



**ANIMAL WELFARE ASSESSMENT CONTEST 2020**



# Turkey Scenario

Animal Welfare Assessment Contest 2020

# Notes

- 1. THESE ARE FICTITIOUS FACILITIES.** They have been created using pictures and information collected from multiple sites, as well as realistic, yet fabricated information. *Neither facility actually exists as presented here.*
- 2. Please use the images provided throughout the presentation as well as text when making your assessment.**

# Context

## System L

- Located in Southeastern United States
  - Warm season: May-September
    - Average temperature range: 72F(22C)-93F(34C)
  - Cool season: October-April
    - Average temperature range: 20F(-6C)- 60F(15C)
  - Average yearly relative humidity:
    - Morning: 90%
    - Evening: 57%

## System V

- Located in Southeastern United States
  - Warm season: May-August
    - Average temperature range: 70F (21C)-90F (32C)
  - Cool season: September-April
    - Average temperature range: 40F(4C)-60F(15C)
  - Average yearly relative humidity:
    - Morning: 83%
    - Evening: 51%

# Operation overview

## System L

- Production targets
  - All male run
  - Average weight at slaughter: 40lbs (18 kg)
  - Average age at slaughter: 20 weeks
  - Total production runs/year: 2.5



## System V

- Production targets
  - All female run
  - Average weight at slaughter: 15lbs (6.8 kg)
  - Average age at slaughter: 13 weeks
  - Total production runs/year: 3.5



# Facility overview

## System L

- Brooder to Grow out facility (all-in all-out)
- Facility is 2 years old
- 8 barns total (2 brooder, 6 grow out)
  - Target stocking density: 1ft/bird
  - 16,000 birds per barn



## System V

- Grow out facility
- Facility is 30 years old
- 4 barns total
  - Target stocking density: 0.8ft/bird
  - 20,000 birds per barn



# Hatchery protocols: System L

## **Hatchery:**

- Poults are vaccinated via spray with salmonella and coccidia vaccine
- Beak treatment removal is performed using infrared equipment (beak tip sloughs off at 8 days)
- Toe tip removal is not performed

## **System L:**

- Poults are transported at day of hatch
  - 1 hour from hatchery to brooder barns
  - DOA upon placement: 20/16,000 poults
- Pullets transferred via carts 40 feet away at 5 weeks to grow-out barns located on site
- Vaccinated (vaccine in water) with hemorrhagic enteritis at 6 weeks

# Hatchery protocols: System V

## **Hatchery:**

- Poults are vaccinated via spray with salmonella and coccidia vaccine
- Beak treatment removal is performed using infrared equipment (beak tip sloughs off at 10 days)
- Toe tip removal is performed using microwave claw processor equipment (toe sloughs off around 10 days)
- Poults are held for 24 hours
  - 1.5 hour from hatchery to brooder barns (off-site)
  - DOA upon placement: 160/20,000 poults

## **System V:**

- Poults transported 1.5 hours from brooder barns to system V at 4 weeks
  - DOA: 80/20,000
- Vaccinated (vaccine in water) for hemorrhagic enteritis and bordetella at 5 weeks



# Environmental parameters

## System L

- Lighting
  - Step-down lighting system (LED lights)
  - Day 1: 24 hours
  - Day 2: 23 hours
  - Days 3-:20 hours
  - Days 6-9: 18 hours
  - Day 9-20 weeks: 16 hours
- Ventilation
  - Positive pressure ventilation with 3 exhaust fans
- Environmental enrichment
  - Brooder: Wood shavings
    - Cleaned out, new shavings added every flock
  - Grow out: Wood shavings
    - Cleaned out, new shavings added 1x/year
    - Top dressed as needed

## System V

- Lighting
  - Natural light (Fluorescent light supplementation)
    - Days 1-5: 24 hours
    - 1-13 weeks: 12 hour
  - Ventilation
    - Natural ventilation with side curtains
- Environmental enrichment
  - Wood shavings
    - Cleaned out and news shavings added twice a year
    - Top dressed as needed
  - Straw bales added weekly
  - Pecking stones and string

