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HERITAGE
LIVESTOCK:
REDISCOVERING VIRGINIA'S
POTENTIAL

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GOALS AND OBJECTIVES

This paper will explore how promoting heritage livestock breeds in the Thomas Jefferson Planning District Commission (TJPDC) five county region can improve the local place based economy by creating desire and access for local heritage livestock. A growing opportunity to direct-market locally grown beef and other livestock in Virginia is creating a higher demand for small processing and slaughtering facilities (Mainville 2008). Heritage breeds can be used as a niche marketing strategy under the, now large, umbrella of local foods. Highlighting heritage breeds can differentiate central Virginia commercially as a region with an interest in conservation and sustaining a place based economy.

After introducing arguments for the use of heritage breeds, aspects of livestock processing and marketing will be discussed. Interviews and case studies will be used to provide context while further elaborating on the subject. Embedded in the paper are pointed suggestions and ideas for promoting heritage livestock processing in central Virginia.

The discussing and marketing of heritage breeds is relatively new in the state of Virginia. There may be some ambiguity in what determines a heritage breed. While I will discuss some criteria for the label, I expect definitions to be refined as interest and initiative grows. While this paper acknowledges the need for more stringent definitions for heritage breeds in Central Virginia, but I will not make specific criterion recommendations. Once definitions are refined for marketing, promotion will do little good if there is remains a disconnect between demand and access. In order for heritage livestock to carve a niche in central Virginia's food economy, I propose that the following must occur:

1. A clear defining and marketing of the term
2. Sufficient economic demand for profitable production
3. Farmer willingness to raise heritage breeds
4. Accessibility to small-scale slaughter and processing facilities
5. Consumer accessibility to finished product.

This paper will explore considerations and possibilities for small livestock abattoirs and processors in the TJPDC region by presenting research, case studies, and interviews relating to the topic.

WHY LOCAL? WHY HERITAGE?

There exist many varied arguments for why food production and consumption should be localized. The American Planning Association lists a few of the following motivations for promoting local foods. Growing urbanities threaten to encroach on farmland, making the preservation farmland an imperative. These metropolitan areas account for 56 percent of U.S. farm production, however, population growth rates in these regions is projected to be twice the national average (APA 2007). Farms between 50-500 acres decreased by seven percent between 1997 and 2002, although farms larger than 2,000 acres have increased in number by five percent (APA 2007). Large farms often translate into less diversity and more commercialized production (ALBC). With small farms fading from agricultural industry, a large number of heritage livestock breeds are disappearing from farms, and in some cases, they are disappearing altogether (Nemec 2007, ALBC). Due to the globalized food system and large-scale agriculture, what once was a variety of plant and livestock breeds have been replaced by a select few varieties that can survive under the pressures of large scale agriculture (ALBC). As the original livestock breeds die out, so does the original genetic information responsible for today's breeds, and variability that comes with it (Sanders 2007). The National Animal Germplasm Program explains, "Highly industrialized monogastric production systems may be constricted in their ability to respond to consumer demands due to a narrowing genetic resource base....livestock generate farm gate receipts of approximately \$190 million per year...To meet growing demand will require the full breath and utilization of genetic resources" (USDA 2007). Promoting local heritage foods can play a vital role in reversing the lost of agricultural land and genetic diversity.

HERITAGE BREEDS AND THEIR IMPORTANCE

Heritage breed marketing is important both in terms of genetic conservation and propelling local food economies (Nemec 2007). It is an untapped marketing strategy

that benefits farmers and land conservation by increasing demand and awareness of local foods. Defining heritage foods is a difficult task, as the term is flexible and dependant on gradients of scale and time. Heritage foods may be thought of as foods tied to a particular physical region due to breed and variety selection over time. A geographical region may become known for new food products as land and communities change, making the definition necessarily flexible.

