide is to help optimize broiler processing performance. It provides information and guidance on how to improve management practices at the farm and processing plant, to help promote carcass quality. The management practices contained within this booklet draw attention to the importance of maintaining flock health and welfare, hygiene and bird handling at every stage of the broilers life and throughout the processing chain once the birds have left the farm.



**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Inflammatory Process / Cellulitis**



## **BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT: Inflammatory Process / Cellulitis**

<b>Causes: Scratches to skin at farm level</b>	
<b>Solutions</b>	<b>Comments</b>
Avoid overcrowding	Follow local legislative guidelines
Ensure correct feeder and drinker space is maintained	125 birds per 40 cm (16 in) bell drinker and 10-12 birds per nipple (lower figure for heavier broilers) 45-80 birds per pan feeder, 2.5 cm (1 in) per bird for chain / augur or 70 birds per 38 cm (15 in) tube feeder Monitor feeding activity closely if using a long dark period or meal time feeding program
Avoid excessive bird activity	Use dawn to dusk dimmers when using a lighting program Use recommended light intensities: 5-10 lux (0.5-1 ft candles) after 7 days of age
Ensure birds are kept calm during the catching process	Decrease light intensity during catching to reduce excess bird movement and ensure adequate training of catching crew members
Ensure birds have access to feed at all times	Manage feeding appropriately to ensure feeders never run empty

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Pododermatitis / Hock Marking**



**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Pododermatitis / Hock Marking**

<b>Causes: Burns due to wet litter and extended resting times</b>	
<b>Solutions</b>	<b>Comments</b>
Maintain good litter quality	Use recommended ventilation management / program for bird bio-mass in house Ensure correct stocking densities Use correct drinker management: <ul style="list-style-type: none"><li>• Correct pressure in nipple drinker lines</li><li>• Correct level in open source drinkers</li><li>• Correct drinker heights</li><li>• Keep drinkers well maintained</li></ul>
Improve / adjust nutritional specifications	Follow recommended broiler nutrient specifications, as unbalanced diets lead to poor litter conditions Analyze feed samples to ensure correct specifications are being met
Regular, timely flock inspections	Flocks should be slowly walked regularly (> 3 times) during a 24 hour period to ensure adequate bird movement and to release heat and moisture from the litter

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Deep Pectoral Myopathy (Green Muscle)**



Early Acute Pectoral Myopathy



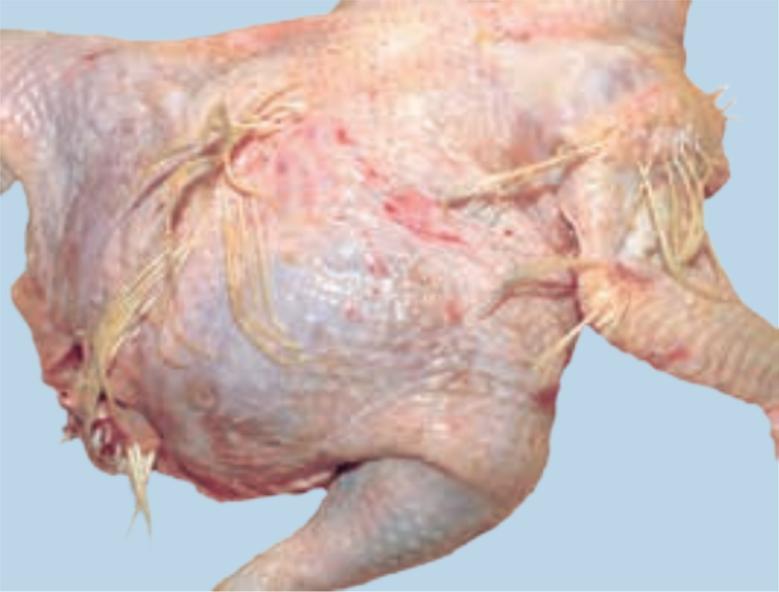
Aged Pectoral Myopathy

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Deep Pectoral Myopathy (Green Muscle)**