# System L



# System V



# Flock management and staffing

## **System L**

- This system is run by the contract owner of the barns and two additional employees
  - Contract owner has over 20 years of experience with turkeys and received a BS in Animal Science
  - Employees received on-boarding for 1 week and shadow owner for 2 weeks
  - Annual training is also provided

## **System V**

- This system is run by the contract owner of the barns and one additional employee
  - Contract owner has 15 years of experience with turkeys
  - Employee receives hands-on training until the owner believes they are ready to work independently

# Nutrition

## System L

- Antibiotic Free
  - Zoalene (chemical anticoccidial)
- Formulations
  - **Starter (0-3wk)** – Crumble
    - Prot: 28%, Energy 1377kcal/lb
  - **Grower 1 (3-6 wks)** – Crumble
    - Prot: 25%, Energy 1406kcal/lb
  - **Grower 2 (6-9 wks)** – Pellet
    - Prot: 22.5%, Energy 1450kcal/lb
  - **Finisher (9-12 wks)** – Pellet
    - Prot: 20.2%, Energy 1500kcal/lb

## System V

- Standard Feed
  - Bacitracin (antibiotic to prevent necrotic enteritis)
  - Lasalocid (Anticoccidial ionophore)
- Formulations
  - **Pre-starter (0-1 wks)** – Mash
    - Prot: 28%, Energy 1375kcal/lb
  - **Starter 1 (1-3 wks)** – Crumble
    - Prot: 28%, Energy 1400kcal/lb
  - **Starter 2 (3-5 wks)** – Crumble
    - Prot: 25%, Energy 1410kcal/lb
  - **Grower (5-9 wks)** – Pellet
    - Prot: 22.5%, Energy 1450kcal/lb
  - **Finisher (9-12 wks)** – Pellet
    - Prot: 20.2%, Energy 1500kcal/lb

# On-farm euthanasia



## System L

- Primary euthanasia method is non-penetrating captive bolt gun
  - Cull rate: 2.3%
  - 99% rendered insensible on first attempt
  - 99% achieved cardiac and respiratory arrest (death) with procedure
- All employees are trained on method and required to confirm insensibility and death prior to moving the carcass