In the Field Guide to Heritage Cattle, Jenifer Nemec and Oscar H. Will explain that heritage breeds are usually bred for adaptation to specific regional environments, making heritage breeds better suited for small-scale farmers rather than large industrial producers (Nemec 2007). They claim that in 2007, 83 percent of dairy cattle in the U.S. were Holsteins, while 60 percent of all beef cattle were Angus, Hereford, or Simmental breeds. Reviving heritage livestock is closely linked to animal and land conservation, as it is estimated that 190 or more once common livestock breeds have become extinct over the past twenty years, with many more risking a similar fate (Nemec 2007). Many endeavors, like The American Livestock Breeds Conservancy nonprofit, recognize the danger posed to heritage breeds and seek to, “[Ensure] the future of agriculture through...genetic conservation” (ALBC). The USDA has been saving the germplasm from heritage breeds through the National Animal Germplasm Program since 2002 (Sanders 2007). The program’s stated goal is to preserve the genetic ‘resources’ of food animals. The NAGP’s, “focus is to ensure the livestock sector has sufficient genetic diversity to meet growing demands, risks and a challenging market place” (USDA 2007). In order to ensure that heritage livestock has a supportable market, an effort must be put forth by breeders, producers, communities, and planners (Sanders 2007).

Encouraging the raising of heritage livestock in Central Virginia implies a dedication to small-scale local agriculture and its ability to conserve the food history of a region. Saunder et. al. (2007) state, “There is no small irony in that one of the best ways to preserve a breed’s genetic diversity is to eat more of the breed.” Linking heritage and livestock creates many benefits, including: Strengthening community ties to a region, defining a marketable aspect of the region, and encouraging the local economy via food production and processing industries tied to a geographical region.

MARKETING

Small producers have found niche marketing to be an important strategy in differentiating themselves from larger producers (Sanders 2007). Ohio State University conducted a research investigation on the marketing potential of heritage pork. The survey monitored pork purchasers in central Ohio who claimed to be over the age of 18. One result of the study was that men who do not live in the county are more likely to purchase locally labeled meat products. The surveyors surmise the strength of their results suggests a great potential for producers to market locally labeled meats (Sanders 2007). Further differentiating local meats through a heritage label could highly benefit producers. The survey results reported that four out of five consumers had never seen a 'heritage food' label, although consumers showed a positive response to the idea of Heritage Foods (Sanders 2007). With a heightened awareness and marketing endeavors, the Heritage Food label holds potential for local producers and genetic conservation.

REQUIREMENTS

In order to transform spoken support for heritage breeds into physical reality, it is critical to address the need for small abattoirs and processing centers. The Virginia Cooperative Extension created an inventory in 2008, of beef slaughter and processing facilities within a hundred mile radius of Virginia's state borders (See appendix for details, Mainville 2008). Currently there exist seventeen USDA, Talmedge-Aiken, and Virginia Department of Agriculture and Consumer Services (VDACS) facilities within these geographical parameters. The inventory includes information on the species slaughtered, the kill and processing fees, as well as extra services available to producers (Mainville 2008). Beef is not the only heritage livestock of interest, and facilities for poultry, pork, and game processing should be considered as well.

According to the Virginia Department of Agriculture's Office of Meat and Poultry Services, various forms of meat processing inspection occur based on the intended use and consumption. Poultry and Meat processors who intend to sell their products to other businesses, like grocery stores or restaurants, are required to be under constant inspection. Processors of this sort are inspected daily during operations. Livestock are

inspected prior to ensure the health and humane treatment of the animals. Inspection options are as follows:

1. Federal Inspection: The United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) must inspect processors selling in state and or out of the country. These businesses may purchase their products from FSIS/USDA certified processors or slaughter their own animals. Any further processing of these products must be continually inspected.

2. State Inspection: The Office of Meat and Poultry Services can inspect processors who only wish to sell their products within the state. Businesses of this nature may slaughter their own livestock or purchase meat from another USDA approved facility.

The USDA requires post mortem inspection, upon which the carcasses will be labeled as “Inspected and Passed” (USDA 2011). Exceptions are made for people wishing to prepare and slaughter livestock for private use. Custom slaughtering does not warrant inspection before or after the slaughtering process. However, for those custom slaughtering meat or poultry, the FMIA, PPIA, and VMPIA require that the meat not be adulterated or misbranded, that it be prepared under sanitary conditions, stored separately from other products, and properly marked and packaged (VDA).