**Cause: Interruption of blood flow due to swelling of the deep pectoral muscle triggering necrosis – generally on farm, but can occur during long transportation (red/purple muscle prior to green muscle), due to excessive wing flapping**

<b>Solutions</b>	<b>Comments</b>
Avoid excessive bird activity	Use dawn to dusk dimmers when using a lighting program Use recommended light intensities: 5-10 lux (0.5-1 ft candles) after 7 days of age Appropriate training of staff for bird handling during the catching and weighing process Use migratory fences Avoid sudden noise and light increases, walk through birds slowly and with care Avoid excessive wing flapping
Ensure birds are kept calm during the catching process	Decrease light intensity during catching to reduce excess bird movement Ensure adequate training of catching crew members Avoid excessive wing flapping

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:**  
**Poor De-feathering**



**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:**  
**Poor De-feathering**

**Causes: Incorrect adjustment of de-feathering equipment, poor flock uniformity / incorrect bird sizes for current de-feather setting**

<b>Solutions</b>	<b>Comments</b>
Improve adjustment of de-feathering equipment	De-feathering equipment should be correctly calibrated for size of bird being processed
Improve on farm flock uniformities	This covers a variety of management aspects e.g. Brooding Feed quality Stocking densities Ventilation management Feeder and drinker management, etc.
Ensure correct scalding temperature and time	Suggested temperatures for medium scalding are 55-57°C (131-135°F) Suggested scald time for medium scalding is 60-120 seconds

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Broken Bones**



Broken Leg



Broken Wing

## **BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT: Broken Bones**

**Causes: Trauma during growing, catching, transportation or incorrect handling at processing, incorrect stunning setting and post-mortem trauma**

<b>Solutions</b>	<b>Comments</b>
Care when handling birds during catching and processing	All welfare guidelines should be followed during catching and processing All catching and processing staff should be adequately trained Automatic catching equipment should be in good working order and correctly calibrated
Correct stunning settings	All equipment being used should be correctly calibrated Follow manufacturers recommendations and any local regulations for equipment being used Routinely check stunner settings throughout processing
Improve adjustment of de-feathering equipment	De-feathering equipment should be correctly calibrated for size of bird being processed

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Bruising / Red Wing Tips**



**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Bruising / Red Wing Tips**

**Causes: Damage during growing, catching, transportation or handling at processing, incorrect stunning setting, insufficient bleeding time**

<b>Solutions</b>	<b>Comments</b>
Care when handling birds	Follow all welfare guidelines during the catching and bird handling process All catching staff should be adequately trained Automatic catching equipment should be in good working order and correctly calibrated
Ensure correct stunning setting	Follow manufacturers recommendations for equipment and any local regulations to ensure correct stunning settings are adhered to Check settings on a regular basis throughout processing
Increase bleeding time	Adjust processing line speeds to allow adequate time for correct bleed out of birds (60-120 seconds) before further processing

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Skin Leukosis / Dermal Cell Carcinoma**



**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Skin Leukosis / Dermal Cell Carcinoma**

**Causes: Infection with viral particles (most, if not all, skin leukosis are lesions caused by Mareks Virus)**

<b>Solutions</b>	<b>Comments</b>
Vaccination	Correct vaccination program should be in place for local disease challenge and environment (discuss with an approved Veterinarian)  Follow good vaccination protocols in the hatchery
Ensure adequate down-time period between flocks  Improved hygiene	Bio-security and hygiene procedures should be followed both during and in between flock placements

