KAW VALLEY MEAT SYSTEMS

Awardee: Central Grazing Company

DEVELOPED, EDITED, AND SUBMITTED BY:

SARAH REAVELEY, M.S.D. AND TREVOR C LANE, ED.D.

PIONEER DESIGN & CONSULTING GROUP, LLC
2836 N. KELLY AVENUE
EDMOND, OKLAHOMA 73003

DATE SUBMITTED: 1/13/2023

This report was prepared under an Award from the U.S. Department of Commerce Economic Development Administration (EDA) as part of the American Rescue Plan Act (ARPA) funding in conjunction with Douglas County, Kansas, and Central Grazing Company. The findings and recommendations herein will guide, inform, and support community resilience through public and private partnerships, especially with the United States Department of Agriculture (USDA) and other state, county, or city organizations. This publication was prepared by Pioneer Design and Consulting Group. Pioneer Design and Consulting Group (PDCG) was retained by Central Grazing Company to organize the feasibility study, conduct the research, and author the report. Work commenced in October 2022 and concluded on January 13, 2023.

TABLE OF CONTENTS

Table of Figures and Images

Table of Tables

THIS PAGE INTENTIONALLY LEFT BLANK.

Research Team and Consultants

Trevor C Lane, Ed.D. – With more than 20 years of public leadership (local, county, state, and federal) and private consulting experience, Dr. Lane is a published associate professor at a Carnegie Institute and tier one land grant research university. With family in Kansas, Nebraska, Oklahoma, and Texas, the Tulsa area was home as a teenager before moving to the Pacific Northwest in 2014. Dr. Lane is a national award-winning faculty member for program equity (Governor's Economic Development Council) and for educational video production (National Association of County Agricultural Agents). He concurrently serves as a State Specialist and a consultant who works in community & economic development supporting the United Nations World Food Programme, national or international Extension research or other initiatives, and working with a wide variety of volunteer and nonprofit organizations.

Dr. Lane's leadership links scholarly and academic research to industry and communities, specifically tribes and remote rural areas. His programs and areas of expertise include research and development (R&D), public and private partnerships, agritourism, small farm or ranch development, technology transfer, broadband adoption, access to capital, local investment networks, and small business ecosystem development.

His work has led to feasibility studies, impact studies, and geospatial analysis of small business ecosystems within regional food systems impacting formal Community Economic Development Strategies (CEDS). This work placed emphasis on the local economies of scale and workforce development in partnership with more than 14 federally recognized tribes across more than 5 counties. His work has been published in corporate and small business plans, official public reports, feasibility studies, government updates, legislative policy development, and public mandates or formal resolutions.

Sarah Reaveley, M.S.D. – Sarah is a food systems and community development expert with more than 15 years of significant experience in grant writing, project management, research design, business intelligence, community facilitation, and evaluation. With a master's degree in Sustainable Development and Social Innovation, Sarah has more than a decade of experience in directing and managing many multi-million-dollar public/private partnerships and projects for area nonprofits, local governments, tribes, and university extension programs.

As a food system collaborator, she provides agricultural support and information, digital literacy, and technical assistance for growers, producers, and other industry-specific entrepreneurs interested in market research, capital access, technology and web development, infrastructure improvements, and business innovations. Her interests include marking and communications, smart growth, investment networks, philanthropy, and community resilience.

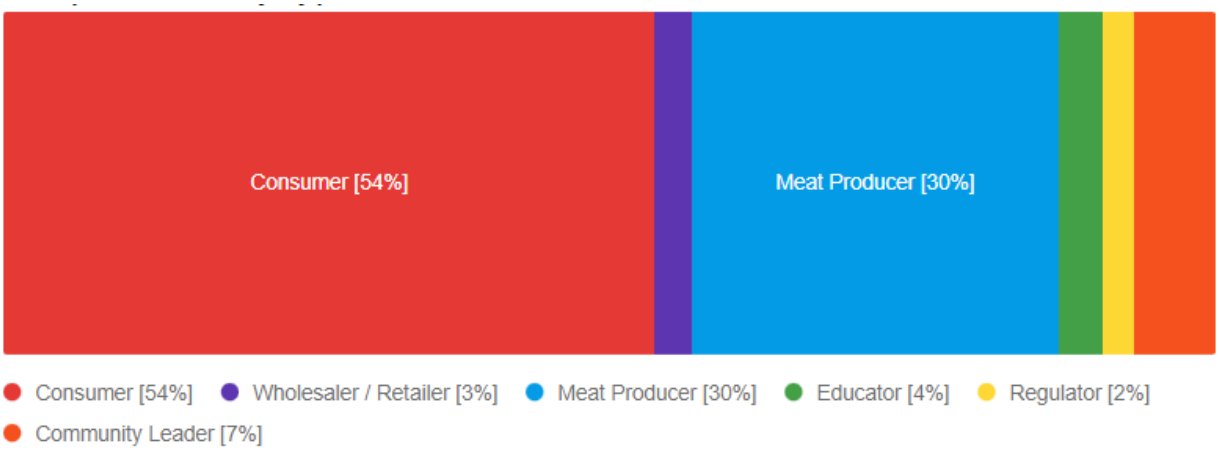
Sarah's work has led to feasibility studies and geospatial analysis of regional food systems impacting formal Community Economic Development Strategies (CEDS) with an emphasis on local economies of scale and workforce development in partnership with more than fifteen federally recognized tribes across six counties. Her more recent work has garnered more than $54.1M in grants, subsidies, and appropriations. Her work has also been included and published in formal or official public reports, community assessments and feasibility studies, corporate and small business plans, and public mandates or formal resolutions.

In her free time, Sarah also manages her family's ranch in rural northeast Washington.

1.0 Executive Summary

This section summarizes the feasibility of constructing a new multispecies meat processing facility in Douglas County, Kansas. After a review of agricultural, economic, market, technical, and other community or food system data, as well as a scientific and economic analysis of the region, a new small to mid-sized multi-species processing facility is feasible and may have bigger implications to bigger opportunities, especially if scaled and planned well (97% CI)[1]. Social and political capital or other support is strong throughout the community, as evidenced in the years of documented strategic planning and responses to interviews, document collection, and surveys in **Table 1** below. Consumers and producers provided valuable insight to validate and demonstrate feasibility. In other words, Douglas County and the surrounding region is a robust agricultural sector valued for its economic, environmental, health and cultural contribution, including the emerging local and regional food system. There is strong sentiment for local meat and produce.

Table 1 - Respondents by Type (high response rates from consumers and producers).



According to the University of Nebraska - Lincoln, "[A] small plant is defined as having 10-499 FTE employees, and a large plant is 500+ employees. It is important to note that HAACP's plant size is not highly correlated with production volume, though." The evidence and data strongly suggest small producers need service and support to scale and grow. This has ancillary benefits to the community, workforce, small business ecosystems, education, and, more importantly, the food system in general.

All of the data and evidence demonstrate strategic planning is well underway with a cost model, conceptual designs by Friesla, HACCP plans, and all of the local support and inner workings to achieve the permits, certifications, and approvals to operate within federal, state, county, and local rules or regulations. Response rates to surveys or interviews and document collection revealed the critical stakehold-

[1] Confidence Interval (CI) is a range of values so defined that there is a specified probability that the value of a parameter lies within it. In other words, a CI is used to determine the certainty in evidence or responses leading to findings and conclusions.

ers (consumers and producers) were important variables in determining feasibility. As seen in the multivariant socio-economic analysis in **Table 2** below, beef and poultry are the most preferred with poultry and pork being a mid-grade preference, as well. It can be noted later in the report that the growing goat and sheep inventory in Douglas County correlates to increases in local demand and increasing meat preferences with goats and sheep in the area, despite a slight decrease in animal inventory across the State. With community and producers motivated alongside a growing animal inventory locally and strong public relations and support makes this project feasible and potentially commercially viable.

Table 2 – Overall Meat Preferences by Rank and Order

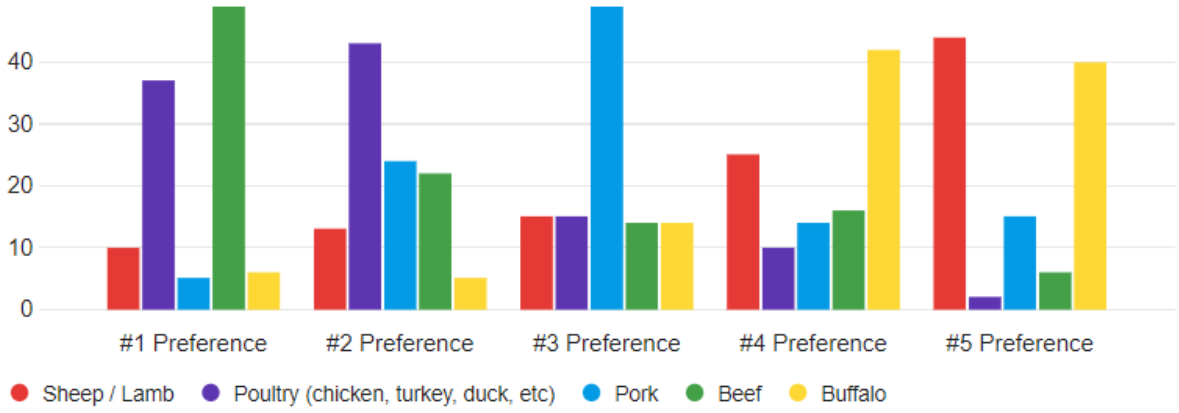


Table 2 above represents the socio-economic impact of all cohorts from the survey and their meat preferences by top 5 rankings. The rankings revealed, from first to fifth, were beef, poultry, pork, bison/buffalo, and lamb, respectively. When looking at the graph, rankings are distributed by meat preference and response rates as a percentage of the entire cohort surveyed. The rankings are distributed and aggregated to demonstrate the following:

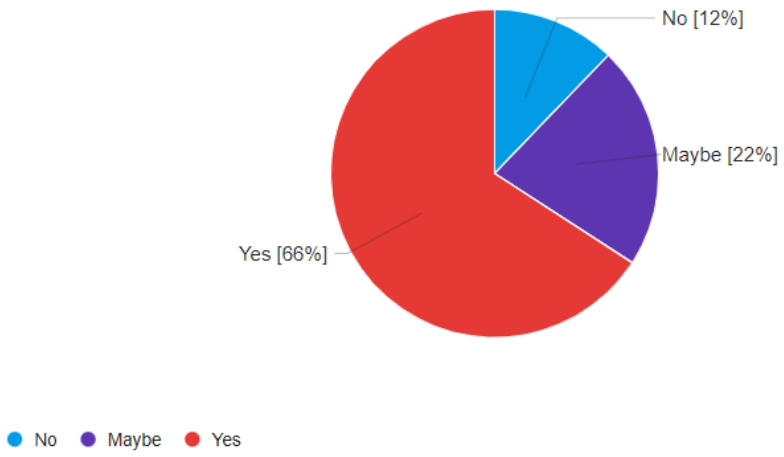
- In regard to the **#1** most preferred meats, more than **40% of those surveyed prefer beef**, 35% of those surveyed prefer poultry as the #1 meat preference, 10% of those surveyed chose lamb as the #1 meat preference, and less than 10% of those surveyed prefer pork and bison as the #1 meat preference.
- Regarding the **#2** most preferred meat, more than **40% of those surveyed prefer poultry** as the #2 meat preference, 20% of those surveyed prefer pork and beef as the #2 meat preference, and less than 15% of those surveyed prefer lamb as the #2 meat preference.
- The **#3** preferred meat was **pork according to 46% of the respondents** while sheep (15% of respondents), poultry (15% of respondents), beef (12% of respondents), and bison (12% of respondents).
- The **#4** ranked meat preferences showed **bison/buffalo by more than 40% of the respondents,** almost 25% of respondent ranked lamb as the #4 meat preference, approximately 10% of respondents ranked beef as the #4 preference, and about 25% of respondents ranked poultry and pork as the #4 meat preference.

- The **#5** ranked meat by preference was **lamb (43% of respondents),** bison/buffalo (40% of respondents), pork ranked #5 by approximately 15% of the respondents, beef ranked #5 by less than 5% of respondents, and poultry ranked #5 by less than 2% of the respondents.
- **NOTE:** As discussed below in the section about the Kansas Market, preference for lamb and goats is growing, which is further evidenced in the growing animal inventories section, as well.

Substantive findings revealed that a thorough business plan addressing the aspects of feasibility (financial, economic, management, technical, and market feasibility) are well underway, thus far.

As seen below in **Table 3**, more than 88% of meat producers in the area want more options for processing and packaging. Planners and coordinators should continue to carefully assess and evaluate evolving economic and financial landscape due to increasing animal production, identifying the location, evaluating cost of land use, cost of compliance with rules or regulations, navigating time or cost with permitting or certifications (local, state, and federal), providing food system education, expanding workforce development opportunities, eliminating biomass or water waste, managing tribal or public relations, and enhancing private/public partnerships. These dynamics and evolving variables will be critical to being shovel ready in a rapidly changing economy, reducing risk, and improving the barriers to achieving success.

Table 3 - Producer Sentiment for Wholesale to Local Processor



2.0 Introduction of the Study

Communities everywhere are vulnerable to global supply chain issues. As evidenced herein, the instability of this system impacts small farms, low-income, and rural families. Douglas County, Kansas and Central Grazing Company, located in a region known as Kaw Valley, worked with a vast group of partners and consultants to determine feasibility to reform our food system by addressing the greatest challenge of the lack of processing facilities accommodating smaller operations. The Kaw Valley Region consists

of 12 Counties (including Kansas City Metro & Topeka): Atchison, Jackson, Pottawatomie, Riley, Geary, Wabaunsee, Shawnee, Jefferson, Douglas, Leavenworth, Wyandotte, and Johnson.

The tri-county area (Douglas, Jefferson, and Leavenworth) is centric to the analysis and this report. Douglas County, Kaw Valley Meats, and Central Grazing Company plan to secure a regional food system by building a new multispecies meat processing facility as a community resource for local food sovereignty. As a result, the Douglas County Commission recently granted Central Grazing Company funding from the American Rescue Plan Act (ARPA) to develop Kaw Valley Meats, a proposed meat-processing facility. With the new meat processing facility, the community and collaborators can encourage new entrepreneurs to enter the local-level food system and farm or ranch industry to offer a more resilient system.

The end goal is putting community back into the food system and collaborating with regional partners to improve or strengthen and localize supply chains. Feasibility studies help determine viability and commercialization of an idea like this one in Douglas County, Kansas. According to Iowa State University Extension,

> "Feasibility studies can be used in many ways but primarily focus on proposed business ventures. Farmers and others with a business idea should conduct a feasibility study to determine the viability of their idea before proceeding with the development of a business." In this case, Central Grazing Company is motivated to determine whether a business idea will or will not work (or how to make it work better). By conducting this feasibility study, business venture proponents save time and money and can proceed more confidently with informed, data-driven adaptive management, responding constructively to changes in industry, the community, the market, or other variables."

A feasible business study will collect enough information to assess whether the business will generate adequate cash-flow and profits to withstand (a) the short-term risks it will encounter, and (b) remain viable in the long-term to meet the goals of the owner/founders. The venture might be an investment start-up or the purchase/expansion of an existing business, beyond its present business footprint or enterprise. Basically, a feasibility study takes the business planning team closer to the assessment leading to a detailed business plan and project that is shovel ready. *This feasibility study is one step in the business ideation, planning, and development process for a new multi-species meat processing facility in Douglas County, Kansas*.

As may be noted, the framework from the United States Department of Agriculture (USDA) was used to achieve the final report.[2] The framework for this report considers the local, regional, and national needs, challenges, and opportunities for a new multi-species meat processing facility.

- The purpose of this study was to further determine feasibility for a multispecies meat processing facility in Kansas that could better serve producers within a 250-mile radius.
- The goal of this study was to provide an overview describing the nature and scope of the region for the proposed project including the economic or market purpose of the project, prospective design features, capacity or scale, and estimated capital costs.
- Thus, Douglas County, Kansas and Central Grazing Company decided to assess feasibility for a new multi-species meat processing facility because of the potential for positive economic growth and impact to both rural and urban communities. Sourcing local food is a major economic benefit to a rural city and regional economy.

The study was designed to determine if having a new processing facility would improve the food system enough to permit a paradigm shift in how meat processing is done in the State (Attachment A – Facility Checklist). This issue was important enough to warrant conducting this feasibility study and analysis to determine, if ultimately, would a new processing facility provide small farms or ranches with entrepreneurial and economic opportunities in small business ecosystems for meat producers in the state?

3.0 State of the Food System and Food Security in Kansas

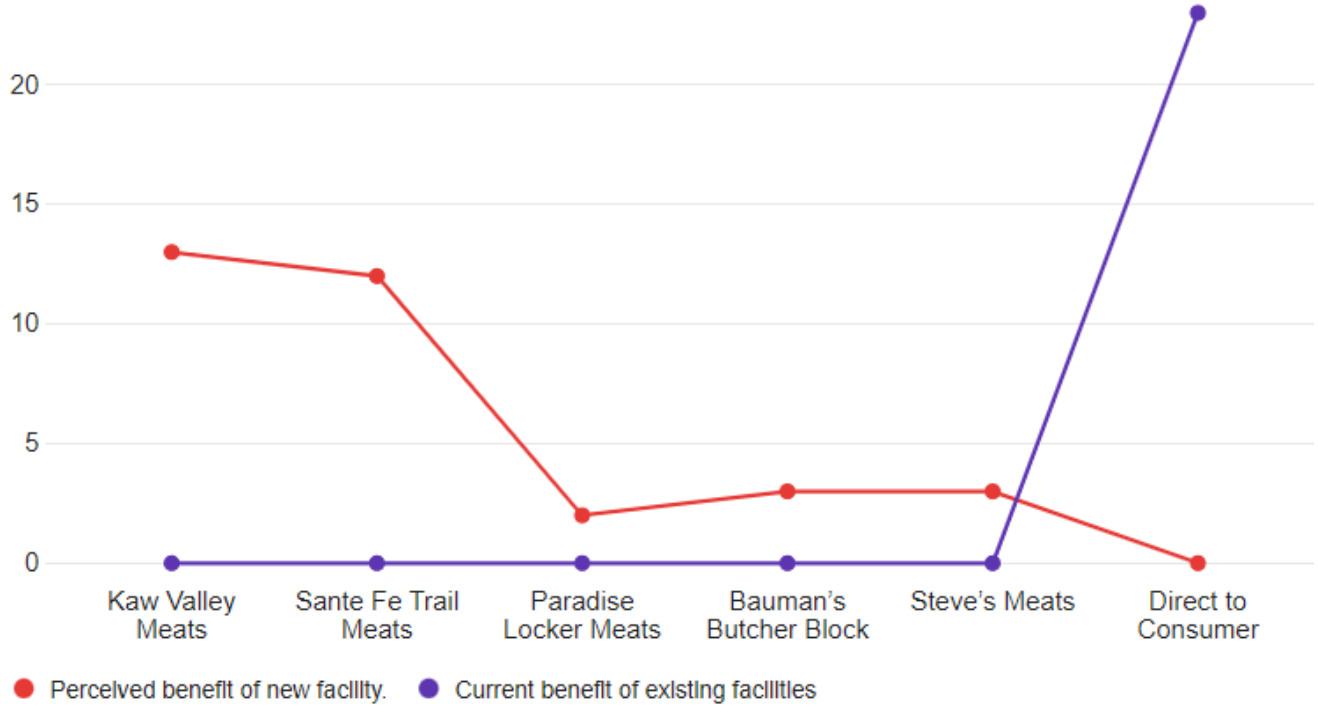
In the State of Kansas, more than 1 in 5 children under the age of 5 years old are growing up hungry and with food insecurity (which impacts learning and brain development in youth). This evidence reveals one of the highest rates of food insecurity in the country. To illustrate, from 2005-2007, the rate of food insecurity among Kansas households was 2% higher than the national average. In 2009, an average of 88,000 kids were on USDA Supplemental Nutrition Assistance Program (SNAP) benefits with 92% reporting they are still food insecure despite participation in the program. Further, 50% of these youth did not have enough money to buy more food despite being hungry and nearly ⅓ of household adults went entire days without eating because they did not have enough money to buy food. Corollary evidence includes 77,000 women and children in the area of study who received Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) assistance, 151,000 children who received reduced-price lunches, and more than 49,000 kids who received free lunches at area schools.

