

Meat Chemistry and Cuisine: Climate Smart Marketing of Small Ruminants Using a Mobile Processing System

Dr. Derris Burnett Mississippi State University Animal and Dairy Sciences



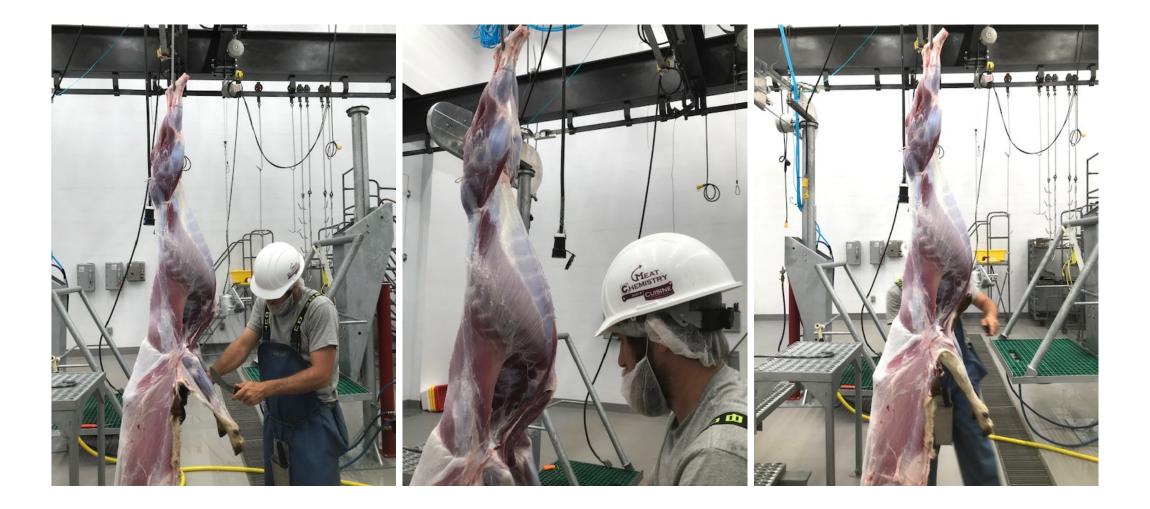
Steps involved in humane harvest: Stun to Stamp

Feed Withdrawal	Arrival, Unloading and Lairage	Antemortem Inspection	Restraint
Stunning	Exsanguination	Head, Hide, and Foot removal	Evisceration
Trimming	Carcass Wash and Antimicrobial*	Postmortem Inspection and Stamping	Chilling

Arrival from Farm and Humane Harvest under Federal Inspection



Hide Removal



Waste not, want not: Hyde's can be tanned to generate additional revenue!!! (Otherwise, offal)

- Improve sustainability and profitability
- Reduce Waste
- Support accessory industries
- Only Problem is finding a tannery



Evisceration: Removal of GI tract and Internal Organs





Carcass Washdown: 180⁰ F





Finally, The Hot Carcass

- This is your "hanging weight"
- At this point the losses from the live weight include:
 - Blood
 - Feet
 - Hyde
 - Head
 - Viscera
 - Any additional Trim***

Meat Science and Muscle Biology Lab at Mississippi State University



- 18,000 sq. ft. USDA Inspected Red Meat Processing Facility
- 1500 sq. ft. Harvest Floor (Beef, Pork, Lamb, Goat)
- "Glassroom" viewing room, Commercial Smokehouse, Pilot kitchen
- Equipped for Virtual Teaching, Extension and Outreach
- Commissioned July 13, 2018