Poultry Requirements

Exemptions are also made for small-scale poultry producers. If a poultry processing facility processes no more than 1,000 birds annually, the facility is exempt from USDA regulations if:

1. The poultry was raised and slaughtered on the producer’s farm.
2. The poultry producer does not buy or sell the poultry products of other producers beyond their farm.
3. None of the poultry is distributed or sold outside of the State in which it is produced (SL Associates 2005).

Poultry producers raising and slaughtering no more than 20,000 birds annually are also exempt from federal inspection assuming the birds are healthy, the producer does not buy poultry products from another farm and that the end product is limited to state borders. Producers may not share processing facilities and the meat must be labeled with the name and address of the producer. If not federally inspected, the label must also note that the product is exempt from Public Law 90-493 (SL Associates 2005).

Inspected facilities intended for public consumption must provide the inspector with access to reliable potable hot and cold water sources as well as sanitary facilities with a toilet and washing utilities (SL Associates 2005). For more detailed instructions please see the USDA website.

CASE STUDIES

The following case studies and interviews provide examples of how heritage livestock can be produced, processed, and marketed in central Virginia.

Gryffons Arie: Heritage Breeds and Niche Marketing

Gryffon's Arie is a farm located in historic Albermarle Virginia and has been in operation since 1999. Run by Ramona and Collins Huff, the couple turned towards heritage breeds in an endeavor to produce the finest grass fed beef while simultaneously preserving breeds of livestock (Virginia 2010). The farm boasts of a natural and artisanal farming style. The Gryffon's Arie label reads, "Heritage Breeds, Gryffon's Arie, Artisan Meats, Crozet, Virginia" (Gryffon's Arie 2012). Gryffon's Arie is one of few farmers to use the niche marketing of heritage breeds. The breed of choice for Gryffon's Arie is the Devon, which arrived in colonial America in 1663 (Gryffon's Arie 2012). Before Colonial Williamsburg started their Rare Breeds Program, there were only an estimated four hundred Devons left in the country. Today there are estimated 12,000 (Virginia 2010). The farmers claim, "We like the practical size of the Beef Devons as they have enough size to be profitable without the excessive maintenance cost of the larger commercial breeds." The description elaborates on the characteristics of the Beef and Milking Devons. Many other breeds were derived from the Milking Devons (Virginia 2010). Other heritage breeds on the farm include Tamworth pigs, Cotswold sheep, and

Karakul sheep (Gryffon's Arie 2012). By providing historical and nuanced descriptions of their livestock, Gryffon's Arie brings new connections to the consumers mind. Gryffon's Arie emphasizes the fact that breeds have histories, and that different breeds are quite different than others, and most importantly, that 'beef' is not just a taste, it's a specific animal.

Glynwood Modular Harvest System: Mobile Slaughterhouse Case Study

Mobile slaughterhouses raise a number of environmental and safety concerns due to their moveable capacities and the specific municipal regulations within which they must operate (SL Associates 2005). However, their mobility and potential flexibility provide options not available in a brick and mortar structure. The Glynwood Institute has developed an innovative mobile slaughterhouse that they claim can be extremely helpful for livestock processing (Glynwood).

Glynwood Farm is a sustainably minded farm in Cold Spring, New York that raises a variety of livestock and a few vegetables. The farm is also home to the Glynwood Institute for Sustainable Food and Farming, whose primary goal is to shift the current agricultural industry to regional sustainable agriculture through various projects and events. One such project is the Modular Mobile Slaughterhouse, or the Modular Harvest System [MHS]. Small and Medium sized livestock producers are scattered throughout the Hudson Valley region, and studies conclude that many farmers would increase their herd size if they had easier access to slaughtering facilities. With this knowledge, the MHS project was launched in April 2010 in Delaware County, New York, by Glynwood and their affiliate, the Local Infrastructure for Local Agriculture program (LILA).

The Design: The MHS is the first USDA approved mobile unit with the capacity for in-unit slaughtering of large animals. The MHS is one of only 5 mobile units for large animals that is licensed by the USDA. It is the first one licensed by the USDA east of New Mexico. With a daily processing estimate of twenty cows, (and a higher estimate for smaller animals), the design is highly efficient. The MHS consists of four modules that combine to form a miniature slaughterhouse.