[2] United States Department of Agriculture - Rural Development. (n.d.). *Meat and poultry processing expansion program - USDA rural development*. USDA. Retrieved December 20, 2022, from https://www.rd.usda.gov/sites/default/files/mppepfeasibility_study_guide.pdf

These observations impact perceptions and outcomes. Many educators, regulators, and producers believe local meat producers market their animals through auction houses but this complicates the ability for small farms and ranches to support these people without a new facility. Since buyers are representative of large packers, low prices are usually the rule rather than the exception. Further, dairy farmers are not taking advantage of a strong market for locally produced veal because they are receiving very low prices for cull calves. It is unfortunate that local slaughterhouses only have limited capacities and few options for aging, processing, curing, and packaging meat. In addition to this lack of infrastructure, many producers are unable to market their products independently due to a lack of support, services, knowledge, and other resources.

Accordingly, the County, Central Grazing Company, and Kaw Valley Meats seek to evaluate the feasibility of developing a USDA-inspected facility that would offer the region greater slaughter capacity across multiple states for multispecies meats in combination with options for aging, processing, and packaging services so producers have flexibility for marketing their products profitably. Producers are considering starting a meat business, especially as farm to retail margins continue to expand. Articles in the national and international press regarding successful marketing programs for niche products indicate many consumers are looking for alternatives to traditional supermarket products. **Table 3** below demonstrates how small to mid-size meat producers believe a new facility will impact processing and distribution. The current perceived beneficial option for small and mid-size meat producers is direct to consumer only and a new facility could have an economic benefit to the community and all of the existing facilities.

Table 4 - Current and Perceived Benefits of Facilities



Food system quick facts and observations about Kansas.

- Over 80% of households rely on emergency agencies, including food banks, free kitchens, and open shelters when they're faced with food insecurities.
- According to the USDA's Food Desert locator, both Douglas and Leavenworth counties have regions that qualify as food deserts, with other nearby food deserts in Coffey, Miami, Wyandotte, and Johnson Counties.
- In Douglas County, there were three census tracts identified as food deserts due to low-income levels and lack of proximity to grocery retailers. All three are found in Lawrence, Douglas County's most populous city, and impact over 5,200 residents, 1,300 of which are children.
- In Leavenworth County, there were two adjacent census tracts identified as food deserts due to low-income levels and lack of proximity to grocery retailers. Both are in the city of Leavenworth and impact a total of 4,987 of the city's residents (15% of the population).
- According to the Kansas Health Institute (KHI), about $370 million in food stamps were used last year in Kansas, with about $27,000 of that being spent at farmers markets.
- Increased access to fresh produce and meats could not only address the food security concerns of our region, but potentially address and improve human health outcomes as well.

There is an opportunity to address these challenges and improve access to fresh, local food and meat, while enhancing education and the local workforce, see recommendations and key findings. This study revealed that from high-end restaurants to quick-service chains, small local grocers and farmers markets to large retail stores, hospitals, and corporate cafeterias, businesses are responding to consumer demand for meat, poultry and eggs produced by farmers and ranchers in their region. This evidence is consistent with findings and data available from the USDA. For instance, schools from Washington State to coastal Maine are finding ways to get local meat into schools, hospitals, restaurants, food banks, and more. One producer indicated a niche opportunity for a Native American restaurant, "offering premiere food from around Indian Country like salmon from Washington, bison from the Dakotas or Kansas," because of the demand for niche cuisine. Thus, a multispecies meat processing facility could serve this market well.

The support for local animal products should not be surprising given the social and economic value that animal agriculture can bring to communities. Regional, county, and local efforts revealed a strong sentiment to achieve the following:

- Minimize agricultural land conversion to other nonagricultural uses.
- Maintain working lands and high-quality agricultural soils for future generations.
- Minimize non-agricultural residential development outside the Urban Growth Area.
- Maintain existing rules and develop new codes accommodating various types of housing to support agricultural uses.

- Preserve transportation and utility corridors as outlined in the Subdivision Regulations and plans incorporated by reference into this Comprehensive Plan.
- Maintain regulations accommodating agricultural supported housing.
- Review and revise Douglas County agritourism and agricultural heritage tourism policies.
- Agriculture is a vital part of the communities and their identity and economy. Ensuring its viability in phases is critical for maintaining perceived quality of life and productivity while allowing the area to grow.
- Encourage redevelopment and limited expansion of existing commercial areas in Unincorporated Douglas County on hard surfaced roads.

4.0 Methodology and Significant Data Points

To conduct this feasibility study, the experts chose a mixed-methods (quantitative and qualitative) action research framework to probe the market, economic, and consumer evidence supported by geospatial, sentiment, and gap analysis in the process of collecting data, reviewing documents, and mapping the social ecosystem. In addition to other USDA checklists, requirements, and guidelines for feasibility (See Attachments), "Overcoming Supply Chain Barriers to Expanding Northeast Ruminant Meat Production" which is funded by USDA/NIFA 2016-68006-24744 grant and researched by Tufts University, Cornell University, and Design & Urbanism Architectural LLC was a guide in helping the Kaw Valley Meats team.

Impetus for the project was generated by significant interest from producers (both traditional and niche) across the region and elected officials or other community leaders in and around Douglas County. To determine feasibility, work on the project included the following categories:

1. Market Research
2. Labor and Workforce Research
3. Conceptual Design of Plant
4. Conceptual Framework for Scientific Research and Document Review
5. Key Local Indicators and Data Points for Economic, Sentiment, and Geospatial Analysis

Six cohorts (consumers, meat producers, hunters, educators, regulators, and community leaders such as elected officials or other prominent people) were identified for surveying to determine feasibility. Current and prospective meat producers and consumers were the primary sample groups. Producers, consumers, and meat buyers were surveyed and interviewed by the senior research team at Pioneer Design and Consulting Group who used this mixed-methods approach (qualitative and quantitative data) to build a picture of the feasibility for Kansas-branded meat products.

Review and Problem Statement.

The initial environment scan and review of the needs, challenges, and opportunities demonstrated an important focus on specific groups and documents identified in the market and industry for data collection or observation and review. A further cursory review of the feasibility study parameters by the USDA revealed a need to probe and focus data collection instruments on the following aspects in general for a new meat processing facility and specific industry experts or stakeholders if needed.

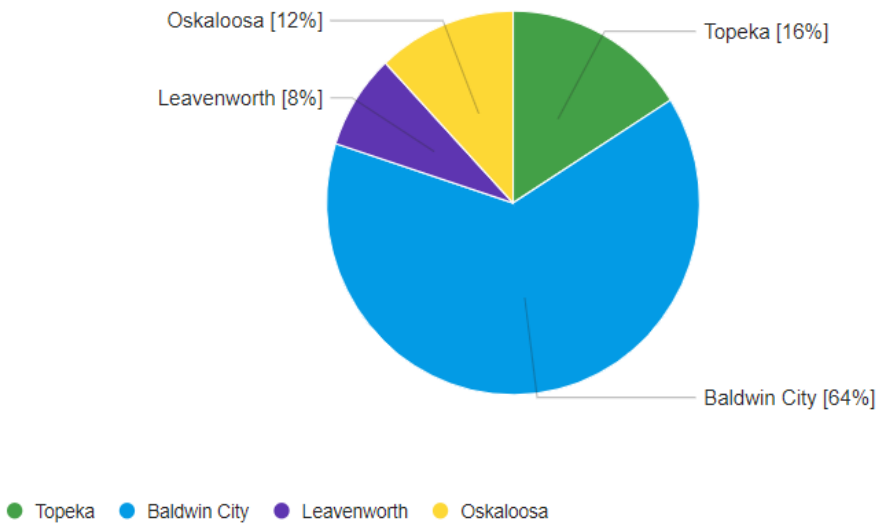
Multi-species Meat Processing to focus on demand, product sustainability, food science, and food safety through the lens of regenerative agriculture driving careers in the animal and food industries. This will extend into animal and plant nutrition, reproduction, genetics, behavior, meat science and food science with animal or plant production, management, automation, technology, and agribusiness skills necessary to support local food systems and small business ecosystems.

Ranching and Grazing or Feedlots to focus on sustainable rangeland grazing, to ensure animal inventory or best-practices in ranching, regenerative rangeland management, riparian or waterway grazing to support stream function and water quality, rangeland monitoring, and irrigated pasture management. The role of tribes and other land use matters critical to sustainability and scaling operations.

Commercial and Entrepreneurial Business Ecosystem to understand the economics, access to capital, agribusiness, innovation, and industrial or commercial best-practices focusing on performance research and industry analysis to determine commercial viability, and strengths and weaknesses, all aiming to improve and develop areas for optimal performance. The research in this report identifies solutions to local needs, challenges, and opportunities that must be addressed in a business plan for Kaw Valley Meats. We offer strategies and programs through this report for profit growth, investment, and development of new processes for scaling a meat processing facility. This approach will help with business efficiencies, other opportunities, and adapting to changing circumstances. These elements and variables led to an understanding of the market, workforce, and the community which will inform the business plan for a new meat processing facility in Douglas County, KS. The following local case studies, exemplars, and assessments guided the research and findings in this report:

- Douglas County Economic Development Strategy
- This study was informed by the Douglas County Food System Plan - 2017.
- North Central Kansas Regional Food System Assessment - 2017/2018.
- Regional Food Hub Studies for northeastern and north central Kansas – 2014.
- The Food Policy Council 2011 Report provided keys to production capacity and demand

Table 5 - Preferred Location is Douglas County for New Facility



The potential locations selected for the facility indicate Douglas County is the epicenter for a location. All locations are near interstates or major highways and in areas with gaps in existing processor coverage. To evaluate meat availability, the study estimates the number of cattle in Kansas counties within 100 miles of the potential processing plant location, population within 250 miles of the potential processing plant location, and distances to major cities from the potential location and Baldwin City is the preferred location.[3]

Approach to Inquiry and Methodology.

Action research was the framework for a mixed methods model of inquiry (quantitative and qualitative) and data collection methods. Data points for consideration include but are not limited to consumer demand index, geospatial analysis, sentiment analysis, historical cost index, and the commonly accepted elements of a feasibility study in addition to the USDA requirements to guide discussion of the following:

- An Executive Summary and Stakeholder Review
- Description of Product or Service
- Technology Considerations
- Product or Service Marketplace
- Identification of Specific Market
- Marketing Strategy
- Organization Structure
- Economic and Financial Projections

Stakeholder Review.

The approach to data collection with stakeholders leveraged a mixed methods model of inquiry (quantitative and qualitative) and other data collection methods to specifically probe public, private, and non-government organizations (NGO). The stakeholder review included local champions or volunteers and leaders in the Extension services and schools, agriculture and ranching, food banks, grocery stores, community-supported agriculture (CSA) affiliates, cattlemen's associations, community organizations and

[3] Note: Population Sources: https://www.statsamerica.org/radius/big.aspx; Data from 2020 Census and 2021 USDA Cattle Inventory Report; Distance data from Google Maps. Several potential locations for expanded processing are evaluated below.

food policy networks, as well as local, county, state, and/or federally elected officials. The initial stakeholder review identified the following industries and sectors (**Table 4**).

Table 6 – Stakeholder Review

Public	Private	NGO
• Kaw Valley Stakeholders • County Planning • KSU & Extension • K-12 Schools and Libraries	• Main Street Small Business • Small Farms, Granges, Cooperatives • Restaurants and Service	• Cattlemen's Associations • Economic Development Centers • Food Banks

5.0 KANSAS RULES OR REGULATIONS

To assess and understand the landscape leading to feasibility for a new multispecies meat processing facility, consultants leveraged public and private data to assess the following as it specifically relates to market potential with meat producers, the community, and workforce development:

- Current Processing Perceptions
- Current Marketing, Permitting, and Certification Practices
- Geospatial Analysis: Infrastructure and Assets
- Potential for Cooperative Marketing Strategies
- Barriers to Finishing Animals and Identifying Sub-markets
- Knowledge and Ability to Finish Animals or Livestock
- Scaling Services or Facilities and The Role of Mobile Processing Units

Facility Rules, Regulations, and Other Considerations

To assess and understand the landscape leading to feasibility, the rules, regulations, and other challenges need to be understood to establish a new multispecies meat processing facility (Attachment B – New Facility Handbook). Thus, consultants leveraged public and private data to generate a broad view of the critical rules and regulations that will inform the business plan to assess the following as it specifically relates to market potential with meat producers, the community, and workforce development:

According to the National Agricultural Law Center, regarding processing animals of any kind:

> "The processing of livestock which includes animals such as cattle, sheep, swine, and goats is governed on a national level by the Federal Meat Inspection Act and implemented through United States Department of Agriculture (USDA) regulations. Similarly, the processing of poultry, including chickens, turkeys, ducks, geese, ratites, and squab is governed by the Poultry Products Inspection Act and implementing regulations. In those laws, USDA Food Safety Inspection Service (FSIS) is given primary authority for oversight of meat products that will be offered for sale.

> One of the main components of that oversight is the requirement that the slaughter of animals and processing of meat products be subject to continuous inspection by government inspectors. Additionally, there are various labeling, sanitation and building requirements. Furthermore, for processing plants slaughtering and processing livestock, there are additional requirements based on the Humane Slaughter Act."

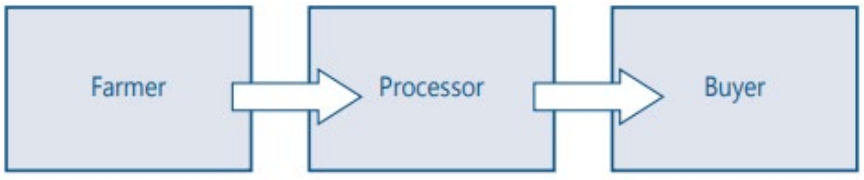
For animal processors in Kansas, this simply means they are required by law to conform to the regulatory guidelines set forth by the USDA FSIS and every processing plant in the state is required to be inspected by either the Kansas Department of Agriculture (KDA) or the USDA. Under the guidelines, there are two types of facility classifications: 1. Custom Exempt Facility and 2. Inspected Facility (Attachment C – USDA Guideline and Attachment D – Kansas Inspected Facilities).

The type of facility classification a processor falls under depends on how they choose to operate and if the product from the services they provide are available for sale to third party purchasers, and if those products will be sold inside Kansas only or across state lines. While all facilities are inspected, there are different guidelines for Custom Exempt and Inspected Facilities. Both Custom Exempt and Inspected Facilities are required to apply for permitting through the State of Kansas and/or the USDA. A Custom Exempt facility is a single category with inspection handled exclusively by Kansas or USDA personnel. Inspected Facilities fall under one of two categories: a. Kansas State Inspected Facility or b. USDA FSIS Federally Inspected Facility.

Custom Exempt Facilities.

Custom Exempt status is the lowest level of inspection required for any processor providing public processing services in Kansas. To be classified as Custom Exempt, the processor provides a service for a fee to the owners of the livestock being processed. These owners must also be the end users of the product.

Figure 1 - Direct to Consumer and Wholesale



If the producer is not the end-user, the animal must have been sold to the end-user alive, or "on the hoof" prior to slaughter. Animals may be sold by the individual live animal or by live weight. Sale of animals by dressed weight requires processing in a state inspected or USDA FSIS inspected facility. Under the Custom Exempt classification, purchase of whole or divided portions of a live animal (such as halves or quarters for example) by multiple purchasers is allowed, but such purchases must be made and documented prior to slaughter. Every animal is required to have the date of purchase, name, and address of owner at delivery, license tag of delivery vehicle, description of the animal and age of the live animal at time of slaughter all documented and provided to the plant.

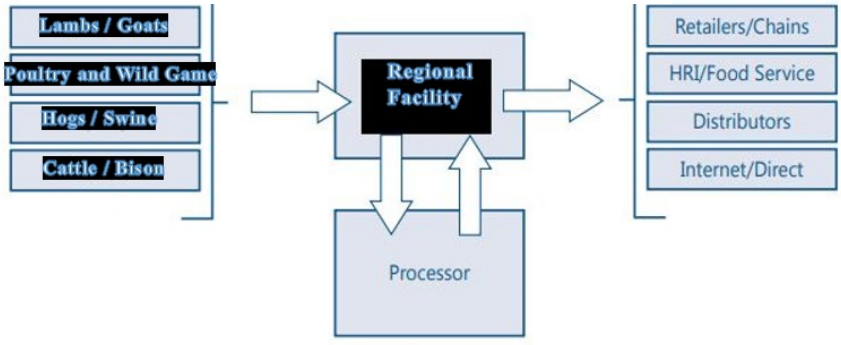
A producer can include processing as a service included in the animal's purchase price, but typically the processing must be separate in the sales contract. Hauling services to the processor and return hauling of processed product can also be included as a service by the producer to the purchaser but must also be a separate part of the contract. In the case of a producer hauling processed product back to the animal owner, they must obtain a permission slip signed by the animal owner for the service and this should be retained as part of the animal sales contract. All processed, packaged products are to be the property of the animal owner at time of slaughter and cannot be resold to a third party. All packaging must be clearly labeled as "Not for Resale."

Custom Exempt facilities are still under the authority of the USDA and are inspected by State of Kansas personnel. However, the inspection consists mainly of general sanitation issues, pest control and record auditing. Inspectors are not on site for every aspect of slaughter or processing, but facilities are subject to quarterly on-site inspection, or on an "as-needed" basis with 30-day follow-ups to any issues being found. No livestock may be slaughtered that result in food unfit for human consumption. The State of Kansas also responds to any complaints against Custom Exempt processors.

Inspected facility.

Products that are to be sold to a third party, and not simply the result of a processing service to the owner of the live animal, must be inspected under more stringent USDA FSIS guidelines. In such cases, the USDA FSIS inspection authority may be designated to a state agency in those states that choose to apply for such authority, if the state requirements are "at least equal to" those enforced by USDA FSIS.

Figure 2 - Inspected Multispecies Processing and Slaughter Facility



State inspection programs can operate under a cooperative agreement with FSIS, and facilities in states with state inspection can choose between FSIS or state inspection. The difference between the two approaches is that state inspection programs only allow for meat processed in these facilities to be sold within the state or intrastate while direct FSIS inspected facilities can export meat to other states, or "interstate." Under State of Kansas Inspection only, processors or producers may engage in intrastate (within Kansas) sales of processed products by the individual cut, or otherwise post-slaughter, to third party purchasers as long the product is not sold across state lines.

Retail or wholesale intrastate marketing is allowed under State of Kansas Inspection. Upon approval of application for inspection, state inspection is provided at to the facility. However, there are requirements that every facility is responsible to meet. Inspection personnel must be onsite during all slaughter procedures to oversee all aspects of slaughter. Typically, facilities will have specific days they slaughter, and

process inspected animals. To facilitate this, an inspection office space must be provided on-site for the inspector. An approved Sanitation Standard Operation Procedure (SSOP) program must be in place. An approved Hazzard Analysis Critical Control Point (HACCP) program must also be in place.