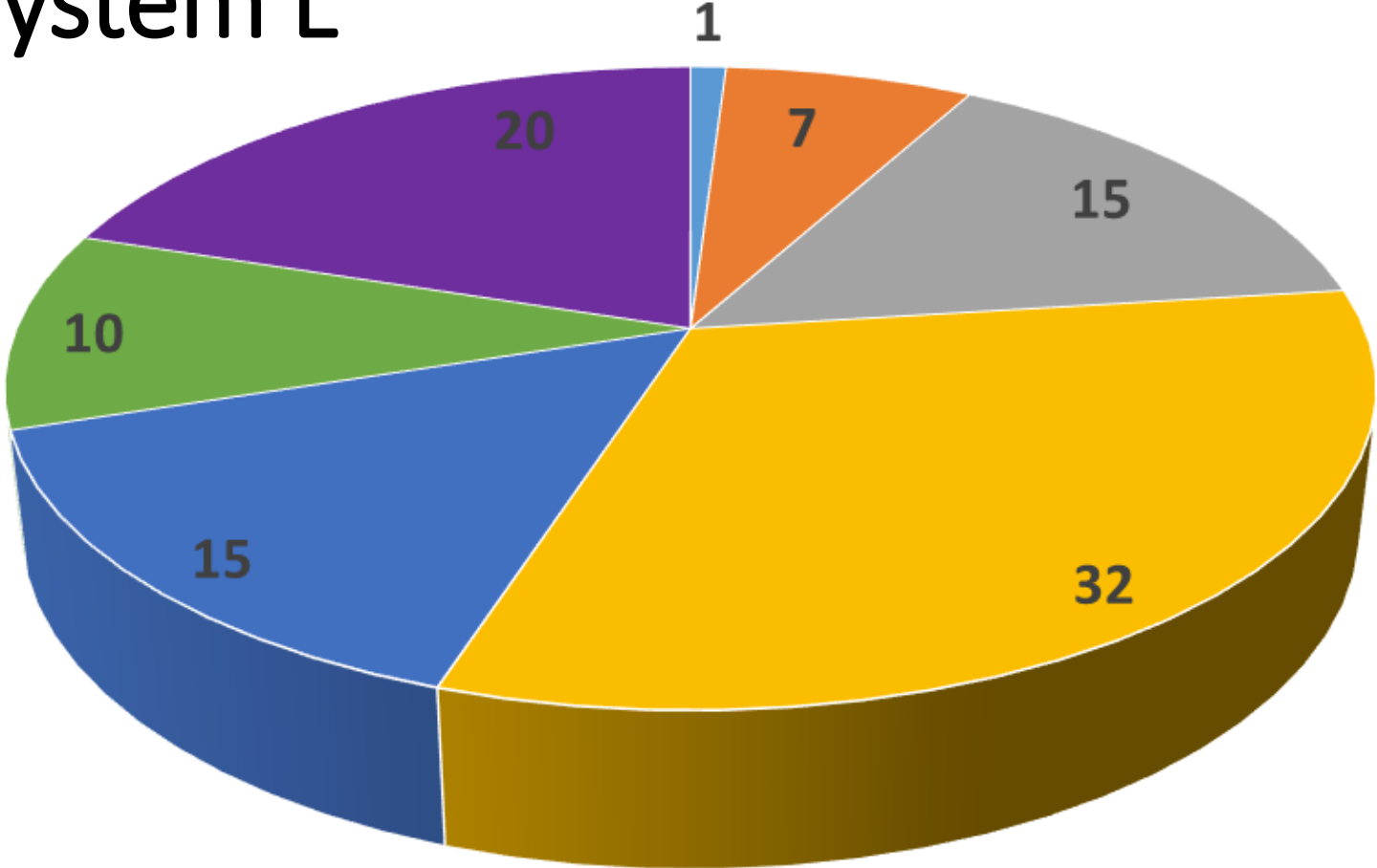
## System V

- Primary euthanasia method is cervical dislocation
  - Cull rate: 1.1%
  - 93% rendered insensible on first attempt
  - 97% achieved cardiac and respiratory arrest (death) with procedure
- Farm owner is trained and solely responsible for euthanasia
- In 2018 and 2019 farm received internal audit failures for timely euthanasia issue with poults

# Mortality and morbidity

<b>Parameter</b>	<b>System L</b>	<b>System V</b>
Mortality		
% Total farm mortality (end of production; include unknown, round heart and starve outs)	5.1%	3.2%
Morbidity		
% leg deformities	1.7%	0.5%
% Pododermatitis (bumble foot)	1.2%	0.3%
% breast blisters	4.2%	3.5%
% Injury (sores/wounds due to pecking and aggression)	2.3%	1.1%

