HUMANE ANIMAL HANDLING

- Summer Intern for Seaboard Foods
- Observations and strategies for mitigating hot weather conditions on market hogs
HOT WEATHER TRANSPORTATION

- Truck Temps
- Hog Wetting
- Unloading Observations

Doing better by knowing better... every step of the way
Truckers watering before scale when dock alley is empty.

- Summer time heat results in trailer temperatures rise quickly as wait time increases even for short periods of time.
- Watering hogs right before unloading can cause unneeded humidity within the trailer. Drivers need to assess the situation prior to wetting related to wait time.
- Water hoses are to be available by the dock alleys to water hogs when needed in case of delayed unloading.
- If a dock is available there is no need to water before unloading: this causes hogs to get up and move around causing unneeded heat and humidity.
- Getting hogs off the truck as soon as possible: not watering before scale and taking unnecessary time before docking and unloading.
FOLLOW TQA GUIDELINES

- Do not pour large amounts of cold water on an overheated pig as the shock may cause added stress or possible death.
- Ensure there is even distribution of water in all compartments of the trailer.
- For wetting to work, animals should be made damp and then allowed to dry.
- The wetting process should be monitored to prevent excess humidity build-up.
- Air movement is needed for evaporative cooling to work.
- Trucks should be in motion, have access to bank fans or crosswinds (parking next to a building that restricts air flow is to be avoided during truck wait times). Parking of trailers during wait time should not be side by side as this is too restrictive to air movement.
- Allowing time for evaporation of the water will remove body heat from the animal.
- Pigs should not be wet again until evaporation has occurred.
- Continual wetting with no time for evaporation can increase heat stress by creating a sauna effect.
WETTING HOGS

- Most beneficial to wet hogs for 5-10 minutes at least.
- Watering hogs for under 5 minutes, spraying only one side, or only lightly spraying hogs too quickly can cause negative effects. Hogs will get up and become exciting causing more movement as well as the water that was used adding more humidity in the truck.
TRUCK EXHAUST PLACEMENT

- Exhaust blowing hot air into the top deck of the truck where hogs are located.
- Front area of the truck inside air temperature range from 15-20 degrees hotter.
  - Exhaust blowing hot air
  - Engine heat near truck is about 20-30 degrees hotter than outside temp
  - That air blows back into the areas between the trucks causing a rise in temp
  - Air flow between trucks could be improved- fans (that don’t blow into faces of the hogs being unloaded)
Metal Temps before & after cooling
- Temperature of trucks (outside metal temps) decreased rapidly when truck docked and sprinklers were turned on.
- Metal temperatures would decrease from 5-10 degrees cooler when sprinklers were on and truck was docked and unloading.

Yet, Morgan hypothesized that with a different stream those temperatures could decrease more and at a faster rate.
SPRINKLERS ON TRUCKS

- Here you can see the sprinklers turned on spraying a fine mist. This only reaches to about the middle of the truck and doesn’t contact during high wind.

- A different nozzle head piece could improve spraying distance and cool trucks faster. For more even water distribution.
Temperature of hogs near front section of the trucks were consistently 5-10 degrees hotter than those in the middle or rear of the truck.

Based on data collected of air temp inside trucks and surface temperature of hogs in the trucks.
GUIDE TO USE ON HOT WEATHER MANGEMENT

- Temperatures of 80°F (27°C) or higher should require the wetting of pigs prior to loading (use a coarse heavy spray but not a fine mist) for pre-wetting process.

- Follow scheduled times of arrival for both loading and unloading to avoid delayed shipment which can result in heat buildup in the trailers.

- Schedule processes are essential to ensure the destination plant will have staff and capacity to unload promptly.

- Trailer and animal heat builds up rapidly in a stationary vehicle. The facility should have accommodations for trucks waiting to unload. If those are not available the trucks should be rescheduled for a later time but in the interim the should keep driving for air movement or get to a shaded area with water access.
Pig condition in yards should be monitored as temperatures begin to exceed 70°F (21°C). Facilities should have procedures and equipment for available wetting pigs with water when necessary. For maximum cooling effect, the sprinklers should have a spray coarse enough to penetrate the hair and wet the skin. Sprinklers that create a fine mist can increase humidity without penetrating the hair and should not be used.

Sprinklers should be used intermittently to allow evaporative effects to cool animals. Continuous wetting doesn’t allow for evaporation and can make cooling ineffective.

When postponing is impossible, trucks should be kept moving and drivers should not be allowed to stop with a loaded trailer for an extended period of time unless interventions such as water and/or fans can be utilized.

When the truckers reach the plant, livestock must be unloaded promptly. Heat and humidity become extremely critical at or above 80°F (27°C) and 80 percent humidity or greater.
POINT OF VIEW

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