Guidelines for these can be found under USDA-FSIS regulations CFR 416 and 417 (USDA 2018, USDA FSIS 2021). Approved labeling must also be in place for all products. Only packaged, frozen and labeled products can be sold, whether retail or wholesale. If products will be stored at the processing facility, storage units will be inspected too. If products are transported and stored at a different location – at a producer's location for example – transportation must be below 45F, and the storage facility must be registered with the compliance department of the inspection service and meet similar standards of sanitation, temperature, and inspection.

If products are to be sold by the processing facility in a retail space or to wholesale distributors, the US Food and Drug Administration (FDA) requires a retail exempt permit to be issued. Guidance and training for all these procedures is available through Kansas State University (Extension) and many other public and private organizations.

Inspected facility – USDA/KDA FSIS or Talmage-Aiken (T-A).

For a facility to process product eligible for sale post slaughter and across state lines, the facility must be a USDA-FSIS inspected facility (Attachment -). This level of inspection can be administered directly by FSIS or through a USDA State cooperative agreement. According to the National Association of State Departments of Agriculture (2021), "Twenty-seven states have their own meat and/or poultry inspection programs covering nearly 1,900 small or very small establishments. These programs were authorized by the passage of the Federal Meat Inspection Act of 1967 (FMIA) and the Poultry Products Inspection Act of 1968 (PPIA). The states run these programs cooperatively with FSIS, which provides up to 50% of the funds for operating them, comprising of about $65 million of the total FSIS budget annually. A state program operating under a cooperative agreement with FSIS must demonstrate that its system is equivalent to federal inspection; however, state-only inspected meat and poultry products are limited to intrastate commerce only." This agreement is commonly known as the Talmage Aiken Act, and such processing plants are often designated T-A inspected facilities.

State inspected under a T-A agreement qualifies as a federally inspected product in Kansas, as KDA inspection meets or exceeds all USDA-FSIS requirements for inspection. But this does not mean that a plant already under KDA state-only inspection automatically qualifies for T-A status or is considered a FSIS Inspected facility for interstate sale of product. If a facility is already under state-only inspection, they must file an application with USDA FSIS for federal labeling. USDA FSIS then decides if they will be inspected by the state under the T-A agreement or if USDA FSIS will retain inspection of the facility directly. Typically, state-only inspected facilities in Kansas will fall under the T-A agreement and will qualify for USDA-FSIS labeling after application approval.

If the procedures or products changed with the new USDA FSIS application, it is possible the USDA FSIS will start direct inspections. If a facility does not currently fall under state inspection and wishes to be inspected for interstate sales, an application for inspection must be filed with the USDA FSIS first, at which time the USDA FSIS will direct the inspection to fall under the T-A agreement with the state or they may choose to have the facility USDA FSIS inspected directly. After inspection of the animals or livestock at slaughter in a T-A or FSIS facility, the carcass can then be sold by the whole, half or quarter under CE rules with the product stamped "Not for Resale" or may be sold by the individual cut or other post-slaughter method.

Special rules for mixed inspection facilities.

Carcasses and products processed under Custom Exempt guidelines must be kept separate from KDA State or T-A / FSIS inspected carcasses and products. All species of domestic livestock must be kept separate from each other regardless of inspection type.

Special rules for combination and wildlife processing facilities.

Many Custom Exempt facilities, as well as some Inspected facilities, also process deer or wild swine during certain times of the year. At no time during the processing is any wildlife species to "touch" other meats. All wildlife must be kept separate and apart from all other species being processed from start to finish, including carcass hanging. Often this means wildlife is processed on days when no livestock is being slaughtered or processed. Processed, packaged and frozen products can be stored in mixed freezer space.

Exemptions and special rules for meat processing.

According to many sources, the term "exempt" means certain poultry slaughter and processing operations qualify to operate without the benefit of federal or state inspection, and a grant of inspection is not required. Such operations are exempt from continuous animal by animal inspection and the presence of inspectors during the slaughter of poultry and processing of products. According to the Kansas Department of Agriculture:

> The program inspects and registers commercial and custom slaughter facilities and meat and poultry processing facilities located in the state of Kansas. Federal law requires state inspection standards be "equal to" those of federally inspected operations and state inspected products cannot be sold outside of Kansas. USDA's Food Safety Inspection Service periodically verifies that our program is "equal to" the federal meat and poultry inspection program.
>
> Requirements differ depending on the type and extent of meat slaughtering/processing and sales of products involved. Different types of meat businesses include custom exempt, retail exempt, inspected slaughtering, inspected processing facilities, or combinations of these. Consumers utilizing a meat processing facility should

be aware of the differences between the types of facilities in order to make an informed decision when butchering their home grown livestock.

To qualify for any one of the exemptions, a business must slaughter or process products under sanitary conditions using procedures that produce sound, clean products fit for human food. A multispecies meat processing facility operating under such an exemption is not exempt from all requirements of the Act but businesses slaughtering or processing poultry or rabbits for use as human food, including exempt operations, can only slaughter healthy animals, and must produce product that is not adulterated or misbranded.

Processing cull cows or bulls.

Processing of cull cows or bulls (over 30 months of age) is allowed at any processing plant at all levels of inspection but only under specific guidelines. First, the animal must be ambulatory, able to enter the slaughter floor under its own power. Because of concerns of transmission of Bovine Spongiform Encephalopathy (mad cow disease), the head and vertebral column must be removed on the slaughter floor and not further be in contact with the carcass, processed or otherwise, of the slaughtered animal or other animals. The brain and vertebral column must be separated and disposed of before the animal leaves the slaughter floor and the slaughter area must be cleaned prior to other animals being slaughtered. To accommodate these requirements, these animals should be processed on a separate day or at the end of a slaughter day.

Resources for Meat Inspection

- Federally Inspected https://www.fsis.usda.gov/inspection/establishments/meat-poultry-and-eggproduct-inspection-directory
- Cooperative Interstate Shipping Program https://www.fsis.usda.gov/inspection/apply-grant-inspection/state-inspectionprograms/cooperative-interstate-shipping-program
- State Inspected https://www.fsis.usda.gov/inspection/apply-grant-inspection/state-inspection-programs/states-and-without-inspection-programs

Resources for rules, regulations, and exemptions

- Kansas Meat Exemptions from Inspection: https://www.agriculture.ks.gov/divisions-programs/meat-and-poultry-inspection/general-information
- Kansas Meat and Poultry Act: https://agriculture.ks.gov/docs/default-source/meat-and-poultry/kansas-meat-and-poultry-inspection-act.pdf?sfvrsn=5bcbe79b_0
- Kansas Division of Meat and Poultry Inspection: https://agriculture.ks.gov/divisions-programs/meat-and-poultry-inspection
- Kansas Premium Meats: https://www.kansaspremiummeats.com

- Kansas Meat Processors Association: https://kmpaonline.org/
- Kansas Exceptions to Poultry and Meats: https://www.agriculture.ks.gov/docs/default-source/meat-and-poultry/summary-of-poultry-exemptions-in-kansas.pdf?sfvrsn=86eee80a_0
- USDA-FSIS – General Inspection Information: https://www.fsis.usda.gov/inspection
- USDA-FSIS- Small Plant Information (HACCP and Sanitation SOP guidance can be found here): https://www.fsis.usda.gov/inspection/compliance-guidance/small-very-small-plant-guidance
- USDA-FSIS Grant of Inspection Information: https://www.fsis.usda.gov/inspection/apply-grant-inspection
- USDA-FSIS Application for Federal Inspection Form: https://www.fsis.usda.gov/sites/default/files/2020-08/Form_5200-2.pdf
- "Meat Processing 101" - https://www.nichemeatprocessing.org/wp-content/uploads/2016/08/CrashCourseTwo.Final_revised_10.1.pdf
- Texas A&M Department of Animal Science: https://animalscience.tamu.edu/2020/07/06/so-you-want-to-build-a-slaughter-plant
- Extension Alabama A&M and Auburn Universities: https://www.aces.edu/blog/topics/testing-labeling
- Washington State University – Meat Labs: https://ansci.wsu.edu/facilities/

6.0 Kansas Market and Overall Analysis

To determine feasibility of a new multi-species processing facility, consultants and experts considered food system marketing and distribution of meat consumption, other markets, impact of COVID on meat processing, and multi-species aspects of processing from slaughter to finishing, packaging, and commercializing offal.

The research team and consultants also analyzed potential to improve small business ecosystems and entrepreneurial opportunities for local workforce development. As noted previously, Kansas achieved two great milestones in improving demand for a new meat processing facility: 1) Organizing the Meat Processors Association and 2) establishment of the Kansas Meat and Poultry Inspection Act. The existence of these rules or regulations improves the landscape for permitting and certification and improves feasibility based on the projected economic success and overcoming insurmountable barriers, otherwise. Many of the producers surveyed and interviewed agreed, "This is a move in the right direction by Kansas and Douglas County is making progress," when discussing the current landscape.

Figure 3 below demonstrates the density of cattle throughout the state. There is a bigger picture with multi-species meats and other processing opportunities with sheep, goats and swine. Kansas has at least thirty-four processing facilities that handle different varieties of meat and very few, if any that are convenient, in or near Douglas County. The "all cattle and calves" figure includes feedlot cattle. Kansas is a

major feedlot state, so the large numbers here, which are in the drier portion of the state, are feedlot cattle, not mother cows.

Figure 3 - Cattle Inventory and Density by County

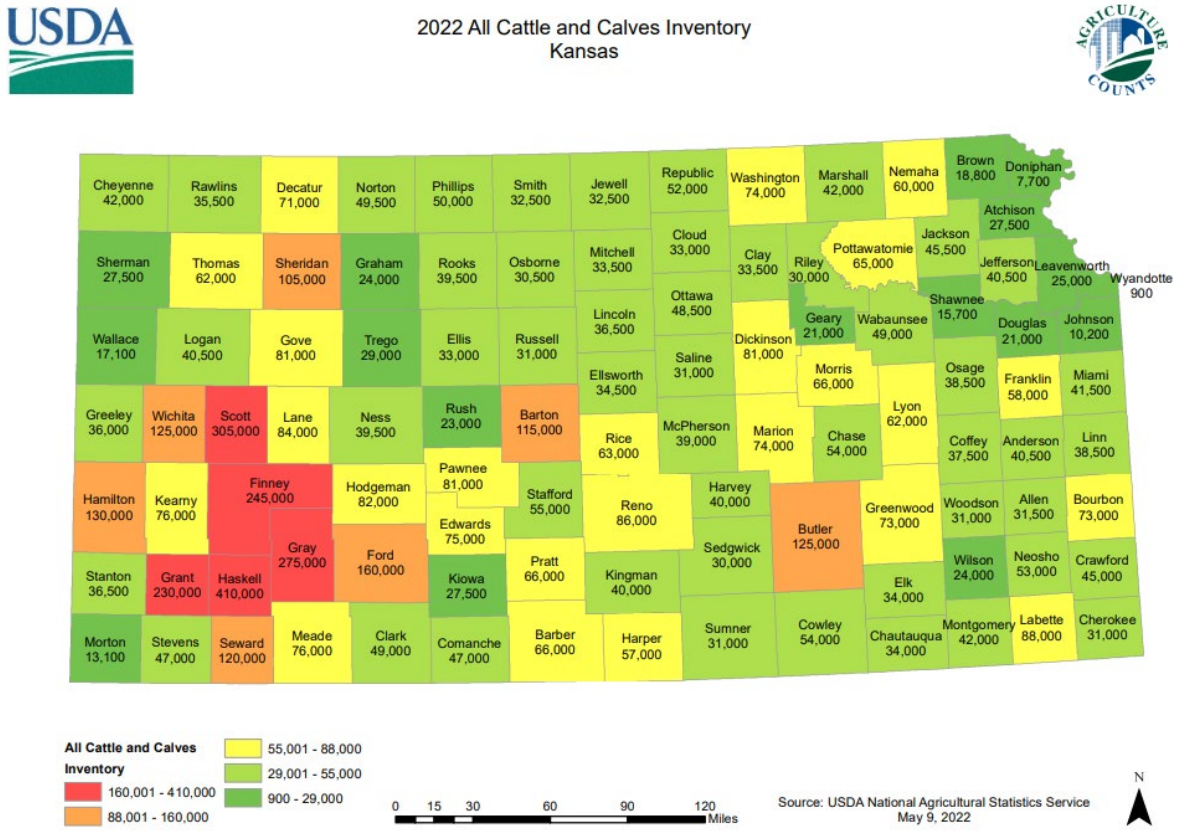


Figure 4 - Survey Response to Farm and Ranch Production

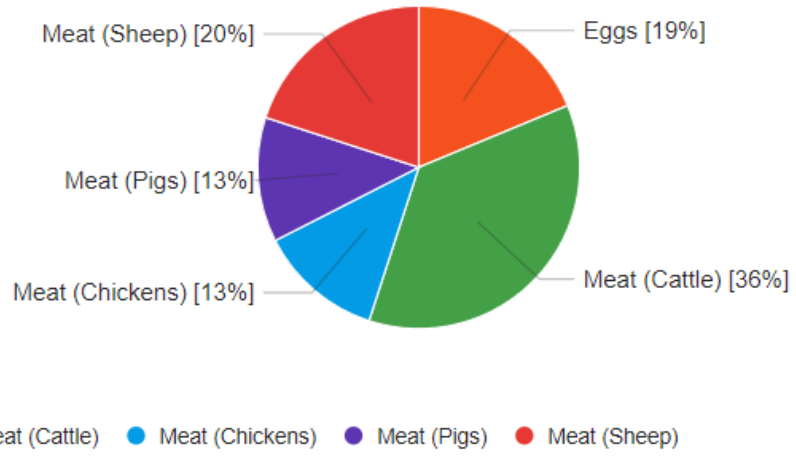
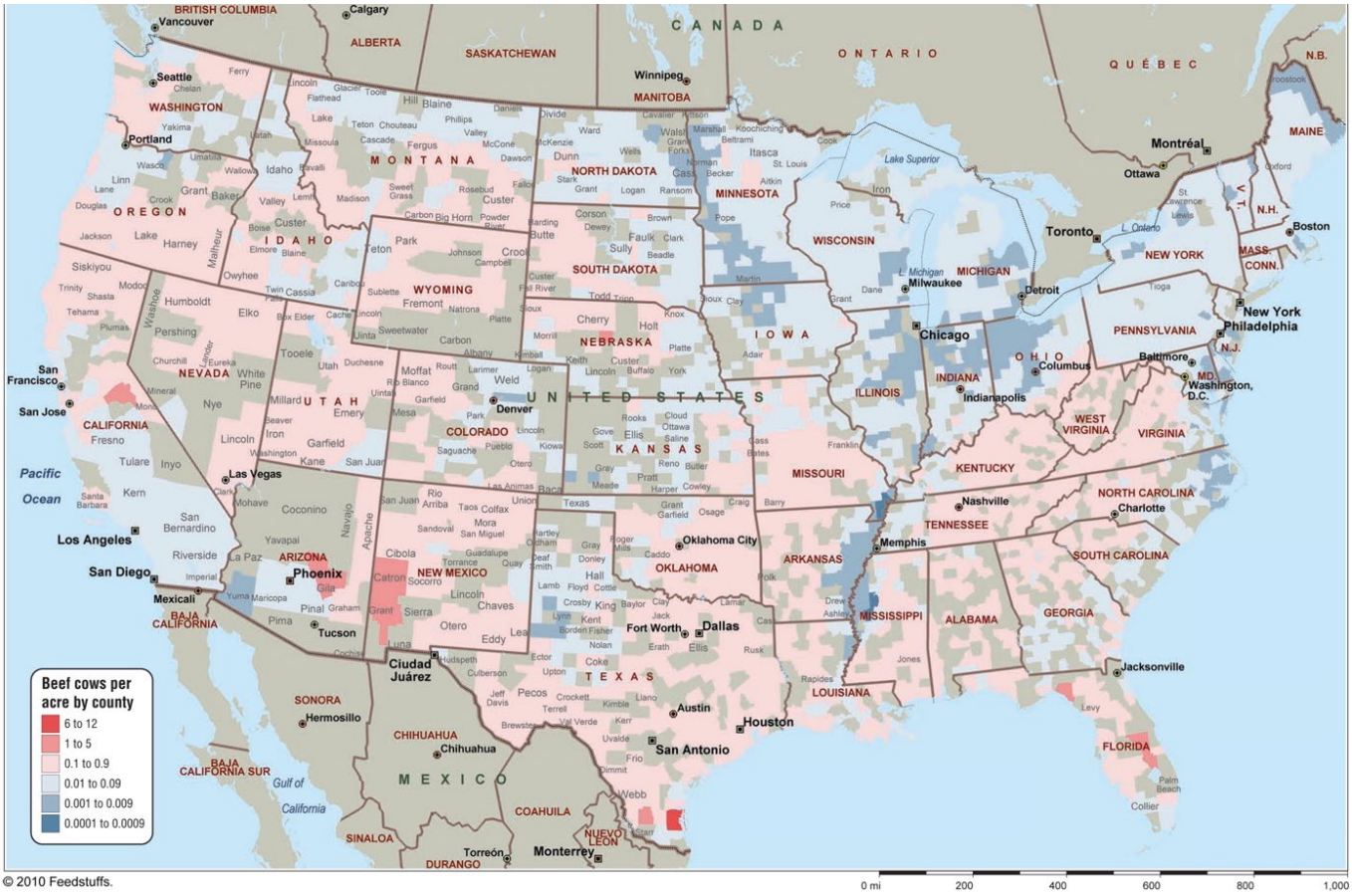


Figure 4 below from *Feedstuffs Magazine* illustrates beef cows per acre across the state, indicating cow-calf production is stronger on the east side of the state (and Western Missouri and Northeast Oklahoma), where per-acre forage production is significantly higher. There is a growth trend with lambing and farrowing, as well as growing demand for lamb or sheep products.

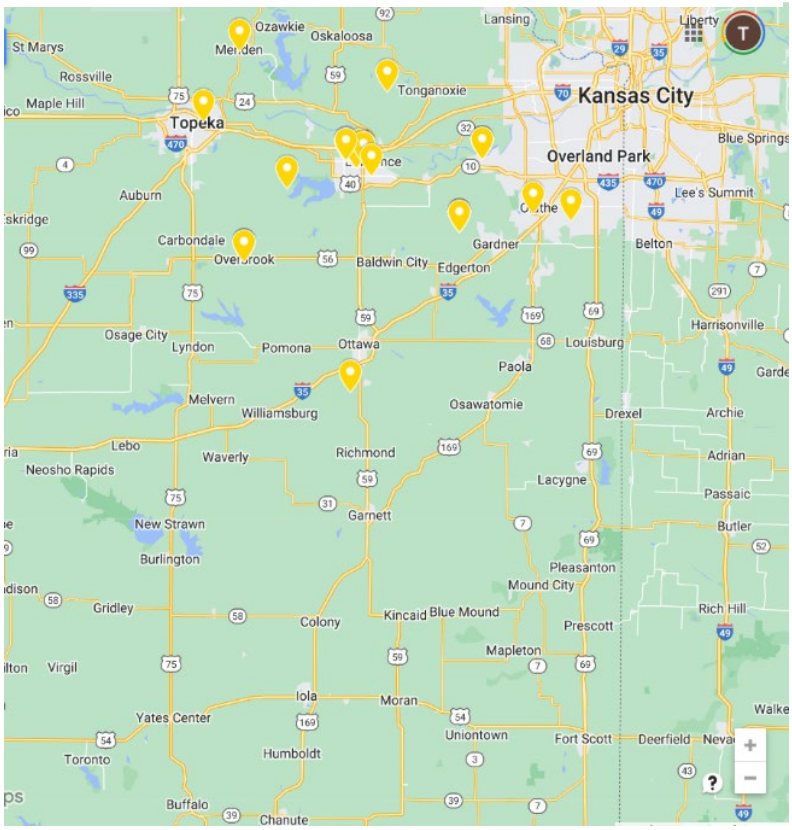
Figure 5 - Beef Density by County



This map plots the beef cow inventory per cropland acre by county based on data from the 2007 Census of Agriculture. For this map, county inventories of beef cows, excluding cattle on feed, were divided by the number of acres in cropland production for each county. The 10 most beef cow-dense counties included: Kenedy, Texas (10.469 beef cows per acre); Catron, N.M. (3.340 beef cows per acre); Grant, N.M. (1.953 beef cows per acre); Thomas, Neb. (1.717 beef cows per acre); Osceola, Fla. (1.686 beef cows per acre); Okeechobee, Fla. (1.528 beef cows per acre); Jim Hogg, Texas (1.421 beef cows per acre); Taylor, Fla. (1.368 beef cows per acre); Tuolumne, Cal. (1.225 beef cows per acre), and Gila, Ariz. (1.174 beef cows per acre).