Separate module-trailers allow for necessary operational flexibility to meet a variety of municipal requirements as the MHS transitions docking sites. Because most municipalities prohibit waste and water disposal on site, the MHS incorporates a waste module that allows the facility to meet specific municipal requirements. The MHS is designed to 'dock' at specified locations to best meet the needs of farmers. The docking sites are equipped with the necessary infrastructure for electricity and water to meet government standards.

The specific modules are as follows:

1. **Slaughter Unit:** A primary 53-foot trailer providing inside-unit slaughter, carcass preparation, and chilling. Unlike many processing units, this module allows for indoor slaughtering and waste containment.
2. **Refrigeration:** A refrigeration truck allowing for railing of quartered sides or carcasses after they are chilled. They can then be delivered to a 'cut and wrap' facility according to individual farmer instruction. This unit doubles as a delivery truck, allowing for efficient delivery of meats to a cutting and wrapping facility while the remainder of the MHS remains for further processing.
3. **Waste:** A 'waste or inedible parts' trailer, meeting hygienic regulations for disposal of offal, manure, and other waste according to municipal requirements. Unlike single units, this option allows the MHS to meet various waste regulations from dock site to dock site.
4. **Office:** A small office trailer with amenities meeting USDA requirements and employee needs (See appendix for details).

Funding

Glynwood and LILA's non-profit provided initial funding for the MHS. Glynwood claims the MHS is not more expensive than a brick and mortar processing facility, adding that the mobile option meets the needs of more farmers for the Hudson Valley area.

INTERVIEWS

Although providing goals, background information, and case studies is helpful for catalyzing ideas and solutions, realism can be gained by speaking directly with individuals involved with livestock processing in Central Virginia. The following pages summarize correspondence with Spencer Neale, Joe Cloud, and Catherine Tatman, (each of whom will be introduced). Each individual offers a varied perspective gained through hands on experience and research.

Spencer Neale: Slaughterhouse Potentials and Difficulties

Spencer Neale has worked as a commodity specialist with the VA Farm Bureau Federation for fifteen years (IEN 2007). A former managing partner of an Orange County family beef and sheep operation, Neale analyzes agricultural production on the state, national, and international levels. Amongst other varied interests, Neale considers value added agriculture and policy issues related to agriculture (IEN 2007). Over a phone interview, Neale discussed the possibilities and problems with starting new processing facilities. When attempting to start up a new processing facility, two of the primary problems are finding sufficient funding and meeting USDA regulations. When I mentioned the possibility of a mobile slaughterhouse, he noted that the act of slaughtering can be difficult with a mobile unit. For example, is the animal slaughtered inside or outside the facility, are there kill and processing units included in the mobile facility? He also mentioned that finding accessible docking sights may not only be difficult, they may defeat the purpose of a mobile slaughterhouse. One of the benefits of mobile is that the facility could potentially be reserved and brought to individual farms rather than making the farmers bring their animals. However, docking sites are much more feasible and cost efficient for a region with dispersed farms. Making the unit financially sustainable over time requires that there be enough processing livestock. While processing smaller animals, like poultry, is much easier in terms of transportation and regulation, smaller animals do not bring in as much revenue, causing farmers to increase the final price of the product.

Neale also mentioned foreseeable market conflicts. Producers relying on niche marketing, (i.e. a specific heritage breed) may have their business substantially

threatened if another producer chooses to market the same or a similar product, thus straining production for both parties. Neale displayed a deep knowledge of heritage breeds, and the defining conflicts inherent in the term. He implied a need for defining characteristics, as many heritage breeds have been crossbred, but remain different from other breeds raised for commercial livestock.

Joe Cloud and T&E Meats

Joe Cloud is the proud general manager of True and Essential Meats in Harrisonburg, Virginia. T&E Meats is one of few USDA certified meat abattoirs near the TJPDC region. A Harvard educated urban planner, Cloud provides an articulate and insightful perspective into the nuances of livestock processing.