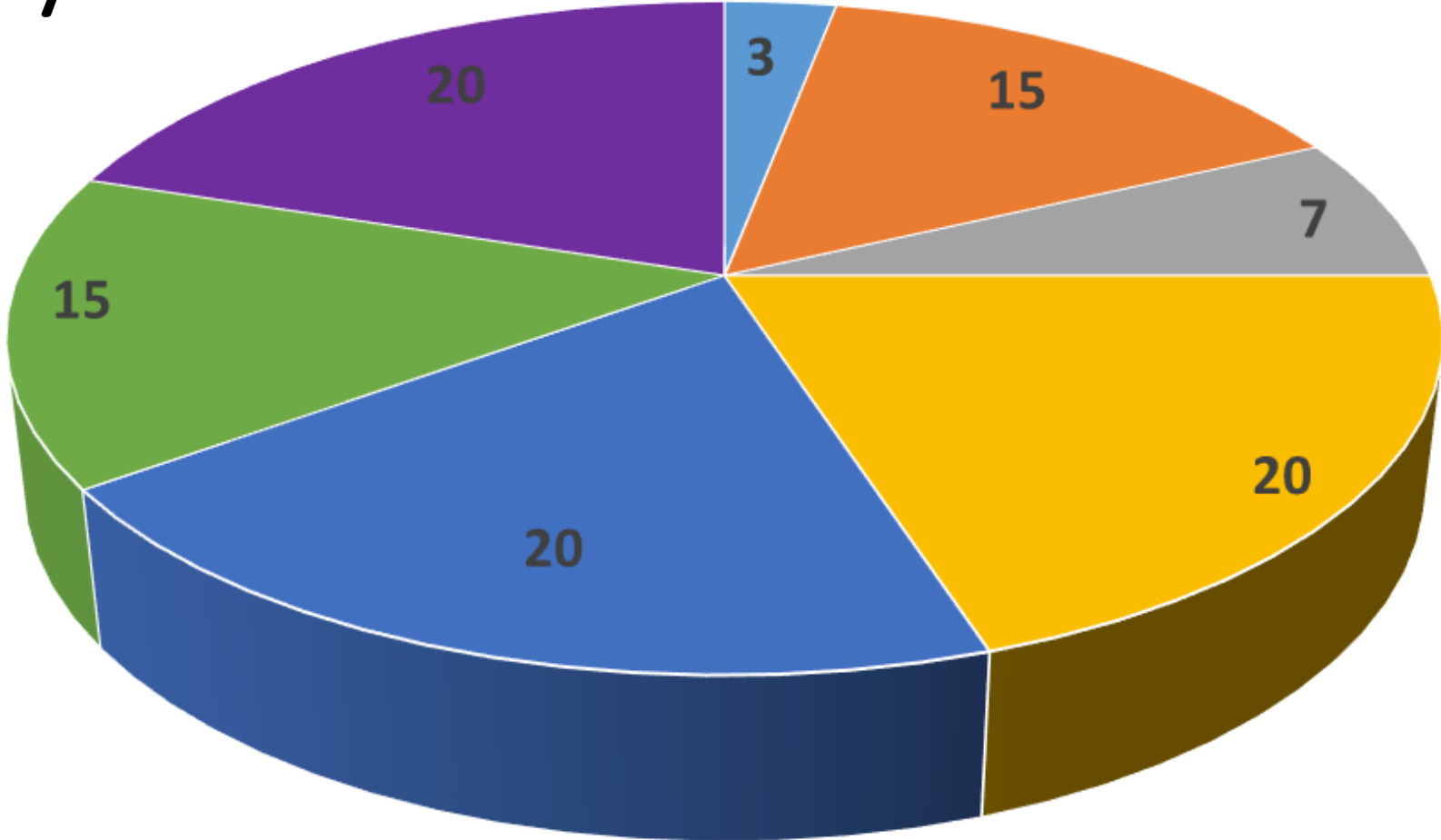
# Behavior: System L



■ Preening ■ Strutting ■ Aggression ■ Sitting ■ Walking ■ Standing ■ Eating



# Behavior: System V



■ Preening ■ Strutting ■ Aggression ■ Sitting ■ Walking ■ Standing ■ Eating

# Aggression: System L



# Catching and transport

## **System L**

- TA800 automatic turkey loader with hydraulic system
- Toms are loaded at night utilizing blue light head lamps as the only source of light in the barn
- Total load time: 2.7 hours
- Loading crew are employed by company and obtain handling certifications on an annual basis