When discussing animal inventory and density, the evidence in this feasibility study revealed that the existing facilities are difficult to access, and there are often service or support challenges. In addition, service is expensive or costly to access and often the facility is far away. Most of the existing facilities only perform custom exempt services, with only four facilities being state inspected and four federally inspected. It is important to note that some of these facilities also only handle deer or wild game processing and are not equipped for finished multi-species animal slaughter and processing. There are also some notable geographical gaps in processing coverage - tyranny of distance is a real negative impact to profits and scale as noted in **Figure 5** below.

Figure 6 - Butchers, Meat Processors, and Facilities in the Region



As diesel fuel has been record-high over the last few years, transportation costs have been a bigger barrier (and transportation was already a large barrier). Traveling and costs complicate a producer's ability to profit. As seen in Figure 8, there are very few processors in or near Douglas County with open markets to the South, West, and East in and near Kansas City.

Specifically, there are no state or federally inspected facilities in central or southern Kansas and experts concur that a small to mid-size multispecies facility supported by mobile options in slaughtering or processing has the potential to support growth and not disrupt the larger operations. Despite a large number of animal inventories in the region, Douglas County is the third leading county in number of cattle (USDA Cattle Inventory Report, 2021) and, more importantly, has an increasing animal inventory with goats and sheep.

Meat markets in general.

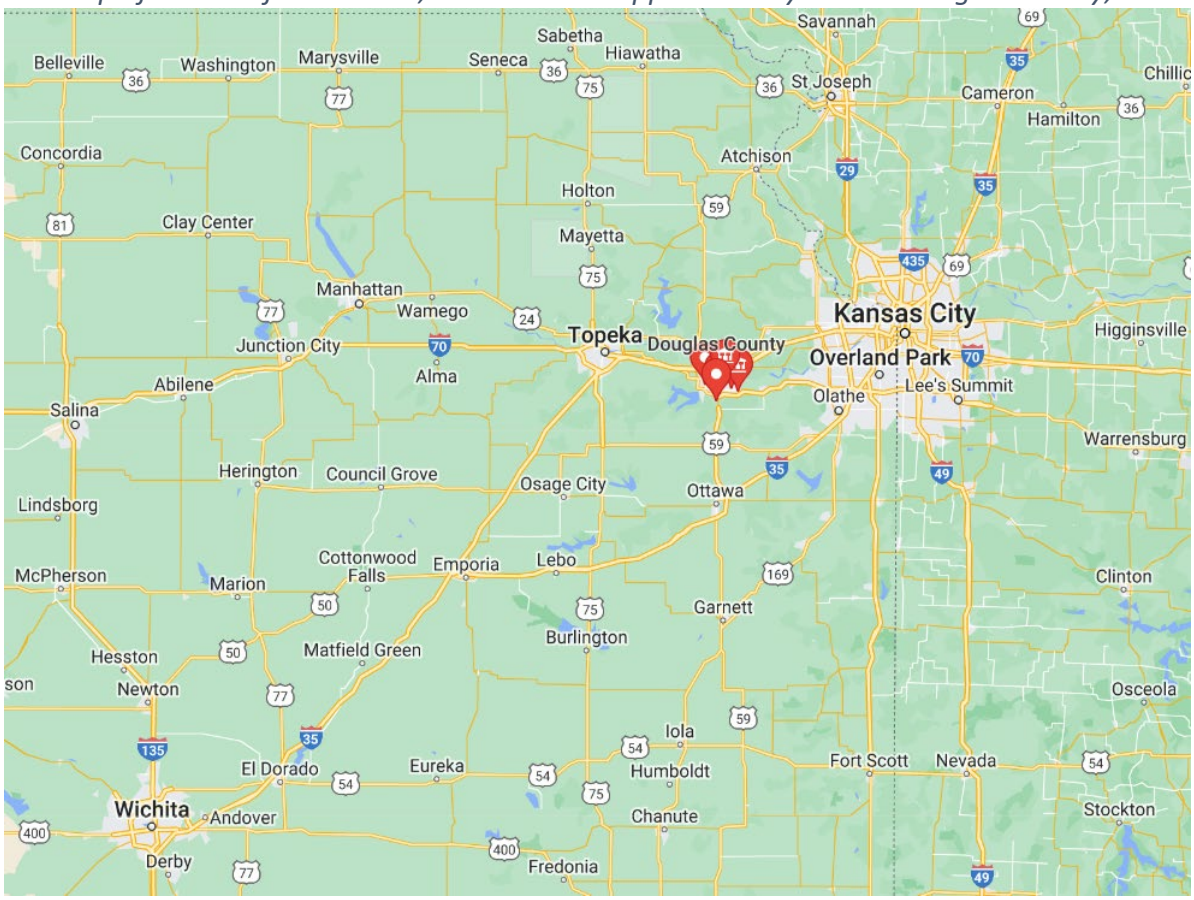
Beef prices have increased over the past two decades, above the rate of inflation. Steaks have the highest price at $9.67 per pound as of July 2021 and the price of beef and lamb have increased significantly, as well (See Beef, Goat, and Sheep Index by USDA, December 2022). Beef roasts and beef for stew are close behind at around $6.70 per pound. Ground beef lands at around $6.35 per pound. Prices of other cuts have increased relative to the prices of steak, roasts, stew beef, and ground beef. More recently, demand for plant-based meat products declined in the latter half of 2021, compared to 2020. For example, the week ending October 31, 2021, saw sales 7% lower than the same week in 2020. However, questions remain as to whether the early enthusiasm about plant-based meat has begun to disappear or if the drop in 2021 simply reflects a temporary disruption to the market. Regardless, several meat and ranching experts agree, "This is a major opportunity for local meat producers."

Potential processing expansion and scaling.

Due to the demand for more processing facilities and limited capacity for small to mid-sized meat producers, expansion may be warranted. When looking at potential locations for new processing plants, it is important to consider where all of the meat producers (and hunters to a lesser degree) are located as well as where the consumer base is, especially when considering processors that would sell retail meat to consumers. Like other small to mid-scale producers, Central Grazing Company is doing well at growing and scaling a sheep/lamb operation. It is important to showcase this market as well. The Kaw Valley Region ranks between 20-50 out of 105 counties for Sheep/Goat production/sales based on the last Agriculture Census.

According to US Census Data, the largest population center in the state is the Kansas City Metropolitan Area, which has 2.2 million people. Wichita, Topeka, and Lawrence have combined populations of more than 615,000 people. The Kaw Valley Region consists of 12 Counties (including Kansas City Metro & Topeka): Atchison, Jackson, Pottawatomie, Riley, Geary, Wabaunsee, Shawnee, Jefferson, Douglas, Leavenworth, Wyandotte, and Johnson. As seen in **Figure 9** below, Douglas County has infrastructure, services, and support that enhance the feasibility of this study.

Figure 7 - Map of Public Infrastructure, Services and Support - Ecosystem in Douglas County, KS



Another important area in this study is the Lower Republican Water Basin (1 of 12 basins with three aquifers) and it includes the tri-counties. Additionally, the Lower Republican Basin houses the largest populations in the state between Douglas & Johnson Counties with 3,380 farms in this study area (756 practice conservation methods, 135 sell value-added products, 36 sell through a CSA program). The urban and rural divide exacerbated by COVID (see COVID Impact, herein) and supported by CARES Funding similar to this study has created a situation where tribes are leading in sustainable, local food production and the strategic partners have an opportunity to partner with tribes, too. There are a variety of cooperatives, tribes, or other alliances further demonstrating the need and demand in the area that include:

- Rolling Prairie Farmers Alliance - Serving NE Kansas
- 1839 Cherokee Meat Processing Facility - Cherokee Nation Businesses (CNB)
- Osage Nation Meat Processing Facility - Osage Nation, 115 Eagle Avenue, Hominy, OK, 918-287-0079, butcherhousemeats@osagenation-nsn.gov
- Community Food Security Coalition - Gretchen Kunkel, KC Healthy Kids / Food Policy Coalition of Greater KC, Kansas City, MO, Ph: (816) 523-5353, ghkunkel@kchealthykids.orgghkunkel@kchealthykids.org
- Kaw Nation[4], Osage Reservation and Kaw City in Oklahoma (230 miles). Last Kaw Village is Little John Creek Reserve (3.5miles SE of Council Grove) and is being restored as Allegawaho Memorial Heritage Park.

Population hubs include: Wichita (est. 389,000), Overland Park (est. 186,515), Kansas City (est. 151,306), and Topeka (est. 127,265). Most of the counties with high animal inventories are in the central part of the Kaw Valley there are current custom exempt and state or federally inspected facilities. There are 34 federally inspected plants in the state, with an excess to process and export beef. These facilities do not serve local, nor support small and mid-sized meat producers. For the plant to be considered, the plant must have a USDA process component at commencement of the project. **Table 7** below demonstrates animal inventory alongside market opportunities in the region.

[4] The Kansas Historical Society provides information and support on Tribes with potential consultation interests in Kansas. It is always a best practice to be deliberate by reaching out officially and formally to a tribal council and building relationships with elected officials and program directors of the tribe before making plans or public announcements, especially if tribal partnership is a leading intention.

Table 7 - Animal Processing

Facilities and Animals Processed in 100 mi. Douglas County	State Licensed Custom Only	State In-spected (in-state sales)	Federally Inspected (small or medium)	Total Local and Regional	Number Animals Consumed Tri County (est. per capita consumption)	Slaughter Capacity Estimated Consumption
# facilities w/in 100 miles	14	12	8	34		
# Cattle	3,427	6,025	2,585	12,037	32,182	37.4%
# Swine	1,648	3,982	4,943	10,573	73,436	14.4%
# Sheep	90	401	1,240	1,731	3,847	45.0%
# Goats	32	109	2,998 (2)	3139	(data not available)	
Total Kansas Facilities	48	42	16	107		

*(1) Table Notes: Data provided by KDA and USDA. (2) 2976 of these goats were slaughtered at one facility in DeSoto, KS. https://agriculture.ks.gov/

We can see from the table above that people in the State of Kansas are eating close to the national average amounts of meat, and our regional capacity to process local beef, pork and lamb is far below our consumer demand. This table of information is a lenient representation or scenario, presuming a livestock producer will drive 100 miles, when 50 miles would be considered more than challenging for producers. Additionally, these same 34 facilities need to be shared with all the other consumers within driving distance, so again the numbers improving access would decrease to about half or less in terms of being able to meet the demands of a local market. Many more processors, storage facilities, and large food distributors are in the region that includes Topeka and Kansas City. Thus, there is room for growth and scale, see financial and economic analysis sections below.

*Table 8 - Food Storage and Processing Access**

Douglas County	Leavenworth County	Jefferson County
Food Storage - 4 Food Processing - 34 Meat Processing - 0 Farmers Markets - 2 with 108 Vendors	Food Storage - 0 Food Processing - 8 Meat Processing - 0 Farmers Markets - 1 with 28 Vendors	Food Storage - 0 Food Processing - 4 Meat Processing - 0 Farmers Markets - 1 with 8 vendors

***State Licensed Food Storage & Processing Facilities in Tri-County Area**

While local demand exists, food service to institutions such as schools, hospitals, restaurants and grocery stores is provided by many of the nationally known distributors active in this region including US Food Service (Lenexa, KS), C&C Produce (N Kansas City, MO), Sysco Kansas City, Inc. (Olathe, KS), and Fresh Food Express (Oak Grove, MO). These regional food distributors have been responding to the demand for local foods by piloting partnerships with local producers in an "economically viable way." *However, this report does not identify meat processing specifically.* The community appears to be prepared and the planners are well organized to benefit from local meats that should seamlessly find other markets,

near and far. Document collection, interviews, and surveys revealed that the geospatial separation coupled with growing animal inventory, increased local support, and growing demand further support this analysis.

Table 9 - Overall Demand for Locally Produced Meat

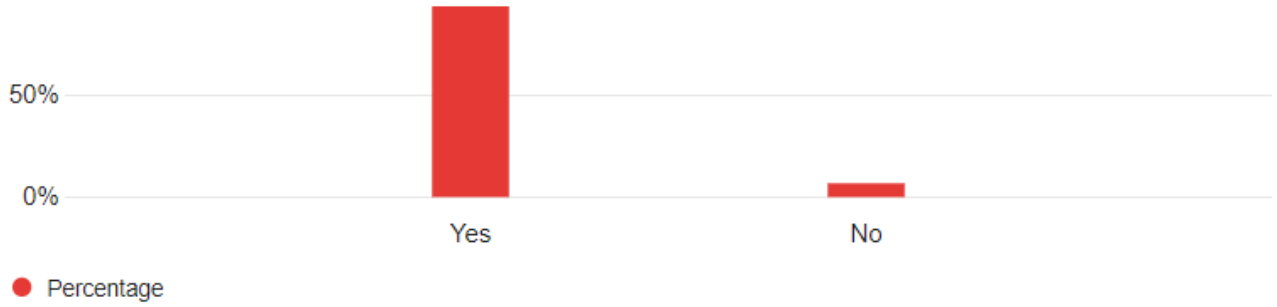
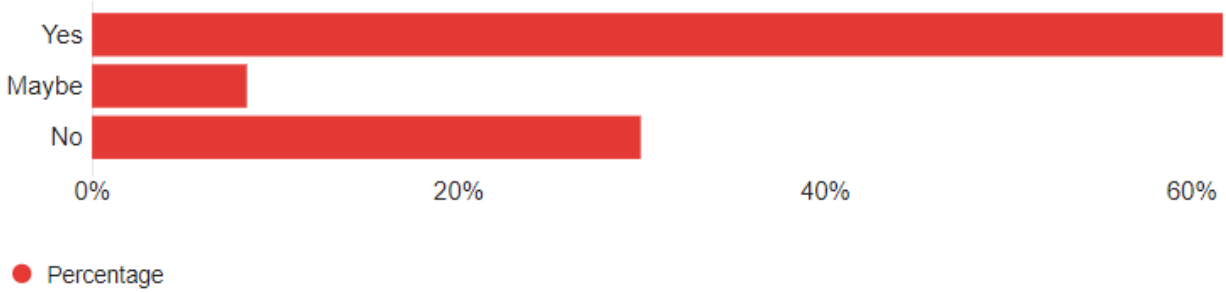


Table 10 – Overall Community Sentiment for Local Meat Production



To innovate in this space with a new meat processing facility, the business plan must account for and consider the geospatial aspects of service, support, capacity, and accessibility, which are discussed in detail below.

Distribution and marketing trends in meat consumption.

There have been major shifts in meat consumption across the US over the past few decades. Lamb, goat, and poultry overtook beef and pork as the most-consumed meat per capita in the early 1990s. Beef consumption fell from sixty-four pounds (boneless retail weight) per person to fifty-six pounds, between 1990 and 2020. On the other hand, poultry consumption increased from fifty-seven pounds to eighty-one pounds per capita, over the same period. Pork consumption per capita remained stable, slightly increasing from forty-seven to forty-nine pounds from 1990 to 2020. Overall, total red meat and poultry consumption increased by about twenty-five pounds from 1990 to 2020, to a total of 225 pounds (retail weight) per capita annually.

In addition to shifting to other meat sources, another challenge to meat markets could be consumer shifts to non-meat protein sources. There has been a lot of discussion regarding the growth of plant-based meat products, but not a lot of data on the potential size of this market and the extent to which

it has grown recently. This should have little bearing on the niche markets and model for a small to mid-sized multispecies processing facility supporting small to mid-sized producers.

One source of data is a Gallup poll from 2019, which suggested that 41% of Americans had tried plant-based meats, and 60% of those that tried them were very likely or somewhat likely to continue consuming them in the future. There were also regional differences in consumption, with only 36% of those in the South noting that they had tried plant-based meat which was the lowest of any region. Other key factors in this poll included: coming from a higher income household, living in the suburbs, and being younger were all associated with higher rates of having tried plant-based meats. However, the extent to which increased plant- based meat consumption will eat into the meat consumption market is still unknown. For instance, if plant-based meat consumers rarely eat the product, the impact on the overall meat industry could be rather limited; whereas, if a large proportion of consumers completely shift away from meat consumption, there could be a larger impact on the meat industry overall.

COVID impact on the meat processing market.

The COVID-19 pandemic saw large shifts in food consumption behavior. In April of 2020, there was a sizable drop in food sales. April of 2021 also saw expenditures on food at home (like purchases at grocery stores and supermarkets) exceed food away from home (like restaurants). That pattern remained until May of 2021, in which the pre-pandemic behavior re-emerged, and food- away-from-home expenditures overtook food-at-home. The abrupt change to food consumption caused by the pandemic led to differential impacts across meat products; for example, there were increased sales of shelf-stable products such as canned and frozen produce items and shifts to cheaper protein sources such as peanut butter. Beef and poultry markets also observed a shift to more food-at-home consumption.

In 2018 and 2019, retail sources represented 38.5% of beef consumption, but in 2020 that figure rose to 45.3%. Overall beef sales decreased by 730 million pounds in 2020, thus demonstrating the importance of foodservice consumption for the beef industry. Another major impact of the pandemic occurred on the supply side, as packing plant closures caused major supply-chain disruptions. The demand for feed cattle for slaughter fell due to the closures, which then reduced feedlot demand for feeder cattle across the US. These factors, combined with increased demand at retail outlets, resulted in a spike in both the price received for retail cuts of beef and prices received at the wholesale level. However, these price increases did not trickle down the supply chain to prices received by producers. This trend appears to be consistent across all meats and packing facilities.

There was a wholesale and retail spike in 2020, while the net farm value and profits drop slightly. An alternative way to look at the impact on meat producers of any kind during COVID-19 is through the farm to wholesale price spread. The price spread between the value received by the meat producer and that by the wholesaler had typically been between $0.25 to $0.50 per pound from 1995 to 2015. However, the price spread began to increase around 2016 toward $1.00 per pound, meaning producers were obtaining a lower share of profits. At the beginning of the COVID-19 pandemic, farm-to-wholesale price

spreads increased to unprecedented levels, approaching $4.00 per pound in June and July of 2020. Despite some declines over the past year, price spreads remain well above their levels from four years ago.

Resources for Marketing Kansas Meats

There is strong consensus and sentiment among Kansas meat producers to market Kansas-branded products in Douglas County. According to the Kansas Department of Agriculture, the agency, "partners with other agencies and Kansas State University to offer guidance, services and, in some instances, loans and grants to meat and poultry businesses to help them develop and market their products. Below are more resources and contacts to support marketing and planning." There are several resources and experts at Kansas Agriculture Marketing Program and Kansas State University, Department of Animal Sciences and Industry.