When asked if increasing the number of abattoirs in the region would promote the number of organic or heritage livestock grown, he responded that access to slaughter and processing services is crucial to the success of farmers raising meats for a specialty market (Cloud 2012). Larger industrial industries do not typically raise organic or heritage breeds, making specialty breeds unique to smaller farmers. Farmers growing food for specialty markets, he explained, are much more likely to be raising heritage and organic livestock. However, high quality packing services are not always part of small abattoirs ability, in turn diluting the demand for services to such an extent that staying in business becomes problematic.

Cloud explained that the single most challenging aspect of running a small USDA approved abattoir is making the facility financially feasible. Starting and running a facility in the meat industry is financially intensive. He explains, “The margins are very slim, and the cost of machinery and facility maintenance is very high.” Although there may be older processing facilities available, Cloud says modernizing these facilities to meet USDA regulations creates a need for funding that is difficult to meet. Cloud explains,

Being a Talmadge-Aiken state..., meat processing inspection is done by employees of the VA Department of Agriculture and Consumer Affairs, not by federal employees. VDACS is much more friendly towards small plants, and has more of a partnership relationship than the federal government employees

would.

He goes on to explain that, while VDACS is willing to provide resources and recommendations, the USDA FSIS less supportive of plants. The state is realizing the necessity of small scale agriculture and is taking steps to encourage farm success. Finding skilled labor in the abattoir business is also problematic.

Cloud elaborates,

There is no more skilled trained labor force to draw from in the local meat industry. Due to vertical integration and industry consolidation, most of the beef and pork industry is aggregated around certain areas of the country, but not Virginia.

Due to a lack of outside training, True and Essential Meats has to train their employees, which may be frustrating as many staff members have to find other jobs during the slow months of the year. For the months of January, February and March, the abattoir sees about half of the work flow common in its peak times, making it difficult to retain employees (Cloud 2012).

When a modular and moveable slaughterhouse was suggested as a possibility for central Virginia, Cloud acknowledged the ideas' potential. However, funding and overhead costs should not be idealized, and businesses should honestly evaluate the ability of a product to meet those costs over along period of time. A mobile slaughterhouse would also require available inspection services to support their endeavor. Reiterating his earlier point, he suggested that a mobile plant might still need to return to a cut and wrap facility for quality final processing, freezing, and storage, as a mobile unit may not be able to provide top notch service.

Cloud suggested partnering with other businesses to distribute services and diffuse costs. Cloud states,

For example, [there is a plant] in Highland County [that] would not have opened without matching Federal dollars. And it is too isolated to attract business from outside the area, so it is going to have a difficult time independently surviving. With a 1.5 million dollar investment, the business case looks dubious for that plant. I personally think that they would have been better off to partner with me, and to have purchased a mobile slaughter plant. The investors could have easily

raised that money on their own, not have relied on any federal money, and they could have been operating a year ago.

Clouds point illustrates the need for planning professionals to facilitate connections between potential processing partners, as financial support and stability may result. As mentioned before, processing volume is only high from October through December. Cloud points out that investing in an abattoir in Albemarle County or Central Virginia could prove devastating for his own business and the new start up if there is not enough demand. Essentially, processing demand would be split in half, making it difficult for either business to profit. Cloud suggests this as a likely scenario if such a processing facility were to open now, as the demand for local food is not sufficient to support two businesses. As demand for direct-marketed meats is picking up, T & E meats is seeing a profitability rise in what is typically a physically and financially straining business.

Cloud emphasized the necessity of marketing specialty meats to maintain or increase demand. Marketing heritage livestock through other community aspects like festivals, community local food initiatives, and heritage labeling can be the niche marketing needed to promote businesses like T & E Meats. Although acknowledging the frustration of farmers and meat processors alike, Cloud suggests, “We have to grow organically, ...change is slow and incremental. But it is healthy. I think growth in capacity is keeping pace with growth in demand” (Cloud 2012).