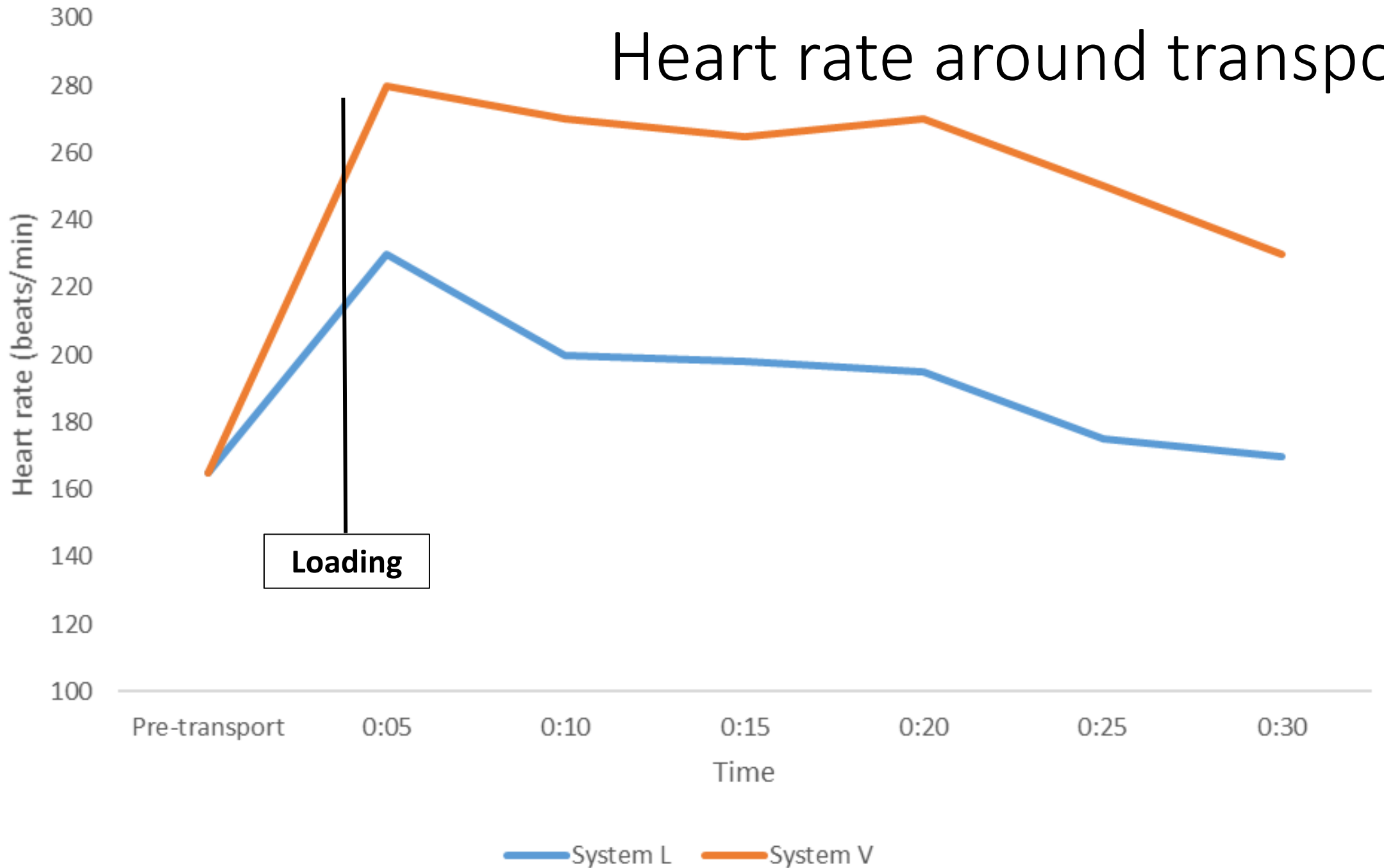
## **System V**

- Turkeys are loaded manually using a catch and pass system where one person is positioned in barn and other person is positioned on loading deck
- Hens loaded when crew is available; varies between day and night loads
- Total load time: 5 hours
- Crew is independently contracted in and personnel change each load out

# System L



# Heart rate around transport



# Load-out parameters

<b>Parameter</b>	<b>System L</b>	<b>System V</b>
Impacted heads	0.2%	2.1%
Caught tails	0.01%	1.3%
Fresh blood on wings after unloading	5.1%	8.2%
Carcass bruising	0.8%	2.1%
Wing fractures	0.1%	.8%

# System V: Broken wing



# Slaughter

## System L

- Controlled Atmospheric Stunning (CAS)
- Two-stage gas stunning vertical equipment system
  - Stage 1: 40% CO<sub>2</sub> for 1 minute in transport containers
  - Stage 2: 80% CO<sub>2</sub> for 2 minutes on conveyor belt
- Birds shackled with one leg: 0.5%
- Birds entering scalding alive: 0.0001%

## System V

- Electric water bath stunner
- Birds enter a water bath stunner (150mA/bird)
- Shackle to stun time: 95s
- Birds shackled with one leg: 3%
- Birds entering scalding alive: 0.02%



# Transport outcomes

Parameter	System L	System V
Stocking density on truck	80kg/m <sup>2</sup>	95 kg/m <sup>2</sup>
Average transport time	1.2 hours	2 hours
Dead on Arrival	Summer: 0.5% Winter: 0.3%	Summer: 2.7% Winter: 1.7%
% Carcass condemnations	0.2%	0.3%
% Downgrades	2.7%	2.5%