Kansas Agriculture Marketing Program
1320 Research Park Drive, Manhattan, Kansas 66502
Phone: (785) 564-6700

From the Land of Kansas — Kansas' current trademark program for Kansas grown, raised and produced agricultural products and experiences is *From the Land of Kansas*. To learn more, visit www.FromtheLandofKansas.com.

Kansas State University Department of Animal Sciences and Industry
232 Weber Hall, Kansas State University, Manhattan, KS 66506-8028
Phone: (785) 532-6533 and Fax: (785) 532-7059

Attn: Liz Boyle, 251 Weber Hall, Manhattan, KS 66506-0201
Phone: (785) 532-1247 and Fax: (785) 532-7059
E-mail: mailto:lboyle@oznet.ksu.edu

Value-added services and programs to assist with product and process development.

Shelf-Life Evaluation

- For evaluation of product, scientists will help in the determination of the type of analysis needed and the number of samples required.
- Fees are dependent on services provided.

Microbiological Analyses

- For evaluation of product, scientists will help in the determination of the type of analysis needed and the number of samples required.
- Fees are dependent on services provided.

7.0 Market Challenges and Additional Rules or Regulations

All food safety issues are addressed by the Kansas Department of Public Health (KDPH), Kansas Department of Agriculture (KDA), and USDA FSIS where applicable. Additional local or county rules may apply. Processors or producers who wish to sell retail product (packaged state or USDA inspected cuts) must be permitted as a "Priority Category 1" establishment by the county health department, as per the Kansas Department of Public Health. "Priority categories" are a tiered structuring of food establishments based on the public health risk for foodborne illnesses inherent in the establishment due to the menu, operations, or consumers, used for purposes of permitting and inspection scheduling. "Priority Category 1 Establishment" means those food establishments that sell or market only prepackaged time/temperature control for safety food items. This type of establishment may also be called a "Limited Retail Food Store Establishment.

Retail sale of processed products.

All food safety issues are addressed by the Kansas Department of Public Health (KDPH), Kansas Department of Agriculture (guidelines and checklist, see also attachments), and USDA-FSIS where applicable (See Attachment C and D). Additional local or county rules may apply. Processors or producers who wish to sell retail product (packaged state or USDA inspected cuts) must be permitted by the county health department. There is usually a tiered structuring of food establishments based on the public health risk for foodborne illness inherent in the establishment due to the menu, operations, or consumers, used for purposes of permitting and inspection scheduling. This means those food establishments that sell or market only prepackaged time/temperature control for safety food items have different requirements or rules in place. This type of establishment may also be called a "Limited Retail Food Store Establishment."

Typically, establishments shall be inspected once per year under specific guidelines. The application for a permit and the permit specify that only prepackaged food items shall be sold or handled. Equipment and utensil cleaning facilities may not be required. At least one handwashing sink provided and supplied with water, hand cleanser, and provisions for hand drying. Establishment shall have the garbage and reuse cleaning facilities specified or demonstrate other effective means for keeping the containers clean, including floors, walls, and ceilings - maintained in good repair and kept clean. Facilities selling retail cuts must also register with the Kansas Department of Agriculture and obtain annual food safety permit and requires an inspection. Proper temperature and cleanliness of storage/display areas will also be a focus of inspection.

To see what forms are needed for meat processing, visit the Meat and Poultry Inspection Registration webpage. The New Facility Handbook provides guidance for the regulatory requirements of sanitation and the design and construction of meat and poultry slaughter and processing plants. The handbook consists of information such as recommended building standards, registration requirements, mobile units, and HACCP consultants.

Farmers market and selling processed.

Sale through local farmers markets is regulated through the KDA Direct Market Guidelines. Under these guidelines, only raw meats, including fish and seafood, that are processed, packaged, and labeled at an inspected facility or are otherwise exempted from inspection may be sold at a farmer's market (exempted meats: rabbit, quail and bison). All processed meat sold in the state of Kansas must be processed by an Inspected Facility (State Inspected, FSIS or T-A Facility) and labeled accordingly. Meat products, other than fish and shellfish, must be brought to the market in frozen condition and kept frozen until sold. Selling packaged meat at the farmers market requires sanitary handling and temperature control. A mechanical unit capable of maintaining the meat and poultry products in the frozen state is recommended to be used.

Processing facility wastewater.

Wastewater is a serious concern for meat processing plants of any kind. For example, beef processing water usage, primarily from carcass washing and processing cleanup, has been reported at 355 gallons per 1000 lbs. of body weight for commercial plants. Using the above average, a 30 head per week processing plant would use approximately 43,000 gals of water a month. By comparison, a typical 3-person household uses 5,400 gals per month. Sufficient water access is therefore a consideration when building or expanding a processing plant. Since most plants will be located with access to municipal water, appropriately sized meters and plumbing is a concern as well as the cost of water.

If the plant uses well water, a well and pump capable of delivering the desired flow is required. Since much of the water usage is in cleaning, a sewer connection or other wastewater system must be installed to handle wastewater effluence. Local health departments typically do not approve septic systems for slaughter plants.

Kansas Department of Health (KDPH) requires plants must go through Kansas Department of Environmental Management (KDEM) for permitting to attach to a sewer system or other approved on-site wastewater system (OSS). This often means a large-capacity septic system designed to handle projected water usage and KDEM permit for an OSS requires a professionally engineered / stamped design be submitted for approval through the KDEM permit process. These plans can cost $5k-$10k or more each, depending on complexity and size. Plants then must register online for a fee, file an electronic *Notice of Intent*, and submit their engineered plan for approval. Approval is typically granted without modification, but systems are subject to KDEM inspection prior to operation.

Offal and hide waste product disposal or processing.

Offal / hide and other waste product disposal can also be a serious problem to overcome for animal processing plants. Often there are four options for processing facilities to dispose of waste products and the discussion on HACCP provides the pathway for compliance with the KDA. There are usually four options.

Option 1. If you currently use a renderer for the disposal of the non-edible byproducts from your operation and your renderer certifies to you (in writing) that they do not process the byproducts into any animal feed, no changes to your operation are required.

Option 2. If you currently use a renderer for the disposal of the non-edible byproducts from your operation and your renderer has refused to accept any byproducts from your facility in the future, your options are disposal in a permitted landfill, incineration, or composting.

Option 3. If you currently use a renderer for the disposal of the non-edible byproducts from your operation and your renderer is willing to accept the non-restricted byproducts, then you must separate the restricted byproducts of the slaughtered cattle (brain and spinal cord) from the other offal. There are certification requirements on the slaughter facility and the renderer included in the new rules that must be followed. The restricted byproducts may be disposed in a permitted landfill, incinerated, or composted. If the owner of the slaughtered cow also owns a farm, the restricted byproducts may be transferred back to the owner for on-farm disposal.

Option 4. If you slaughter cattle that are less than 30 months of age only and the renderer agrees to accept the non-edible byproducts from your operation based on this fact. It is important to understand that all the non-edible byproducts of cattle slaughtering, and processing can be taken by a renderer and used for other purposes.

The new FDA rule restricts the rendering of Cattle Materials Prohibited in Animal Food or Feed (CMPAF) including brains and spinal cords of cattle older than 30 months into all animal feed.” In the past, there were opportunities to receive some compensation for some waste products through selling them to rendering or “Hide and Tallow” businesses. Now there is only one such business operating at scale in Kansas, and facilities are charged a monthly fee based on disposal amounts for drop-off privileges to the rendering plant. This has caused some processing plants to dispose of offal/hides in landfills for a fee. KDA requires a letter from the landfill authorizing disposal of waste products. Edible offal products can be sold to customer/owner if they are from an inspected carcass (not Custom Exempt). Brain and spinal cord products are always excluded from sale.

Considerations for HACCP / SSOP / GMP.

According to the Kansas Department of Agriculture, Hazard Analysis and Critical Control Point, (HACCP), is a food safety management system in which product safety is addressed through analysis and control

of possible biological, chemical, and physical hazards from raw material through every production step to the finished product. The HACCP rule has two components: 1) the reduction of pathogens, and 2) the development and implementation of HACCP systems. The pathogen reduction part of the rule includes the Salmonella Performance Standard and generic E. coli testing. Today, all federal and state inspected facilities are operating under a HACCP system and all new facilities must have a HACCP system developed before receiving a grant of inspection.

HACCP allows facilities to identify food safety hazards that are reasonably likely to occur in the process or type of product being produced and establish points of control to prevent them from occurring. HACCP is a science-based process control system that focuses on preventing food safety concerns. The role of the KDA inspector in a HACCP system is to verify the facility has developed and is implementing the HACCP system as designed. The HACCP final rule also required the development and implementation of Sanitation Standard Operating Procedures (SSOPs). These programs are intended to prevent direct product contamination or adulteration and focus on pre-operational and operational activities. Every facility must develop, implement, and maintain effective SSOPs.

Business licensing and building or facility permits.

Business licensing is handled through the local city/county building authorities or planning commissions. For producers planning to sell individual cuts to third parties from an Inspected Facility, it is recommended that they contact the local business development center for guidance on appropriate business licensing. The same recommendation applies to someone building a new processing facility. Local building ordinances and permits will govern much of the requirements for a new building and the site surrounding it. However, it is recommended that someone considering building or expanding a processing facility share their plant design with inspection personnel prior to finalizing any plans. Your local Small Business Development Center (SBDC) or Chamber of Commerce can be of great assistance in helping someone to navigate through all the local business licensing and permitting areas. As with any business plan, contacting a certified public accountant skilled in small business accounting is highly recommended. A concise business plan will also be needed to secure any business loans.

Quality and yield grading of freezer meat.

Most purchasers of retail cuts of beef are familiar with the USDA quality grading system and have seen the grade stamps of USDA Prime, Choice or Select on packages of steaks at the meat counter. There are also the lesser-known grades (decreasing in order of quality) of Commercial, Utility, Cutter, and Canner. These latter grades do not typically show up in retail meat shelves but are for animals that, because of age or condition, are judged not to be desirable for individual cuts like steaks or roasts and are usually relegated to ground product or other for further processing only. The three primary “steak” grades of Prime, Choice and Select are based on a combination of factors including age, finish, and intramuscular fat content, or “marbling” at the ribeye.

The USDA – Agricultural Marketing Service establishes the criteria and oversees the labeling of these quality grades. USDA-AMS also oversees Yield Grading, which is an estimation of the final boneless yield of a carcass prior to processing. Quality and yield grading is voluntary for processors and is done for a contract fee through USDA-AMS as a way to assign value to a carcass prior to processing for products typically being sold to wholesale or export markets (Webb 2014). Custom Exempt Facilities would have no reason to pay for quality grading, as they are only providing a service for the animal owner and the quality grade of yield of the animal has no bearing on their business.

USDA or State Inspected facilities could possibly have reason to have products quality graded if they were selling the products through on-site retail, or wholesale product to distributors, as their customers may be willing to pay more for quality graded product. Quality grading services must be requested, and it is the USDA's decision as to whether the service will be provided or not. At this time, there is no small processor in Kansas approved by the USDA for quality grading services. Given the significant expense and the training of skilled labor required, it is highly unlikely for a small processor to be able to economically support grading services. For further information on USDA quality and yield grades, see https://meat.tamu.edu/beefgrading or contact USDA-AMS directly at https://www.ams.usda.gov/services/grading. A processor can also request grading services directly from the USDA-AMS website.

Regulatory and food safety specific to commercial freezer meat.

The term "freezer beef" has been defined as beef that is purchased as a whole, half or quarter of a live animal, then processed and delivered in the same portion to the live animal owner, who is the end-user. The term can also be used to describe cuts of beef that are sold through nontraditional markets. Unlike retail grocery stores or butcher shops, freezer beef is often purchased directly from the beef producer or processor. The regulatory and safety concerns vary slightly with these two freezer beef scenarios. With the first scenario, freezer beef must be purchased and delivered to the customer/end-user under the regulations governing Custom Exempt Facility processing as outlined earlier in this report. Safe handling and storage of the beef is the responsibility of the processor while in their possession. As stated above, if the processor is being paid for delivery, safe handling during that time is also the processor's responsibility.

The specific live animal, or portions of a live animal belonging to a customer should be kept separate from products of other customers throughout the processing stages. All the products delivered to the customer; steaks, roasts, ground meat, etc., should all come from the same purchased animal. No mixing of cuts from different animals should happen since the customer purchased a specific animal and the products resulting from its slaughter. Once the beef is delivered, safe food storage and handling becomes the sole responsibility of the purchaser, as with any food item in their home. Again, the products must all be labeled "Not for Resale" when delivered to the end user. Individual cuts or portions cannot be resold to a third party in any form under Custom Exempt inspection rules.

The only way freezer beef may be sold or purchased by the individual cuts, or resold to a third party, is when it was processed and labeled under the regulations outlined for an Inspected Facility. State only inspection restricts the wholesale marketing of individual cuts to within state lines. Any inspected product (State Only or USDA/T-A) can be sold to the end-user or shipped across state lines via internet sales or otherwise to the end-user. This includes cuts of beef purchased through a local farmer's market or small home or farm-based retail stand. However, only USDA/T-A inspected product can be sold wholesale for retail resale across state lines. Individual cuts of beef sold through retail sales areas at processor facilities must also meet these same inspection regulations. Sanitation, food handling and storage in a retail case or freezer is regulated by KDPH food safety permits and guidelines. Only pre-packaged, frozen cuts of beef should be purchased from such entities.

If a meat producer desires to sell a finished meat animal directly to consumers by the whole, half, or other partial portion of the live animal, then a Custom Exempt facility is sufficient to do the processing. Processing can be a service provided by the producer to the end-user via an arrangement with a processor. Transportation of live animal and finished product can also be provided. However, if a producer wishes to sell packaged individual cuts and not live animals, a state or USDA inspected facility must be used to process the meat, whether the sale is at a retail facility, farmer's market, or an on-farm sales outlet.

Other regulatory and food safety concerns.

Regulatory and food safety concerns are very complex and require a high level of knowledge, expertise, and skill to navigate. Recent changes in the rules and regulations improving meat products meet this extremely complex landscape of processes and procedures. In particular, two significant shifts have led to improvements in facility access and meat distribution, according to the USDA:

1. In 2010, USDA's Food Safety and Inspection Service launched the Small Plant Help Desk to connect small and very small meat, poultry, and egg processors with USDA specialists. In its first two years, the Desk responded to over 4,500 inquiries.
2. Since mid-2011, USDA rules allow state-inspected slaughter plants to apply to ship their meat across state lines, helping producers access lucrative markets in neighboring states.

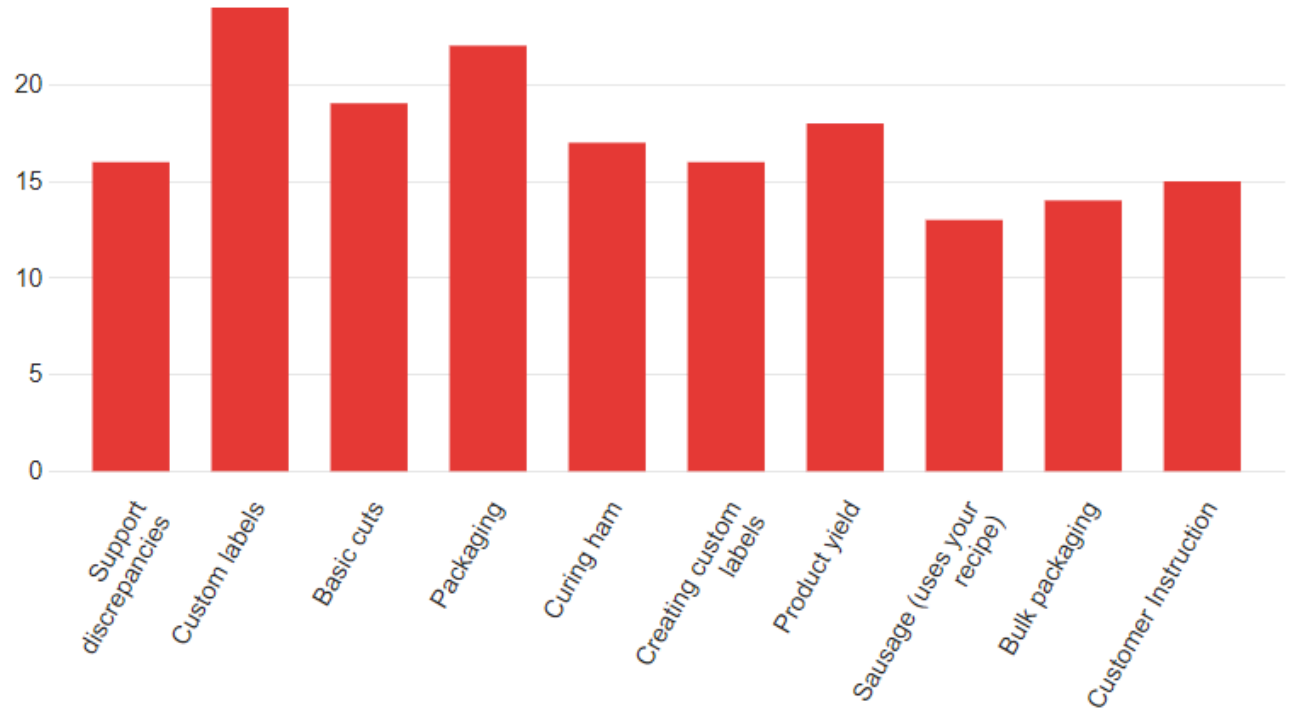
To assess feasibility (ensuring future strategic business plans) for Douglas County, Kansas and Kaw Valley Meats, the State and Federal rules guiding the establishment of a new processing facility considered the following aspects: 1) Custom Exempt Facilities, 2) Inspected Facility – State of Kansas State Inspection Only, 3) Inspected Facility–USDA - FSIS or Talmage-Aiken Federal Inspection, 4) Special Rules for Mixed Inspection Facilities, 5) Special Rules for Combination Domestic Livestock and Wildlife Processing Facilities, 6) Processing Cull Cows or Bulls, 7) Food Safety Concerns: Retail Sale of Processed Products, 8) Farmer's Market Sales of Processed Meat Products, 9) Processing Facility Wastewater Concerns, 10) Offal/Hide/Waste Product Disposal Concerns, 11) Business Licensing and Building Permits, 12) Quality and

Yield Grading of Freezer Multi-species Meat, 13) Regulatory and Food Safety Concerns Specific to Marketing or Purchasing "Freezer Multi-species Meat", 14) and Multi-species Meat Processor Inspection Decisions. This report addresses all of these matters.

Kansas Food Code 2012 (based on the US PHS 2009 Model Food Code).

