Pen Stocking Capacities for Different Weight Ranges of Overnight Cattle at Harvest Facilities
Objective

- To determine the space required for cattle to be able to lie down in holding pens at the harvest facility.
• Pen stocking rates are determined so that cattle have adequate space to lie down if held overnight (Food Safety and Inspection Service, 2011).
Background

• Pens should be designed to hold one or two truck loads of livestock and animals should be kept in transport groups when possible (Grandin, 2013).
Background

• A general guideline is 20 sq. feet per steer or cow if the live weight is estimated at 1,200 pounds. This space allocation also accounts for the needed “working space” to move animals out of the pen (Grandin, 2013).
Working Space
• GoPro cameras were used to record video and photographs of cattle at the plant.
• Mounts and a remote control allowed for recording without disturbing the cattle.
• Cameras were set up in the early evening.
• Pens to be observed and recorded were pre-determined before cattle arrival.
• Pens chosen were:
  – Away from the docks
  – Away from the plant entrance
  – Near an external light source
• Videos and photographs were taken between 2-3AM, in order to capture most of the cattle resting.
• **Data Collected:**
  – Average weight of cattle
  – Sex of cattle
  – Pen dimensions
  – Number of cattle in the pen
  – Cattle arrival time at the plant
Pen #5
Pen Dimensions: 2,535 sqft
Space per Head: 28.8 sqft
Average Weight of Animal: 1,218.6 lbs
Number of Cattle: 88hd
Pen #4
Pen Dimensions: 2,000 sqft
Space per Head: 20.2 sqft
Average Weight of Animal: 1,387.9 lbs
Number of Cattle: 99 hd
Pen #7
Pen Dimensions: 2,130 sqft
Space per Head: 19.7 sqft
Average Weight of Animal: 1,581.0 lbs
Number of Cattle: 108 hd
Obstacles

- Weather
- Cattle Behavior
- No hold over cattle for the night
- Employee nightly activity
Current Status

• Data collection is currently ongoing.
• Preliminary stocking estimates:
  – 1,200 lb. animals, 20 sqft per animal
  – 1,300 lb. animals, 21 sqft per animal
  – 1,400 lb. animals, 22 sqft per animal
  – 1,500 lb. animals, 23 sqft per animal
Literature Cited


Thank you