Catherine Tatman: Research on Mobile Poultry Processing

As mentioned earlier under the regulations heading, small poultry processing centers are not always subject to the same USDA regulations as beef, or other meat, processors. Through e-mail correspondence, Catherine Tatman from certified organic Hilldale Farm in Palmyra, Virginia, described her feasibility research of three or four years ago for a mobile poultry processing unit (Tatman 2012). Tatman researched whether a mobile unit could become profitable in central Virginia over a reasonable length of time. She described the state and federal regulations as tedious to navigate, but feasible. Research concluded that a mobile facility was possible, assuming reliable customers were found within a hundred mile radius. In order to make a profit, a facility

would need five to eight stable customers with a flock size of 200 birds on average, while not exceeding the daily limit of 200 birds. Docking sites would have to provide necessary facility, namely a potable water source of several hundred gallons with onsite waste disposal for water and offal. Tatman identified three (undisclosed) potential sites during her 2008 research that may still be relevant today. When planning a processing facility, it is important to discuss plans with the individuals acting in the area on behalf of the state. It is possible that some officials may interpret federal laws differently or more leniently than others, potentially causing the producer trouble if a new individual takes over the position. Tatman noted that making changes to a facility can be very expensive, making it essential to do everything correctly the first time. Although interest in plans like Tatman's is constantly churning in central Virginia, the plans rarely make it off the drawing board and into action.

SUGGESTED IDEAS

Before action is initiated to build a new facility, I suggest conducting a feasibility survey in Central Virginia to determine if and to what extent small meat processors are in demand. Because regulations are specific to the animals being slaughtered, the study should evaluate feasibility for more than one livestock type. The Hudson Valley Livestock Marketing Taskforce carried out a meat processing feasibility study in 2000, and the following research suggestions draw from their methodology. A feasibility survey should include:

- Overview of the project and its intended results
- Market Analysis: Defining the parameters of the study
- Livestock product demand and accessibility
- Inventory of existing processing facilities (as defined by parameters of the study)
- Current processing and packaging facilities
- Regional Capacity
- Proposed facilities: their type and location
- Regulations of proposed facilities:
Initial start up costs
- Necessary percentage of sales necessary for profit

- Possible site locations in accordance with municipal law.
- Suggestions for necessary zoning change
- Availability of trained staff.
- Comprehensive business plan with alternative considerations and a strategic methodology of attaining the stated goal.
- Suggestions for funding and partnerships at the local and state level

This list provides the framework for such a project, but it is by no means comprehensive. It may be the case that, while demand for smaller livestock processors is increasing, there is not sufficient or clustered demand in Central Virginia to support a new abattoir or mobile slaughterhouse. More research is needed before any definitive plans are made.

CONCLUSION

Remembering Virginia's heritage has come to mean more than a memory, it has become a framework for conservation and local economic revitalization. Heritage livestock embody the beauty of genetic diversity, and by doing so, they reflect on the unique characteristics of a region. Heritage livestock have peculiar and unique characteristics reflective not only of their breed, but of the environment in which they thrive. One of the best ways to support the survival of heritage livestock and genetic diversity is through regulated market demand. The simple reasoning is as follows: as market demand for heritage breeds increases, more producers will raise heritage breeds, thus promoting conservation of agricultural land and genetic diversity while encouraging a small local economic loop. However, in order for small producers to meet growing market demand, they must have access to processing facilities to profit off their endeavors. Due to the complexity of producing and processing varieties of livestock, further detailed research is needed for specific suggestions to be made in the TJPDC region. Central Virginia has already displayed a vested interest in local and heritage foods. The promotion of heritage livestock is but the next exciting step in distinguishing central Virginia's food economy.

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APPENDIX

Figure 1. An Inventory of Beef Slaughter & Processing Facilities for Virginia Direct Marketers of Beef. Virginia Cooperative Extension.