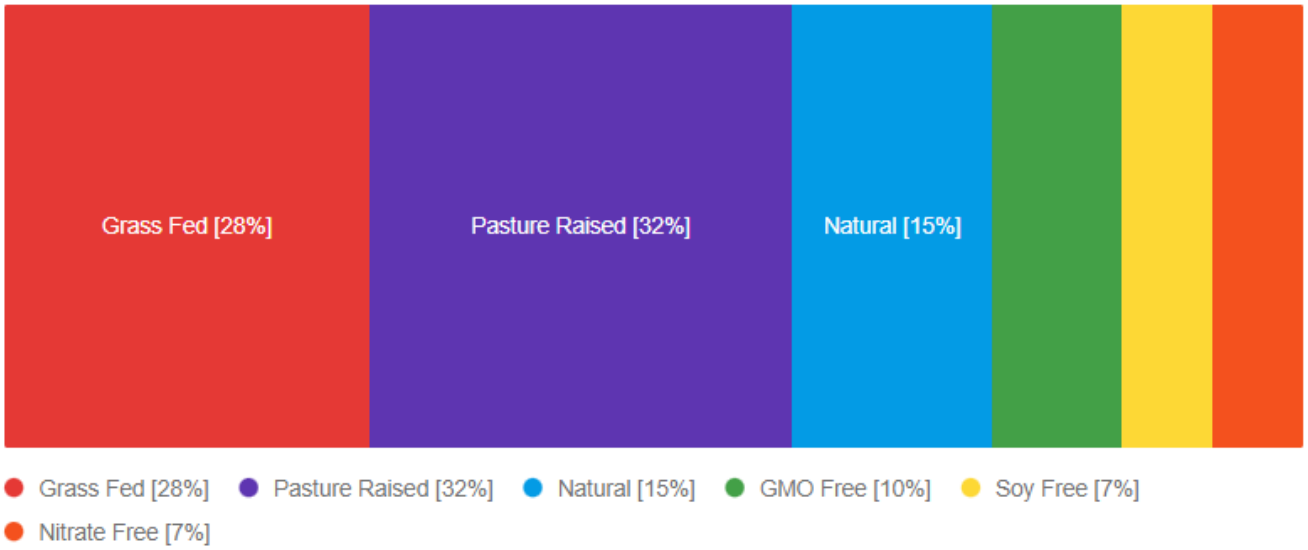
According to the KDA, "The provisions of the Kansas Food Code provide a system of pro-active preventive safeguards designed to minimize the hazards that lead to foodborne illness, thus ensuring safe food and acceptable levels of sanitation in food establishments. The Food Code presents requirements by principle rather than by subject." This will be a helpful resource when assessing service and support needs with labels and packaging because this is important for Kansas meat producers, as seen in **Figure 10 and 11**.

Figure 8 - Service and Support Needs with Packaging and Labels



Approximately 75% of all meat producers responding to the survey expressed a need for packaging and labeling support based on their operations, and the producers interviewed expressed support and service with packaging and labeling would impact their operations in a positive way.

Figure 9 - Meat Producer Needs for Service and Support with Labels and Certification



Environmental and regulatory issues.

Meat Inspection. One thing all processing plans have in common no matter what type of animal processed is the need for meat inspection to ensure that the meat is safe for human consumption. Kansas does a couple of matters well when it comes to meat processing for small to mid-size producers: 1) Existence of Meat Processors Association and 2) Establishment of the Kansas Meat and Poultry Inspection Act. This improves the landscape for permitting, labeling, and certification surrounding the rules and regulations precluding interstate and intrastate commerce.

Cattle and lambs are graded by the USDA Agricultural Marketing Service (AMS) and having a processor's association and state legislation helps determine feasibility. Federal law allows for exemptions for custom processing plants that slaughter and process meat for the owner of the animal for the owner's personal consumption. The carcass cannot be sold. Retail exempt plants such as grocery stores, are also exempt provided the carcasses they purchased were from a federally inspected plant. The cost of meeting USDA regulations can be quite high. USDA inspected plants are required among other things to test for E. coli and salmonella. These plants must also have a process to identify and separate Specified Risk Materials (SRM), brain, nerve, and other matter. However, to be eligible to sell to the public the processor must be USDA inspected. Producers, consumers, and community leaders want and expect this, too.

As a result, it is all but impossible for a small processing plant to establish itself, unless it bypasses the USDA regulations by operating as a custom slaughter plant. Rules enforced by the Occupational Safety and Health Administration (OSHA), also increase the cost of production by increasing the regulatory costs of employing labor. Starting in 1999, all meat plants are required to have a plant that identifies

the critical control points for meat safety and to identify specific action plans to ensure food safety. This is sometimes referred to as HACCP. One aspect of HACCP is the fact that it requires up to two (2) additional full-time equivalents in the plant's payroll when fully operational. Since these employees have both inspection and supervisory roles, they earn a relatively high salary. This makes it difficult for a small-scale plant to operate efficiently.

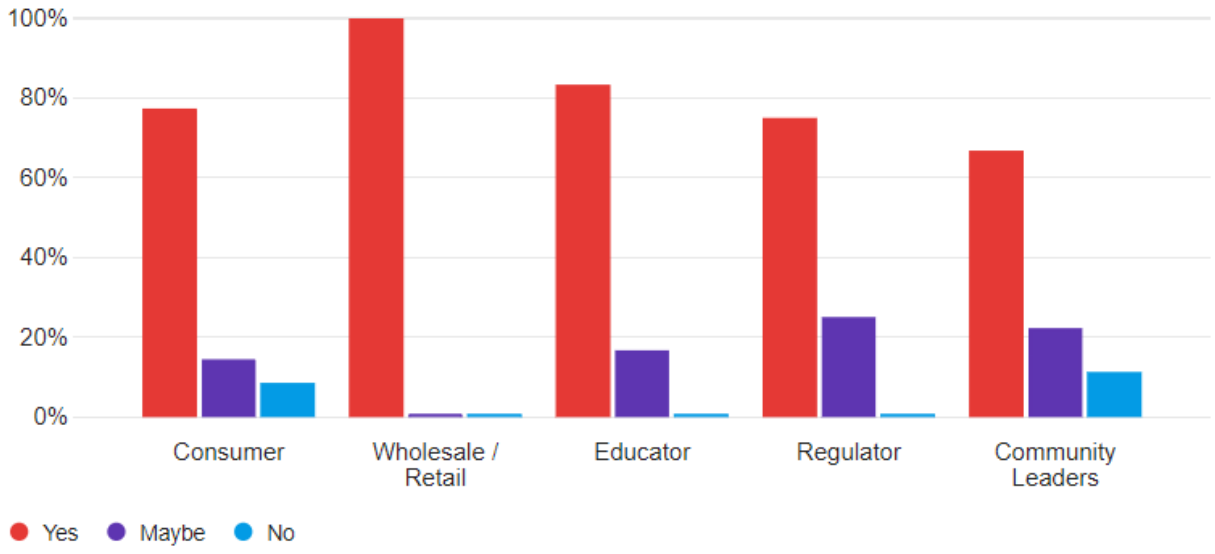
Environmental Regulation.

When scaling up production, regenerative agriculture best practices should give room for pause when discussing feedlots because they are a part of the entire meat processing ecosystem and evolving strategies with small to mid-size facility could provide collaborative opportunities. However, proper management and planning to work with or around feedlots is important. The primary federal act regulating the management of feedlots is the Clean Water Act (CWA). Under the Clean Water Act, facilities that discharge directly into water resources through a ditch or pipe require a National Pollutant Discharge Elimination System (NPDES) Permit.

Douglas County, Central Grazing Company, and Kaw Valley Meats do not need a feedlot and the collaborative planning has achieved a constructive landscape filled with strong public support from the community, regulators, educators, and elected officials that is strategically deliberate and intentional in looking to the future. When considering rules and regulations with feedlots, the business plan should clearly evaluate scale of operations, the role of growing animal inventories, and the role of entrepreneurial innovation and regenerative agriculture in the process of helping small to mid-size producers reach new or other markets. When scaling up or into operations for a new meat processing facility, an important consideration for a feedlot operation is proper disposal of waste and water. One positive aspect about Northern Kansas is that there does not appear to be a need for more feedlots and the area probably can absorb the nutrients, if so. A good plan and the information below are where novel ideas occur and innovation improves the status quo.

Technical support to feedlot operators is available through the USDA, the Kansas Department of Agriculture and Kansas State University (KSU) Extension. Environmental regulations can be difficult and extremely costly to navigate and were identified by industry participants as a challenge for many operations. Regardless of the regulatory environment, finding a supportive community is critical to success and all of the data or evidence demonstrate that the community, elected officials, farmers, and ranchers are extremely supportive, **Table 9** demonstrates consumers and producers are eager for growth.

Table 11 - Sentiment Analysis by Cohort for a New Meat Processing Facility and Buying Local



The surveys, interviews, and document collection revealed a strong sentiment and demand for local food, especially locally produced meat(s). A lack of public support and public concern for animal welfare, or a processing facility could be detrimental at a minimum and ultimately fatal to a project. However, there appears to be several areas in Douglas County, Kansas that would be amenable to a processing plant. There also appears to be a strong interest in economic development and additional employment or workforce development opportunities in this part of the state as well, which is a definite strength for Douglas County, Kansas in moving forward with this project.

Resources for HACCP and sanitation from KDA

- HACCP & SSOP Manual - Requirements for Federal or State Meat Inspection, HACCP and SSOP Basics
- Supporting HACCP Decisions - Authored by Dr. Dennis Buege, Extension Meat Scientist
- KSU ASI HACCP Resources - Kansas State University, Animal Science & Industry, HACCP Resources
- Niche Meat Processor Assistance Network - Information for the small meat processor
- HACCP Center for Meat Process Validation, University of Wisconsin - Model HACCP plans and information on validation, prerequisite programs and research papers
- Microbiology for the small & very small plant - An overview of microorganisms that are associated with food establishments

- Antimicrobial spray treatments for beef carcasses - Instructions for using antimicrobial spray treatments in small and very small plants
- Antimicrobial Interventions for E. coli at Slaughter - Research paper on antimicrobial spray treatments
- Overview of Microorganisms in Food - Authored by Catherine Cutter, Ph.D., Associate Professor & Food Safety Extension Specialist, Pennsylvania State University and Martin Bucknavage, Senior Food Safety Extension Associate, Pennsylvania State University
- Overview of Microbiological Sampling of Food Processing Plants - Authored by Catherine Cutter, Ph.D., Associate Professor & Food Safety Extension Specialist, Pennsylvania State University and Martin Bucknavage, Senior Food Safety Extension Associate, Pennsylvania State University
- Controlling Listeria in Ready-to-Eat Meat and Poultry Products September 2012 - Control of Listeria monocytogenes
- Developing Product Lotting and Coding Systems for Small Meat and Poultry Processing Operations - Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Resources for HACCP sample plans and exemplars

- Measures to Address Shiga toxin-producing Escherichia coli (STEC) in Raw Non-intact Beef Products, presented at the Annual NASMFID Conference, San Diego, CA, and developed by the Office of Policy and Program Development, FSIS, USDA
- Guidance for Small and Very Small Establishments on Sampling Beef Products for Escherichia coli O157:H7, the .pdf is attached, but here is the link if it is easier to post the document with the link to FSIS
- Standard Operating Procedure for Receiving Raw Ground Beef Components or Raw Beef Pattie Components, developed by Dennis Burson
- Raw Ground Flow Diagram for receiving meat from a supplier, with or without a Certificate of Analysis (COA)
- Raw Ground Hazard Analysis for receiving meat from a supplier, with or without a Certificate of Analysis (COA)
- Raw Ground HACCP Plan for receiving meat from a supplier, with or without a Certificate of Analysis (COA)
- Raw Ground Flow Diagram for applying an antimicrobial intervention

- Raw Ground Hazard Analysis for applying an antimicrobial intervention
- Raw Ground HACCP Plan for applying an antimicrobial intervention
- Raw Ground Flow Diagram for processing raw, ground beef from carcasses slaughtered at the plant
- Raw Ground Hazard Analysis for processing raw, ground beef from carcasses slaughtered at the plant
- Raw Ground HACCP Plan for processing raw, ground beef from carcasses slaughtered at the plant

8.0 Financial and Economic Analysis

Financial Analysis

The overall outcome revealed it is feasible to build a small to mid-sized multispecies processing facility in Douglas County, Kansas provided certain steps are taken, and critical factors are mitigated with access to capital in place. The factors below should be delineated in further detail in the final business plan with substantive conclusions impacting financial analysis or modeling. To achieve USDA compliance and funding opportunities for loans and grants, the business plan must address several key base assumptions. The assumptions based herein rely on a variety of economic, market, and meat experts, as well as findings from recent case studies in the region and recommendations by the USDA.

Facility Construction Assumptions

According to several meat producers in Kansas, "There are not enough places to process meat" and "COVID made matters with processing more complicated." This has ancillary benefits to the community, workforce, small business ecosystems, education, and, more importantly, the food system in general. The evidence and data strongly suggest small producers need service and support to scale and grow. According to University of Nebraska – Lincoln, answering this question depends on the type, size, inspection, and commodities the plant will harvest or store. New construction costs are approximately $300-400 per square foot. In addition to the fixed costs of the building and machinery, variable costs to process animals are ongoing. All-in costs to process livestock are estimated to be $500 per head for beef, $150 per head for hogs, and $120 for lamb. In addition, there are taxes, interest, and deprecation regardless of the species harvested that can total as much as $675 per head.

Other Base Assumptions for the Kansas Facility

Financing the Capital Investment
Annual Operating Costs Including Labor
Profitability Analysis
Breakeven and Sensitivity Analysis

- It will require significant infrastructure to run the facility and a minimum capital expenditure to scale into operations building a hub and spoke model for small and mid-size producers. Continued investment and ongoing access to capital is critical. According to the study by Nebraska University Extension, it will cost more than a $1M or more ($300-$400/sq ft on avg) to get started and ultimately achieve productivity, revenue, and the level of services that are interconnected. (See Attachment __ - Pro Forma Balance Sheets by Friesla)
- Labor research determined that the proposed processing plant would need a staff of 147 to 155 people at an average wage of $55,000 annually is what a new plant in North Platte, NE would need for line employees.
- The proposed facility in Kansas has a goal to process 1,200 head of multispecies animals each week. The business is complex and risky but current planning and preparation with consumers, community, and producer support are significant mitigating factors, a scaled business plan with a strategy for access to capital is also a mitigating factor that makes it feasible for a new multi-species meat processing facility in Douglas County, KS.
- The Conceptual Design team at Friesla produced facility designs that modeled how a plant would process up to 1,200 head of multi-species meat per week and could operate profitably. It will be important to determine the cost of a single line or supplemental line will be used for processing multispecies.
- Several economists and accountants contributed expertise by providing an overview of the economic conditions in Kansas that the proposed plant would operate under and the possible effects a processing plant might have on job growth in associated sectors. This research estimated that in year 5, the processing plant could generate total local revenues with an impact exceeding more than $300 million.
- Several consultants and stakeholders recommended using a Land Application System as the best method to deal with wastewater coming from the facility.

A review of the data concludes it is feasible to build a new processing plant in Douglas County, Kansas, such as the one described herein. Doing so will require:

- Creating and building demand for Kansas-branded meat products and/or growing and promoting existing Kansas-branded meat products.
- Finding experts in the meat business willing to work for the entity that owns the plant because Kansas does not have a pool of these experts.
- Recruiting and training a large workforce because Kansas lacks a large skilled meat processing workforce.
- Building a business model that captures value from every part of the animal carcass could contribute to pet food, hides, and other markets or entrepreneurial activity.

Like most agriculture today, the difference between success and failure is in the business plan and marketing, not the ability to process or produce a certain type or quality of product. A processor with the technology, access to capital, and willingness to process a product at reasonable price would allow the County, Central Grazing Company, and Kaw Valley Meats to scale into establishing a small- to mid-sized multispecies meat processing facility. An important key factor will be ensuring operations and logistics are large enough to support capacity and demand for small farms or ranches.

Finding such a "partner" is the key to initial efforts into a marketing plan. Douglas County, Central Grazing Company, and Kaw Valley Meats have achieved the first of more partnerships looking to the future. Public and private partnerships are important, if not extremely critical, to local workforce and economic development. Marketing done correctly should finance expansion of an existing plant or construction of a new facility. Beginning with a mobile processing unit(s) or utilizing a contract relationship with an existing slaughtering operator or processor would permit the business to begin without severe demands on time and capital. This approach could also allow many types of products or other entrepreneurial activity using the expertise of an experienced processor without the commitment for adequate salaries and benefits. It also gives flexibility to make different or new products as the market establishes the demand for a product or products.

Branded products today like those considered herein are a force in the market beyond expectations from only ten years ago. Nationwide, consumers seem more interested in eating quality than in perceived safety (high marbling vs. “natural”) but the New York City market, as an example, is extremely environmentally conscious and sensitive to health and safety issues. Retail chains that did not acquire the Certified Angus Beef franchise for their area have, in some cases, found themselves at a considerable disadvantage in so far as consumer perceptions of their beef products.

Although generally characterized by smaller sales, companies that offer environmental, health and safety claims (e.g., no hormones, no antibiotics, humane treatment, grass fed) have done well. Coleman's, Maverick, Manning and other large companies, have all found niches in which to market their product. Most consumers are not willing to pay the price for branded or certified product, but enough are to keep these companies in the market. Indeed, Coleman’s had $55,000,000 in sales in 1997 and was the 126th largest meat company in the U.S. An eastern Pennsylvania supermarket chain was recently marketing Coleman’s ground round at nearly double the price for Certified Angus Beef ground round. Trips to California and New York City supermarkets show that consumers “want what they want” and are willing to pay for it. Consumers don't want it as often, but when they do, they want the perceived top-quality small-scale producers can often deliver. Consumers also perceive smaller products from “smaller” producers as being safer.

Relating the product all the way along the line to an individual producer gives a great deal of consumer confidence. Kaw Valley Meats intends to accomplish this aim. According to several meat and ranching experts, ““Documenting product provenance from producer to consumer offers valuable consumer confidence.” There is today an opportunity to market ‘real’ meat. Synthetic, plant-based proteins marketed

as meat-like protein foods have gained some market share partly out of public sentiment which sees meat animal production as an environmental problem and that buying 'real' meat is a guilty pleasure. The opportunity is multi-faceted, then: consumers still prefer eating real meat, but require assurance and reassurance that animals are raised in a responsible manner that is healthy and humane for the animal and protects or conserves natural resources and natural environments. Beef, bison, and sheep tend to be raised on rangeland and pasture rather than confinement systems; these production methods tend to conserve open space, optimize carbon sequestration, and generate other ecosystem goods and services in the same space as forage production. This is attractive to consumers, and it is more easily communicated through shorter production-processing chains with less distance between farm and fork. Consumers are still uncertain about plant-based meats, and many want to know that the real thing is good for the planet and the economy.

There are many small plants that have flourished and grown. Third and fourth generations are taking over some profitable meat processing operations and new ones are springing up. Some of the food safety short-courses Pennsylvania State University has conducted for the very small processing plants have been attended mostly by "twenty-something," new-generation managers, a sign that they see a future in this industry. This is an opportunity for education as well as post-secondary learning to help develop the labor line and workforce.

The priority for the County, Central Grazing Company, and Kaw Valley Meats must be to document what it must sell through its business plan and then develop a comprehensive marketing plan. Such a plan should build on the successes of individual Kaw Valley meat producers and the growing meat inventory of of sheep, goats, hogs, and poultry. There is great room for growth in this metropolitan market. It can be informally developed but needs to address the issues of how products will be certified and sold, probably under some form of cooperative structure(s); Kansas State University (KSU) Extension is well positioned as a resource in outreach and education.

Once the business plan is finalized and a market is documented and demonstrated, finding ways to process the products more efficiently and increase capacity should be an ongoing evaluation, using the information provided herein. The purpose of this report is to assist Kaw Valley Meats and Douglas County in evaluating the feasibility of a slaughterhouse/processing facility and given the results of this analysis, to develop an appropriate business plan for such a facility. This report is intended to enable the County and planners to strengthen public and private partnerships as well as secure investors or other partners. Developing a financial model or proposal and obtaining the funding for purchase of a site and the construction of a new building or retrofitting of an existing facility is feasible.

It is anticipated the study will also be used to guide site selection and establish a business plan or model establishing a path for services, management support, labor plan, hiring personnel, and creating a marketing and advertising program. Ultimately, initiating a promotional and educational effort to train or educate new or interested meat producers and sales and distribution personnel will be important.