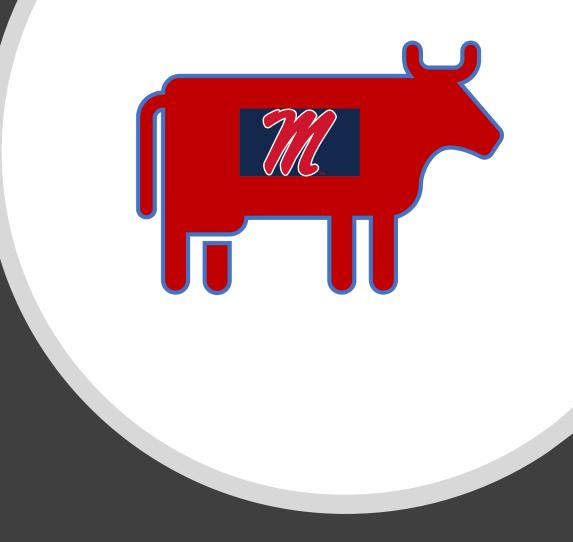


Mobile Processing Units

- Ideal for small ruminants
 - Reduced aging
 - Smaller Size
 - Rapid Cooling
 - Easy Fabrication
- Closer to the farm
- Reduced Environmental footprint?
- Direct Marketing for Producers

Use of a Mobile Processing Unit to Harvest Beef >1200lbs

- Duration: 3 hours
- Major Issues:
 - Size (length) of the animal relative to the trailer height
 - Transferring from hoist to rail
 - Splitting carcass (proximity to sink)
 - Length of finished carcass vs. floor clearance
 - Tracking of Mud, etc. into unit



Landing Carcass on Cradle

- Beef carcass was longer than trailer height
- Required a tractor with a bucket to hoist carcass onto cradle
- Will raise USDA flags



Carcass Landing on Cradle

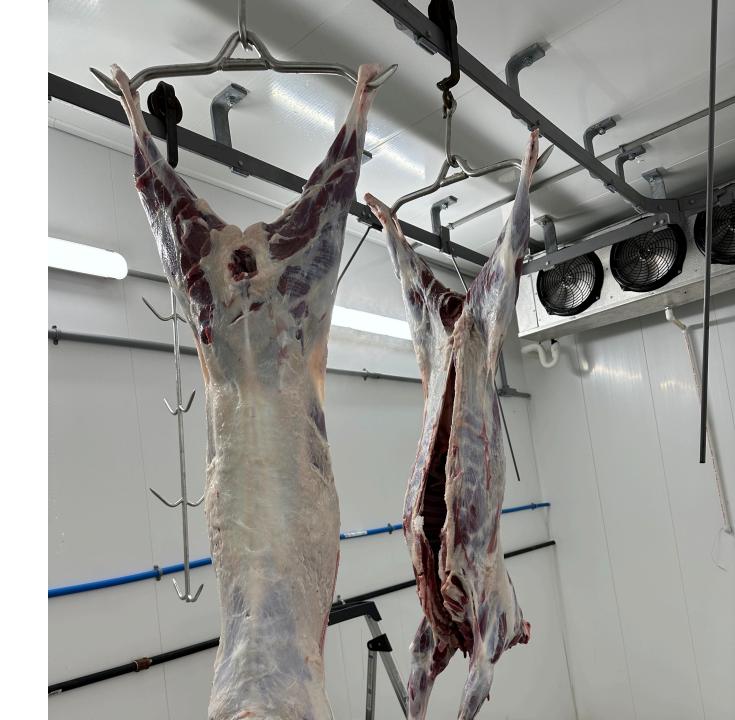




Skinning and Splitting the Breastbone

Goats hanging in MPU

- Unit can hold about 18 goats at a time
- Reduced cleaning costs
- Reduced cooling costs
- Can harvest about 24 goats in 4 hours



Legacy of Outreach

- Geographic and Cultural Proximity
- Experiential Credibility
- Meeting Producers and Processors Where they Are
- "Lifting the Veil"



Developmen Alabama Movab Jesup Agricultural Wagon Booin Tillas 1906

the same of the second se

in Auger Stream, an orthogon en anna e Auger anna anna anna a Angair annaidh ann

JESUP

WAGON

Programmed Research

Section 1

25 m A00



Acknowledgements

 This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, through the Southern Sustainable Agriculture Research and Education program under subaward number ES20-156. USDA is an equal opportunity employer and service provider.