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Leg Condemnations**



## BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT: Leg Condemnations

<b>Causes: Reovirus infection, bacterial causes (stress, poor farm hygiene, immunosuppressive diseases), incorrect heavy bird management</b>	
<b>Solutions</b>	<b>Comments</b>
Control of disease challenges / infections	Correct vaccination program should be in place for local disease challenge and environment (discuss with an approved Veterinarian)
Improve on farm bio-security and hygiene	Strict bio-security and hygiene procedures should be followed and monitored both during and in between flock placements
Management practices <ul style="list-style-type: none"> <li>• Maintain stocking densities as recommended</li> <li>• Ensure good flock uniformity</li> <li>• Ensure appropriate bird handling and catching procedures are in place</li> <li>• Ensure correct sized shackles used for bird weight</li> </ul>	Review current management practices to ensure all guidelines and recommendations are being followed with strict welfare and health guidelines being adhered to Leg condemnations tend to be higher in heavy weight birds (> 3kg/6.6 lb)
Maintain appropriate bird activity	Use dawn to dusk dimmers when using a lighting program Light intensity should be at the correct level for age of birds to allow adequate activity levels Recommended light intensities: 5-10 lux (0.5-1 ft candles) after 7 days of age
Ensure birds are kept calm during the catching process	Decrease light intensity during catching to reduce excess bird movement and ensure adequate training of catching crew members

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:**

**Septicemia / Toxemia (birds with signs of infection, toxemia, sickness, dehydration or are significantly smaller than the population)**



Bird on right non-thriving or poorly thriving due to infection, toxemia, or sickness

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:**

**Septicemia / Toxemia (birds with signs of infection, toxemia, sickness, dehydration or are significantly smaller than the population)**

<b>Causes: Disease Infections, poor nutrition, failure to thrive, immunosuppressive diseases</b>	
<b>Solutions</b>	<b>Comments</b>
Control of disease challenges / infections	Correct vaccination program should be in place for local disease challenge and environment (discuss with an approved Veterinarian)  Strict bio-security and hygiene procedures should be followed both during and in between flock placements
Improve / adjust nutritional specifications	Follow recommended broiler nutrition specifications  Analyze feed samples to ensure correct specifications are being met
Management practices	Review current management practices to ensure all guidelines and recommendations are being followed with strict welfare and health guidelines being adhered to

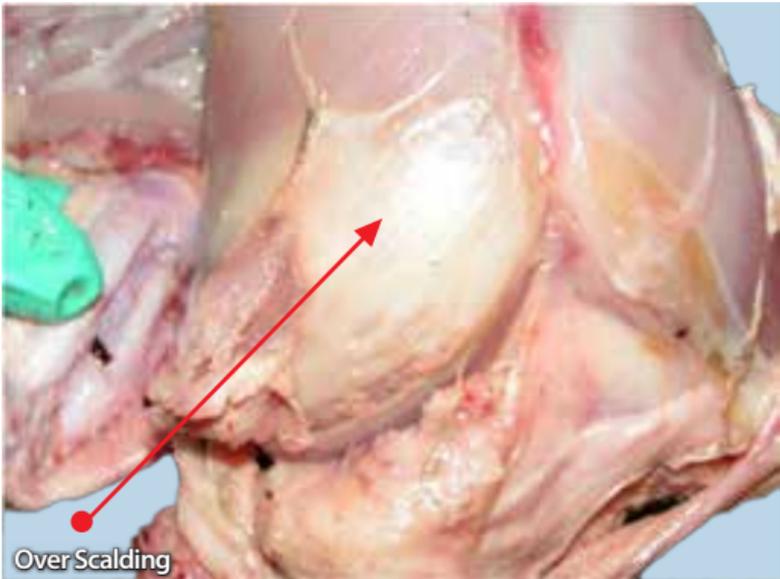
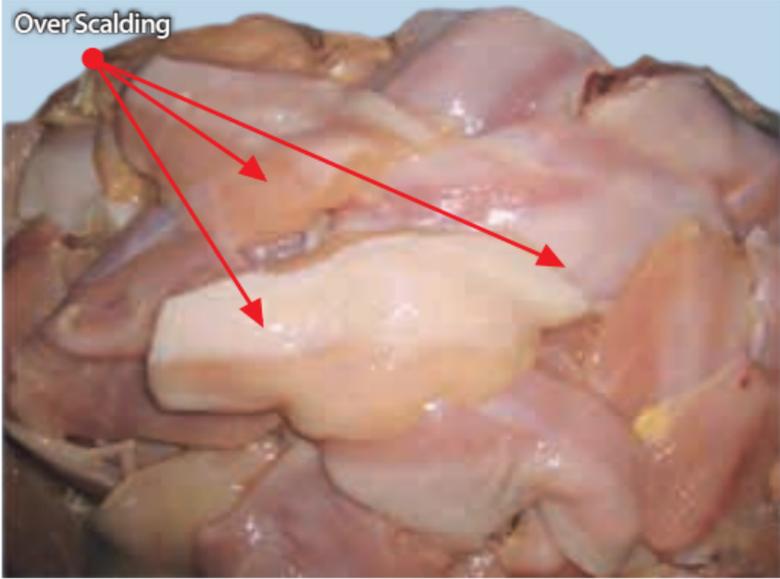
**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Machine Damage**