Potential sources of financing include but are not limited to the USDA Business and Industry Direct Loans, Rural Cooperative Development Grants, Rural Business Enterprise Grants, Rural Business Opportunity Grants, the Resource Conservation & Development Program (RC&D), the Small Business Administration 504 Loan Program, the Economic Development Administration Facilities Program, the Farmer/Grower Grant Program, the Federal-State Marketing Program, and the Community Development Block Grant Program. There are also numerous other financing programs available through county or industrial development agencies, local and regional economic development organizations and private foundations.

Resources for Financial and Economic Support

- State Government Office - Kansas Department of Commerce
- State Commerce – Food Processing
- EDA Regional Office - Denver Regional Office
- Economic Development Districts
  - Flint Hills Economic Development District
  - Great Plains Development Inc.
  - Mid-America Regional Council
  - North Central Regional Planning Commission
  - Northwest Kansas Planning and Development Commission
  - South Central Kansas Economic Development District
  - Southeast Kansas Regional Planning Commission
- Trade Adjustment Assistance Center - Mid-America Trade Adjustment Assistance Center
- University Centers: Kansas State University, University of Kansas, and The University of Missouri-Kansas City (UMKC)
- Revolving Loan Fund Grantees
  - AltCap
  - MO-KAN Regional Council
  - Kansas Center for Entrepreneurship, Inc.
  - North Central Regional Planning Commission
  - Northwest Kansas Planning & Development Commission
  - South Central Kansas Economic Development District, Inc.
  - Southeast Kansas Regional Planning Commission
  - Unified Government of Wyandotte County/KCK
- Kansas Economic Development Alliance - https://kansaseda.com/
- Kansas Small Business Development:
  - https://www.kansassbdc.net/
  - https://www.fromthelandofkansas.com/

Economic Impact Analysis

Key assumptions were achieved through US Census, USDA NASS, and Department of Labor data, an initial inquiry into the financial landscape at a local level revealed the annual average per capita on food ($2,577 in 2010) equates to $540 million for tri-county ($71 million spent on meats, $55 million spent on fruits and veggies, $42 million spent on cereals, and $36million on dairy products). To determine feasibility of a new multi-species processing facility, consultant and experts considered marketing and distribution of freezer multi-species meat, community awareness of the terminology, understanding the dedicated freezer space, purchase locations, and product characteristics, and the barriers to purchasing freezer meat or building capacity for scale.

Another important factor driving the increasing farm-to-wholesale price spreads is the supply and demand situation of the meat packing plants. Over the past five years, slaughter capacity has been below the supply of animals ready for slaughter. While weekly slaughter capacity has increased since 2015, it has remained constrained contributing to the increased slaughter prices. The high supply of animals ready for slaughter relative to demand has contributed to increased price share that is absorbed by many processors.

In 2009, the tri-county area had 52 grocery stores, with $193 million in sales (49% of total food sales), 149 full-service restaurants with $66.8 million in sales, 81 limited-service eating places, with $66.8 million in sales, 61 drinking places (alcoholic beverages), with $12.8 million in sales, 105 specialty food stores, $2.34 million in sales. This totals 176 food & beverage stores, 439 food service & drinking places for $392 million of estimated taxable food sales - significantly lower than the $540 million in sales estimated by BLS. Understanding the data economic data gaps will be critical in the business plan and informing the financial plan. Aspects to consider are big box reporting [i.e. Walmart or Sam's Club] and other data gaps (e.g. out-of-area shopping trips, food sold on university campuses or military bases, and self-provisioning as well as aspects like gardening, hunting, buying from neighbors, or farmers markets in tri-county area).

Kansas averages about $2,000 per person in taxable food sales which is below the national average of $2,577 and the Midwest average of $2,486. Per capita expenditures dropped from $2,663 to $2,316 from 2006 to 2009 for Douglas County with similar themes for Leavenworth and Jefferson Counties - indicating again that many food sales are not being tracked in these sales outlets but are occurring out-of-county or at box stores. Tri-County went from $2,038 to $1,867 (diff. $171) in food sales per capita. State total went from $2,048 to $2,011 (diff. $37) in food sales per capita. Jefferson County residents spend less than $1,000 per year per person. Annual spending on food per year (based on income) revealed three levels of total per capita expenditure on food income are below in **Table 12**.

Table 12 - Income and Per Capita Food Consumption

Food Purchases Ranked by Income	Average cost of meat, poultry, fish and eggs
The lowest US average of food purchases occurs in the $500 - $10,000 income bracket.	$2,000 and Per Capita Household Expense of approximately $336.
The U.S. average of food purchases is found in the $62,563 income bracket.	$2,500+ and Per Capita Household Expense is $338
The highest expenditure of food purchases occurs in the $150,000+ income bracket.	$4,000+ and Per Capita Household Expense is $400

The household food expenditure as percentages by income revealed the following:

- Consumer Average is 13% income is used for meat related purchases.
- Douglas County residents are spending an average of 10% of their income on food purchase with low-income populations spending up to 20%.
- Gaps in all food categories, except beef, soybeans for oil, corn, and wheat.

Table 13 - Food Processors, Storage, Farmers' Markets

Number of Food Facilities and Farmers' Markets in the area	(State Licensed) Food Processors	(State Licensed) Food Storage	Farmers' markets
Douglas	34	4	2 (1)
Leavenworth	8	0	1 (2)
Jefferson	4	0	1 (3)
TOTAL	46	4	4
Summary: Cottins (11 vendors), Lawrence (97 vendors), Leavenworth (28 vendors), and Perry (8 vendors)			

Economics of Commercial Activity

Currently, land in farms averages about 75% of the total land area of the three counties, and agricultural activity is a significant contributor to the economy of our tri county region. This can be represented in terms of total farm sales, the number of farms compared to other business sectors, and the impact on employment and wages. According to the 2007 Census of Agriculture, the total market value of agricultural products sold in the tri-county region was $135.8 million.

- $41.2 million = Douglas (state rank: 92/105 counties)
- $61.3 million = Jefferson (state rank: 72/105 counties)
- $33.2 million = Leavenworth (state rank: 98/105)

Farmers also received $5.6 million in government subsidies but spent $120 million on expenses. Therefore, net cash income for farms in our region in 2007 was $28 million. Of the total $135.8 million in sales, only $1.2 million was from direct sales to consumers.

Table 14 - Farm Sales and Valuations

Value of Sales from Farms 2007	TRI-COUNTY	KANSAS
Number of Farms	3,380	65,531
Total Sales in $	$135,825,000	$14,413,182,000
Sales in $ per farm	$40,185	$219,944
Farm Production Expense	$119,782,000	$12,364,531,000
Government Payments	$5,656,000	$427,144,000
Net Cash Income	$28,151,000	$2,961,691,000
Net Cash Income $ per farm	$8,329	$45,195
Value Direct Sales # farms	237	2,140
Value Direct Sales	$1,245,000	$9,272,000
Value Direct Sales $ per farm	$5,253	$4,333

*Livestock and crops are the dominant sales categories in the tri-county area, with sales per farm of $31,417 and $49,097 respectively. Vegetables generate $19,014 per farm, and sales for fruit farms in all counties are not reported in the census of agriculture due to the low numbers in some counties.

Farms outnumber any other business category in the tri-county area with 3,380 working farms, though the number of farms with employees is less, at 520. When comparing farms to other businesses in terms of total sales, they are generally much smaller, both on aggregate, and also on a per farm basis, only bringing in about $40,000 per business. The number of employees per farm is fewer than the other businesses, total payroll for employees is also smaller for farm businesses.

Table 15 - Economic Assessment of Farms and Workforce

Economic Sector	Average jobs per establishment	Annual payroll per establishment	Average annual payroll per employee
Agriculture (farms with employees)	4	$11,000	$2,750

It's hard to argue that farming has been profitable during this 25-year period in Kansas, or even in earlier eras, so cause and effect regarding these shifts in farm size could be argued to be a cause of low income (e.g. smaller farms = lower income). This is an opportunity to support small to mid-sized farms and ranches. It could also be that because farm profitability is so low, farmers as managers have realized that they either need to become larger to obtain an adequate family income on low margins/profits per acre, or to obtain off-farm employment to, in effect, subsidize their farming. While every other sector saw an increase in average personal incomes since 1969, farm earnings have flatlined – with many years reporting negative farm incomes. Clearly, the question of the profitability and viability of farming is an issue that impacts plans for local and regional food system development. The handful of studies that have tracked farm profitability for smaller producers show that profits are still marginal.

Cash grain and livestock farming are often not profitable either. A review of KSU Farm Management spreadsheets show an average break-even price for wheat, corn, milo, etc. grown in Kansas, and for many years the price of the grain on the market is at or below this price. Government farm program subsidies currently make up this difference, allowing farmers to stay in business while allowing grain prices to fall below the cost of production, which thus subsidizes livestock farms such as cattle and hog operations, to purchase grain for feed. Despite the challenges of farm profitability, consumption of food in our tri county region creates significant economic activity.

Table 16 - Retail Food Sales, Taxable Sales, & Population

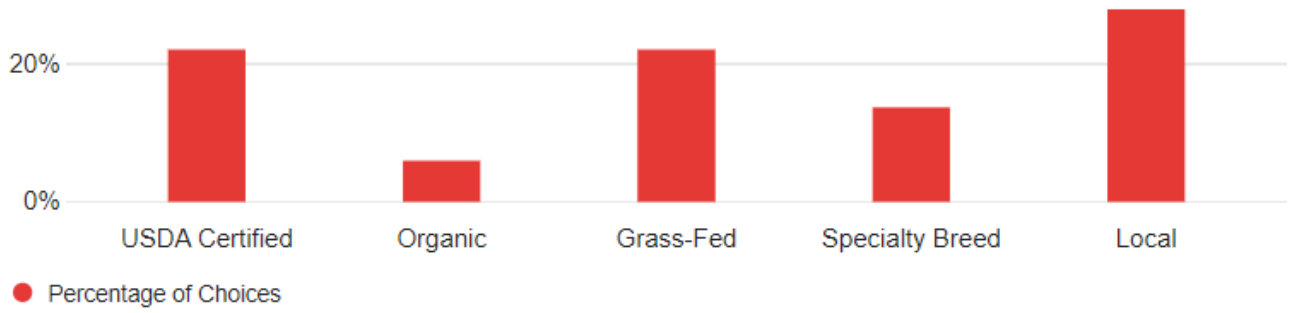
Retail Food Sales (Tri-County) 2009	Taxable Sales of Food 2009	Population 2009
Douglas	$269,510,995	116,383
Jefferson	$17,298,844	18,207
Leavenworth	$104,918,573	75,227
3 County Total	$391,728,411	209,817

The meat industry, like most other industries, is consolidating. Each month, acquisitions and mergers are reported in trade magazines showing the consolidations continue. Large corporations such as ConAgra, Cargill and IBP dominate the primary processing.

These three corporations, along with Smithfield on the pork side, process approximately 80 percent of all cattle and hogs marketed. Supermarket consolidation has occurred at a similar rate, making it difficult for small and mid-sized packers to offer product in sufficient quantity to enter these markets to-day. Small packers and processors are constantly barraged by more stringent regulations for food safety and environmental protection. Costs of maintaining and operating small plants continue to escalate faster than profits. Each year a few more of these small family operations give in to the economic realities and go out of business. Smaller plants tend to be less labor efficient and have a lower return from by-products. Today that difference in "drop" value (the net value of all by-products) can be as much $85 per head between small and large packers on a 1,200-pound steer.

Uneven demand for product mix (steaks, roasts and ground beef) tends to make it difficult for small processors to sell all products in an orderly manner. **Yet, there are increasing numbers of significant successes in the “niche markets" which Douglas County, Kansas is positioned to leverage and this study revealed that consumers and producers prefer local labeling and certification, see Figure 9 below.**

Table 17 - Consumer and Producer Cross Analysis of Sentiment and Demand



When considering the labeling and certifications preferred for a processing facility with a broad market like Kaw Valley Meats, the market and demand locally is sufficient to scale into operations and develop a hub and spoke model.

Table 18 - Consumption and Meat Sales / Farm Sales

Consumption in Kansas and Tri-County Area Compared to Direct Sales*	Annual Meat Sales	2007 Farm Sales**
Kansas	$985,331,043	$9,525,971,000
Farm Sales as % of Food Expenditure	966.78%	
	By County	
Douglas	$39,289,388	$13,289,000
Jefferson	$6,146,447	$27,915,000
Leavenworth	$25,395,657	$12,236,000
3 County Total	$70,831,492	$53,440,000
Farm Sales as % of Food Expenditure	75.45%	

*From Chapter 3 Table 4. Estimates of Food Expenditure by food category by County Using Labor Statistics for Average Annual Household Expenditures.
**Note: this column includes milk, eggs, etc.

A comprehensive economic impact analysis for the tri county region was beyond the scope of this report, however, a study in Kaw River Valley (11 Counties in Northeast Kansas) revealed the population in the region has an annual income close to $42 billion and spends nearly $2 billion on foods from outside of the region, according to a 2008 analysis by Ken Meter.

Consumers in this region spend $200 million on fruits and vegetables for home consumption. However, regional farms only reported $1.4 million in sales of vegetables per year*, leaving a huge market for local producers to profit from selling to local consumers and meat producers to innovate.* In the natural resource review, particular attention was paid to the Class I and Class II soils that characterize the river bottoms of the Kaw Valley Region. These are soils can support nearly all cultivation practices, including the more nutrient-intense production of fruit and vegetable crops. Currently, vegetable and fruit production in the Tri County region generates $2.1 million, and the potential should Class I soils be dedicated

to agriculture is $43.4 million. A robust food system and agriculture landscape is an important aspect of niche meat markets.

Table 19 - A 2009 Rapid Market Assessment Conducted by the Kansas Rural Center

Location	Date	Day of Week	Sales	Shop-pers	Ven-dors	Hours of Sale	$ per Cus-tomer	$ per Ven-dor	$ per Vendor per Hour
Lawrence	7/25	Sat.	$23,318		90	4		$259.09	$64.77
Leavenworth	8/8	Sat.	$8,632	832	28	3.5	$10.38	$308.29	$88.08
Manhattan	8/1	Sat.	$11,595	1410	34	5	$8.22	$341.03	$68.21
Topeka	8/5	Wed.	$9,935	2928	18	4	$3.39	$551.94	$137.99
Emporia	8/15	Sat.	$2,677	760	21	4	$3.52	$127.48	$31.87

Local Area Retail Grocery Case Study

In 2010, the Community Mercantile had a full 17.8% of all purchases in the meat department were from local producers (defined as within 200 miles), and 8.2% of all producer purchases were from local growers. Checkers estimates that they deal with 8-10 local producers on a regular basis, representing $40,000-$50,000 in purchases from these producers per year.

Business Plan Considerations

When looking to the future and final business plan, it is important to consider the following:

1. Farmers' Markets provide a unique direct-marketing opportunity for local food distribution and have been growing in popularity. Many communities have created year-round farmers' markets to continue to meet consumer demand throughout the year.
2. Although there are many state-licensed food processors in the tri county region, many of them represent specialty products such as wine and candies. Light processing of vegetables (i.e. chopping, simple prep) is a missing link in our ability to provide foods that our restaurants and institutions can readily use.
3. Meat producers in the tri county region must travel great distances to have their product processed**,** the question of scale will be critical.

There are tradeoffs between size of the potential consumer base and number of animals in inventory nearby for each of the considered locations. For example, a processing plant near Baldwin City would have the largest potential for a facility (based on sentiment and demand, See Attachment ___ - Survey Results). Additionally, there is a growing animal inventory in Kansas counties within 50 miles of Baldwin City. It would also be just around 46 miles from Baldwin City to the largest population center of the state, Kansas City (where there is a market with more than 2.2 million people). Conversely, a processing plant

in Topeka would have the largest number of cattle (247,700) but would have a lower population (approximately 500k people within 100 miles) but would also include access to Oklahoma markets as well as Kansas City (estimated 2.2 million people).

Economic and ecological benefits to Kansas

When considering the local food system in its entirety, regenerative agriculture best-practices demonstrates animals provide nutrients for cropland and make productive use of land where crops don't grow well. Grazed pasture and rangeland provide valuable ecological goods and services, tangible and intangible resources supported by regenerative agriculture best management practices. Farmers and ranchers are increasingly able to translate environmentally friendly management into innovative product marketing and higher revenues, especially when they process their animals locally. According to the USDA, a study of beef cattle producers in six New England states found that those selling locally had more control over their marketing decisions and received a higher price for their product than those selling to buyers outside their region. The local producers also reported that production outpaced service and support, suggesting a market opportunity for additional producers. This affords growth in the local workforce, entrepreneurial activity, and small business ecosystem. However, even when demand is high, getting into the market is not always easy and meat processing is very complex.

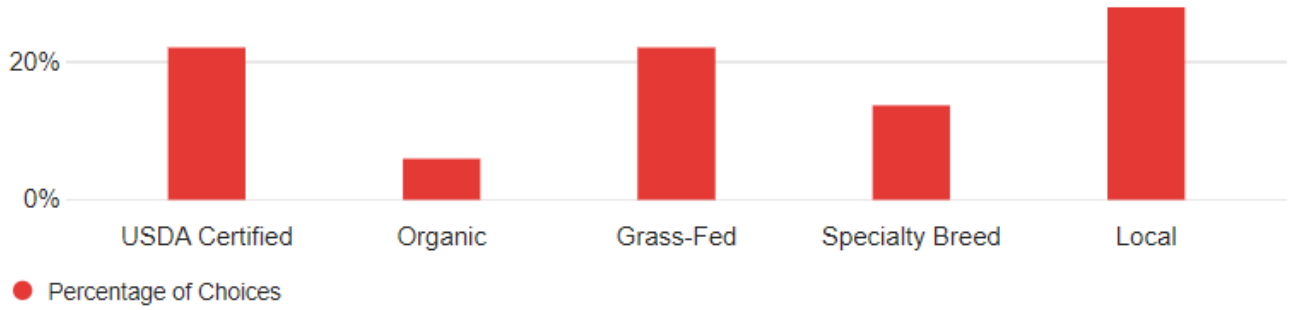
According to many credible and respectable sources, the meat process business is complex and profit margins are historically slim for meat packers, feeders, and cow-calf producers. Anecdotally, amongst the big meat packers, margins of 1-2% are the norm. For those packers, that slim margin is not made on the cuts of red meat that show up in grocery store aisles. Instead, the profit is made on the byproducts and on the edible and inedible offal. To capture as much value from the multi-species meat carcass as possible, the meat industry has developed channels to market all such products. This is a high volume, low margin business that can be captured and localized.

But most small meat processors do not have sufficient volumes of byproducts to gain access to the market channels that the big packers use to capture value from their byproducts. In Kansas, many small processors pay to have offal removed, making this a cost rather than a revenue. Because they are not able to capture the same value from the byproducts that a big processor can, more of the cost of meat processing is passed on to the consumer. While this is something of an oversimplification, essentially this is one of the main reasons why niche meat products cost more than bulk meat products. This is important to note for small to mid-size producers because offal and byproducts can be made into pet food. According to Kansas Department of Agriculture, "Pet food manufacturers located within the KC Animal Health Corridor represent 61% of the total pet food sold in the United States."

Another main reason why niche meat, local meat, costs more is that a goal of local sales is to give the meat producer a greater proportion of the retail dollar. Getting more of the retail dollar back to the

animal producer requires either cutting out middlemen (backgrounder, feeder, packer, wholesaler, retailer) or increasing retail price so there's more to trickle down through the food chain and local small business ecosystem. The needs and challenges with offal in small- to medium-scale meat processing are a significant opportunity for entrepreneurial activity and workforce development. A cross analysis of consumers and producers revealed that label and certification is important to the local and interstate niche markets, **Table 18** below.