Beef Processing Facilities

- | | |
|------------------------------------|---------------------------------|
| 1. Blue Ridge Meats of Front Royal | 10. Matkins Meat Processors |
| 2. Blue Ridge Packing | 11. Russell Co. Meat Packing |
| 3. Central Meat Packing | 12. Sessoms Packing Co. |
| 4. Dinner Bell Meat Products | 13. Smith Valley Meats |
| 5. EcoFriendly Foods | 14. Teets Meat Packing |
| 6. Fauquier's Finest | 15. True and Essential Meats |
| 7. Gores Processing, Inc. | 16. Washington Co. Meat Packing |
| 8. Gores Processing, Inc. | 17. Wayne Mays Meat Processing |
| 9. Joines Meat Processing | |

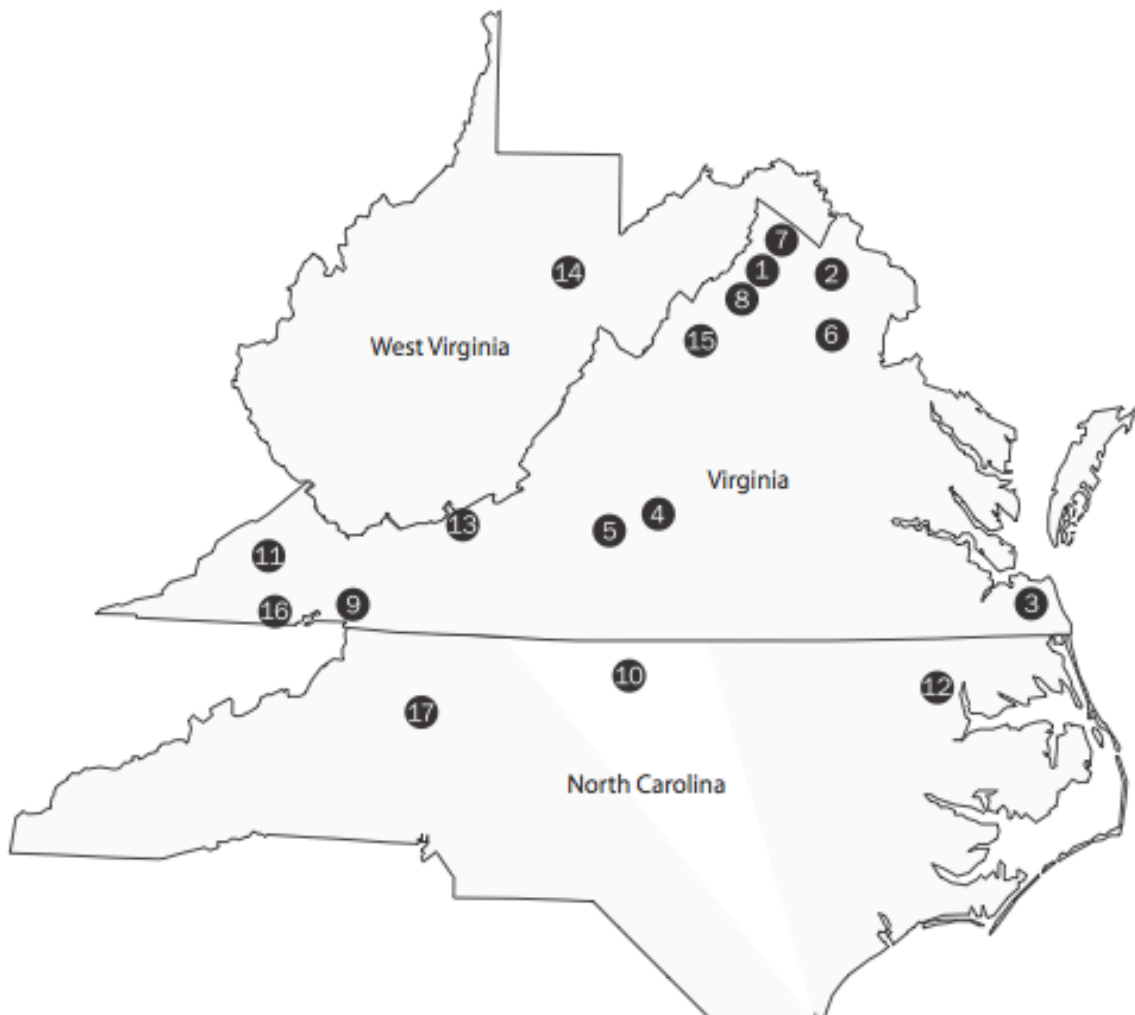


Figure 2. Glynwood. Modular Mobile Slaughterhouse.