**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Machine Damage**

<b>Causes: Poorly adjusted evisceration equipment</b>	
<b>Solutions</b>	<b>Comments</b>
Adjust evisceration equipment	Evisceration equipment should be correctly calibrated for size of bird being processed and the cut of meat required All line speeds and equipment should be synchronized during the evisceration process
Staff training	All staff in the evisceration area should be correctly trained

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Over Scalding**



## **BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT: Over Scalding**

<b>Cause: Excess temperature or time in scalding tank</b>	
<b>Solutions</b>	<b>Comments</b>
Decrease scalding tank temperature	Suggested temperatures for medium scalding are 55-57°C (131-135°F)
Reduce scalding time	Suggested scald time for medium scalding is 60-120 seconds

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:**  
**Poor Bleeding**



## **BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT: Poor Bleeding**

<b>Causes: Poor/ incorrect neck cutting, insufficient bleeding time</b>	
<b>Solutions</b>	<b>Comments</b>
Increase bleeding time	Adjust processing line speeds to allow adequate time for correct bleed out of birds (60-120 seconds) before further processing
Adjust automatic cutting machine (ACM)	The ACM should be correctly calibrated for size of bird being processed and monitored on a regular basis
Improve flock uniformity	Effective planning to ensure birds of a similar size and weight are processed at the same time  Improve on farm management practices to improve uniformity at processing

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Bile / Fecal Contamination**



**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:  
Bile / Fecal Contamination**

**Causes: Incorrect machine adjustment / poor evisceration operator technique (evisceration process), incorrect feed withdrawal times**

Solutions	Comments
Adjust equipment accurately	<p>Evisceration equipment should be correctly calibrated for bird size and weight</p> <p>Use manufacturers recommended guidelines on equipment use and monitor on a frequent basis</p>
Provide adequate training for staff	All staff should be trained correctly in evisceration techniques
Ensure correct feed withdrawal times prior to processing	<p>Birds should be without feed for 8-12 hours prior to processing to ensure the Gastro Intestinal Tract (GIT) is empty</p> $\text{Feed withdrawal period} = \text{time in house without feed} + \text{catching time} + \text{transport time} + \text{holding (lairage) time}$

**BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT:**  
**Scabbing**



## **BROILER CARCASS CONDEMNATION AND DOWNGRADE MANAGEMENT: Scabbing**

**Causes: High stocking densities, incorrect feed / drinker management, excessive bird activity, incorrect lighting management**

<b>Solutions</b>	<b>Comments</b>
Avoid excessive bird activity	Use dawn to dusk dimmers when using a lighting program  Use recommended light intensities: 5-10 lux (0.5-1 ft candles) after 7 days of age  Appropriate training of staff for bird handling during the catching, walk through and weighing process
Avoid overcrowding	Follow local legislative guidelines
Ensure correct feeder and drinker space are maintained	125 birds per 40 cm (16 in) bell drinker and 10-12 birds per nipple (lower figure for heavier broilers)  45-80 birds per pan feeder, 2.5 cm (1 in) per bird for chain / augur or 70 birds per 38 cm (15 in) tube feeder
Ensure birds have access to feed at all times	Manage feeding appropriately to ensure feeders never run empty



Every attempt has been made to ensure the accuracy and relevance of the information presented. However, Aviagen accepts no liability for the consequences of using the information for the management of chickens.

For further information please contact your local Technical Service Manger.

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