Table 20 - Consumer and Producer Cross Analysis of Sentiment and Demand



The facility design that has been proposed by Friesla directly addresses these complex issues. The plant has been designed to capture as much value from meat byproducts as possible. While it could never do so as efficiently as a large packer, it would represent a significant step forward and ultimately scaling up in a strategic, data-driven manner compared to processing facilities that currently operate in the area.

This new processing plant would also offer an opportunity to existing processors in Kansas. The proposed plant would process at sufficient volume to operate an anaerobic digester, which would convert much of the inedible offal produced by the plant into energy. Therefore, it is possible that this proposed plant could serve existing small processors to dispose of offal. It would offer the meat producers two things: 1) a market for their multi-species meat hides (or use in the digester), and 2) a place to buy meat products. A two-fold approach means meat processors could use this service or support to make their own value-added products—products which in some instances they must import from surrounding states.

If constructed, this plant could offer a significant opportunity to Kansas's multi-species meat producers to grow the market for their products, thus improving entrepreneurial opportunities and small business ecosystems impacting the local workforce. The existence of such a plant would allow existing Kansas brands to expand the reach of their products and might also encourage others to start such brands. It is also very likely that the entity that owned the processing facility would develop its own brand(s) of meat products that were marketed under its own label(s) *(see full discussion about meat processing rules, regulations, and labeling below.)*

This proposed processing facility would make it possible for multi-species meat to be raised, finished, processed, and shipped directly from Kansas to anywhere in the world (provided it adheres to food safety laws). It would also be possible for a shopper in a grocery store in Tokyo, Taipei, or New York City to trace the meat they purchase all the way back to the Kansas rancher who raised the animal, thus overcoming the anonymity that currently stands between many consumers and the animal protein they purchase for consumption. When faced with an exciting new idea for a business venture, it can be tempting to think that "If you build it, they will come." In the instance of this project, nothing could be further from the truth. While it is demonstrated here that it is possible to build a profitable processing plant in Kansas, the most important factor in deciding to do so is finding markets for the products and byproducts that would come out of such a plant.

While red meat products are more straightforward, the report also provides examples of ways that the byproducts of meat processing can be marketed efficiently. Without strong markets for Kansas meat producers and their products in place prior to construction, the risk involved in building a new plant in Kansas would be significantly increased. While the study has found sufficient potential markets for Kansas meat products, it will be imperative to find partners willing to purchase those products—not just the meat, but byproducts as well—before a plant is constructed. By ensuring that there are willing buyers for the products that come from the proposed plant, those who invest in the plant will significantly reduce their exposure to financial risk and the critical elements supporting technical feasibility of scaling operations through a well-written business plan.

9.0 Recommendations and Key Findings

It is determined that "with the right alignment of planning to include mobile processing or slaughtering unit(s) alongside currently changing economic conditions, it is extremely probable that the market for Kansas meat brands like Kaw Valley Meats and other existing processors could expand to develop a hub and spoke model to the size and scale justifying a small to medium-sized processing facility. If there was not a history of strategic planning, a lack of access to capital, struggling agriculture landscape, shrinking animal inventory, shortage of consumer demand, failure to achieve producer support, and challenging public relations that were barriers or significant challenges, this opportunity would not be feasible. The presence of strong funded public and private partnerships supplement with documented strategic planning, prevalence of viable economic and financial data, robust agriculture community or culture, and the methods to validate this study demonstrate the propensity for feasibility. Meaning, the five elements of economic, technical, financial, market, and management feasibility are strong drivers of having a new multispecies meat processing facility.

When working to certify the facility and seek funding (especially from the USDA), the business plan must address the following:

- Current Financial and Economic Assumptions
- Economic Impact Analysis
- Key Findings and Conclusions

In terms of labor distribution and development, as well as continuous process improvement is concerned, it has been commonly suggested that certain plants would want to process the animals while having another plant process the carcass. This division was, according to common perceptions or views, due to facility constraints and the fact that some plants are better equipped for processing and other plants are said to be better equipped for processing (i.e., smoke product or create a ready to-eat product). Surprisingly, the study found that more than half of respondents stated they made the most money processing and fabricating the carcass, but an overwhelming number of respondents reported they would keep both process and processing on site at their plant. A new plant could keep both processing and carcass processing to maintain convenience for the producer, as well as concerns for food safety and individual HACCP (Hazard Analysis Critical Control Points) plans.

These types of developments and discussions can drive labor, economic development, entrepreneurial activity, and other community factors impacting demand and sentiment of the facility and projected outcomes. There are several aspects to consider like those above in the final business plan: technical feasibility, market feasibility, and financial feasibility. One aspect of consideration is a modified line for multispecies or a separate line in addition to considerations of mobile unit demands.

Feasibility of Multi-species Meat Processing Facility

This section details the key impacts and findings for the feasibility of constructing of a new multispecies meat processing facility in Douglas County, Kansas. After a review of agricultural, economic, market, technical, and other community or food system data, as well as a scientific and economic analysis of the region, a new multi-species processing facility is feasible if scaled and planned well (97% CI)[5]. Meaning, the five elements of economic, technical, financial, market, and management feasibility are strong drivers of having a new multispecies meat processing facility.

Substantive findings revealed that a thorough business plan addressing the aforementioned aspects of feasibility should carefully assess and evaluate an ability to increase animal production, identify the location, understand land use rules or regulations, navigate permitting or certifications (local, state, and federal), provide food system education, expand workforce development opportunities, eliminate biomass or water waste, manage tribal or public relations, and enhance private/public partnerships. All of these dynamics will be critical to being shovel ready. The most critical aspect of feasibility to address in the business plan in our analysis is technical feasibility of ensuring consistent labor demands alongside

[5] Confidence Interval (CI) is a range of values so defined that there is a specified probability that the value of a parameter lies within it. In other words, a CI is used to determine the certainty in responses leading to findings and conclusions.

animal inventory for a multi-species meat processing facility, due to a failed sheep processing facility in North Dakota.

Research and data collection revealed several observations supporting or impacting financial feasibility of a new multispecies meat processing facility:

- Market research determined the sentiment and desirability of Kansas meat products at the consumer level (wholesale and retail) and producers are willing and demanding to participate in a branded Kansas meat product.
- The 250-mile radius around Douglas County, Kansas revealed urban decline with suburban sprawl which therefore increases rural and regenerative agriculture opportunities.
- Nearly 90% of land is devoted to agriculture. As of 2018, there were 59,600 farms (86 of which are certified organic).
- The average farm size is about 770 acres and in 2016, the average cost of running the farm was $300,000. Inventory in the area is growing with small producers, too.
- The market research informed a gap analysis finding that "proper mobile options or expansion plans to support existing operations or evolving economic conditions makes it possible to have Kansas meat brands - expanding the size and scale to warrant a new, small to medium sized multispecies processing facility."
- An extensive geospatial analysis is needed to finalize the location recommendations from the survey to collocate the facility in or near Baldwin City, the preferred location. This will inform labor needs, entrepreneurial opportunities, land use, water waste, biomass or offal disposal, and other critical aspects of a facility that are highly regulated.
- The tri-county region produces abundant animal products/meats. Education and outreach with a new multispecies meat processing facility could help create awareness and new opportunities in the local food chain improving scale momentum.
- Disposal of waste and wastewater need to be a priority in planning and should be addressed using an anaerobic digester and a Land Application System for wastewater.
- To achieve success, business planning and scaling into the ideal facility will involve consideration of mobile units, education or outreach, workforce development partnerships, and all the critical aspects of technical feasibility (aforementioned in the Introduction, herein).
- A processor with the technology and willingness to process a product at reasonable price would allow the County, Central Grazing Company, and Kaw Valley Meats to scale into establishing a small- to mid-sized multispecies meat processing facility. An important key factor will be in the business plan to ensure operations and logistics are large enough to support capacity and demand, as well as assess the importance of a hub and spoke model.
- Most small meat processors do not have sufficient volumes of byproducts to gain access to the market channels that the big packers use to capture value from their byproducts and offal. In

Kansas, many small processors pay to have offal removed, making this a cost rather than a revenue. This is an opportunity to improve this channel of revenue because 61% of the nation's pet food is made in the area.

- It will be necessary to form relationships with existing brands that are willing to purchase many of the products and byproducts from a carcass that are not destined for the consumer because red meat is one aspect of the entire value of the carcass. Again, this is an opportunity to improve this channel of revenue because 61% of the nation's pet food is made in the area.

The regional development plan in partnership with the City of Lawrence and Douglas County further supports the direction of planners, producers, and consumers. Specifically, when looking to the future, the plan holds critical information with Commercial Design, Economic Development, and Food System Development. In moving forward with business planning, collaborators and partners should consider the following summarized points:

- **Commercial Development** means design criteria**,** specifically rural commercial opportunities, that should consider existing commercial areas at the intersection of a hard-surfaced County route and designated highway that may expand if utilities and infrastructure are available and if the expansion is compatible in scale with surrounding uses. Partners should consider allowing new commercial developments to serve rural communities at an appropriate scale where infrastructure can support the intensity of the development and land use makes sense. Ultimately, partners should ensure rural commercial developments are compatible with surrounding environments and uses. The bottom line is that the interrelation of transportation and land use planning need to focus efforts on the efficient movement of people and goods as operations scale. Achieving this aim will further maximize accessibility of the transportation system and increase the mobility options for all residents and movement of goods.

- **Economic Development** means continuing to diversify the labor force, range of jobs, and having entrepreneurs or employers which helps buffer the community from economic shifts and provides greater opportunity for both employees and employers within Douglas County. Meat producers are grateful for the schools and universities, while acknowledging the schools, colleges, and universities, "will play a huge role in building the labor force and developing internships or apprenticeships." In other words, there is an enrollment win for technical schools, community colleges, and universities.

  Capitalizing on local resources, such as the University of Kansas Small Business Development Center, KSU Extension, Lawrence Metro E-Community, and the Bioscience and Technology Business Center at the University of Kansas, can help provide capacity, awareness, and support. This in turn will attract career business opportunities expanding the labor force by building on the existing economic and educational assets of Douglas County and support:

- Leveraging these partners for public and private support which will also help partners to monitor new and developing industries for their potential to adding to the economic base.
- By achieving a circular system of operating and communicating partners, this will encourage and support diversifying local ownership of the agricultural economy.
- Encouraging collaborations with local colleges and schools, employers, and the community's workers perpetuates workforce retention and labor development for future economic strategic planning and importance of regenerative agriculture best-practices.
- Expanding the pool of quality jobs, workforce retention, and job advancement.
- Fostering educational partnerships with schools to help formalize career pathways throughout the community's job market.
- Developing and expanding educational facilities to provide job and skills training to the community's workforce should always be evaluated and measured.
- Continuing to capitalize on Douglas County's educated workers to attract new and developing industries would support existing business recruitment and retention strategies.
- Strengthening the employment base to stabilize the tax base and existing businesses.
- Supporting and growing small to medium sized businesses throughout the community.
- Retaining and promoting expansion of existing businesses within the community.
- Establishing initiatives designed to encourage retention of businesses and employment.
- Implementing incentives to conserve historically significant farming lands and structures.

- **Food Systems Development** means the local food system is a large part of the Kansas culture and economy. Continuing to build upon the community food system resources, while simultaneously connecting it to small business ecosystems, and establishing more assets will strengthen collaboration among public, private, and community partners to ensure a robust food system. The strategies and phases for development ensure agriculture's role for small and mid-sized producers will be protected in the community, while conserving agriculture land and embracing regenerative agriculture best-practices. A phased regional approach to scale operations supported by other findings in this report are a reminder this signifies the importance in the community with the local economy and shapes the local identity. The phases of planning and strategy are a reminder herein of the following:

  - Identify and encourage opportunities for growth in local agriculture and food-based enterprises, including employment, tax base, and income.
  - Develop support for economic development and business support services tailored to a diversified agricultural system, including infrastructure and value-added agricultural production.
  - A strong local food system includes equitable healthy and local food access throughout Douglas County that celebrates cultural diversity, too.

- Enhance connectivity to the built environment to promote healthy food access through the planning process.
- Develop infrastructure to support food waste diversion and expand food rescue efforts to feed our community.
- Support the availability and accessibility of culturally significant foods and traditions for all members of the community like working with tribes or other historically underrepresented populations.
- Expand integration of food production within communities, including community gardens and agriculture-based cluster subdivisions.

The local economic strategy and food system are interrelated and depend on the integrity of the agricultural and ranching landscapes, including healthy soils, clean water, and biodiversity, all of which will be impacted by change. A strategic and upfront approach to planning will (which is evidenced by years of existing documented planning and strategy in the County and region):

- Ensure a resilient future for the food system and surrounding markets.
- Support adaptation and mitigation plans and open space plans promoting the resilience of agriculture in the future.
- Incentivize conservation and preservation practices for agricultural landscapes, pollinator habitats, and connected waterways further contributing to and enhancing regenerative agriculture best-practices.
- Maintain and protect working lands and high-quality agricultural soils for future generations, including as part of Specific Land Use Plans.

Education and Workforce Development Opportunities

Both the private and public sectors shape our food environment. Businesses seek to locate in neighborhoods where they have the best chances of making a profit. Restaurants and grocery stores remain where they find a reliable customer base. For local government and public agencies, zoning regulations influence where different types of commercial businesses can locate, while procurement and purchasing decisions can influence what foods are available in places like schools and city parks. The schools, colleges, and universities can help improve this landscape. Developing educational pathways through apprenticeships or internships supported by certificates accepted by colleges and universities can help improve the labor pipeline, while building subject matter experts over time.

The Kansas Department of Agriculture (KDA) has developed an Incubator Kitchen Resource Guide to provide critical information about incubator resources throughout the state of Kansas. Although the KDA only lists Kitchen 4 Hire, a shared kitchen facility located in Salina, as the only facility of its kind in the 12-county region, there are likely to be several privately-owned commercial-grade kitchen facilities located in churches, schools and community centers in the region. Some of these may be willing to negotiate

with individuals seeking kitchen access to allow leased use of kitchen facilities during otherwise idle time periods.

As public and private partnerships form to improve access to capital laying the foundation for a new multispecies meat processing facility, planners need to consider the potential or impact of the following questions as the market and economy evolve:

- The income level for farmers in our region needs to be addressed. Are those responsible for producing our food not earning a living wage?
- How much locally produced foods are sold at area grocery stores and restaurants? Research is needed to track these sales to have a better estimate of the current, and potential, economic impact.
- How much economic activity is generated by our region's farmers' markets?
- How much market potential exists to scale up the food businesses that would support increased production (i.e., light processing, warehousing, distribution)?

Resources for Meat Inspection

- Federally Inspected https://www.fsis.usda.gov/inspection/establishments/meat-poultry-and-eggproduct-inspection-directory
- Cooperative Interstate Shipping Program https://www.fsis.usda.gov/inspection/apply-grant-inspection/state-inspectionprograms/cooperative-interstate-shipping-program
- State Inspected https://www.fsis.usda.gov/inspection/apply-grant-inspection/state-inspection-programs/states-and-without-inspection-programs

Resources for rules, regulations, and exemptions

- Kansas Meat Exemptions from Inspection: https://www.agriculture.ks.gov/divisions-programs/meat-and-poultry-inspection/general-information
- Kansas Meat and Poultry Act: https://agriculture.ks.gov/docs/default-source/meat-and-poultry/kansas-meat-and-poultry-inspection-act.pdf?sfvrsn=5bcbe79b_0
- Kansas Division of Meat and Poultry Inspection: https://agriculture.ks.gov/divisions-programs/meat-and-poultry-inspection
- Kansas Premium Meats: https://www.kansaspremiummeats.com
- Kansas Meat Processors Association: https://kmpaonline.org/
- USDA-FSIS – General Inspection Information: https://www.fsis.usda.gov/inspection
- USDA-FSIS- Small Plant Information (HACCP and Sanitation SOP guidance can be found here): https://www.fsis.usda.gov/inspection/compliance-guidance/small-very-small-plant-guidance

- USDA-FSIS Grant of Inspection Information: https://www.fsis.usda.gov/inspection/apply-grant-inspection
- USDA-FSIS Application for Federal Inspection Form: https://www.fsis.usda.gov/sites/default/files/2020-08/Form_5200-2.pdf
- "Meat Processing 101" - https://www.nichemeatprocessing.org/wp-content/uploads/2016/08/CrashCourseTwo.Final_revised_10.1.pdf
- Texas A&M Department of Animal Science: https://animalscience.tamu.edu/2020/07/06/so-you-want-to-build-a-slaughter-plant
- Extension Alabama A&M and Auburn Universities: https://www.aces.edu/blog/topics/testing-labeling
- Washington State University – Meat Labs: https://ansci.wsu.edu/facilities/

Resources for HACCP and sanitation from KDA

- HACCP & SSOP Manual - Requirements for Federal or State Meat Inspection, HACCP and SSOP Basics
- Supporting HACCP Decisions - Authored by Dr. Dennis Buege, Extension Meat Scientist
- KSU ASI HACCP Resources - Kansas State University, Animal Science & Industry, HACCP Resources
- Niche Meat Processor Assistance Network - Information for the small meat processor
- HACCP Center for Meat Process Validation, University of Wisconsin - Model HACCP plans and information on validation, prerequisite programs and research papers
- Microbiology for the small & very small plant - An overview of microorganisms that are associated with food establishments
- Antimicrobial spray treatments for beef carcasses - Instructions for using antimicrobial spray treatments in small and very small plants
- Antimicrobial Interventions for E. coli at Slaughter - Research paper on antimicrobial spray treatments
- Overview of Microorganisms in Food - Authored by Catherine Cutter, Ph.D., Associate Professor & Food Safety Extension Specialist, Pennsylvania State University and Martin Bucknavage, Senior Food Safety Extension Associate, Pennsylvania State University
- Overview of Microbiological Sampling of Food Processing Plants - Authored by Catherine Cutter, Ph.D., Associate Professor & Food Safety Extension Specialist, Pennsylvania State University and Martin Bucknavage, Senior Food Safety Extension Associate, Pennsylvania State University
- Controlling Listeria in Ready-to-Eat Meat and Poultry Products
  September 2012 - Control of Listeria monocytogenes
- Developing Product Lotting and Coding Systems for Small Meat and Poultry Processing Operations - Kansas State University Agricultural Experiment Station and Cooperative Extension Service

HACCP sample plans and exemplars

- Measures to Address Shiga toxin-producing Escherichia coli (STEC) in Raw Non-intact Beef Products, presented at the Annual NASMFID Conference, San Diego, CA, and developed by the Office of Policy and Program Development, FSIS, USDA
- Guidance for Small and Very Small Establishments on Sampling Beef Products for Escherichia coli O157:H7, the .pdf is attached, but here is the link if it is easier to post the document with the link to FSIS
- Standard Operating Procedure for Receiving Raw Ground Beef Components or Raw Beef Pat-tie Components, developed by Dennis Burson
- Raw Ground Flow Diagram for receiving meat from a supplier, with or without a Certificate of Analysis (COA)
- Raw Ground Hazard Analysis for receiving meat from a supplier, with or without a Certificate of Analysis (COA)
- Raw Ground HACCP Plan for receiving meat from a supplier, with or without a Certificate of Analysis (COA)
- Raw Ground Flow Diagram for applying an antimicrobial intervention
- Raw Ground Hazard Analysis for applying an antimicrobial intervention
- Raw Ground HACCP Plan for applying an antimicrobial intervention
- Raw Ground Flow Diagram for processing raw, ground beef from carcasses slaughtered at the plant
- Raw Ground Hazard Analysis for processing raw, ground beef from carcasses slaughtered at the plant
- Raw Ground HACCP Plan for processing raw, ground beef from carcasses slaughtered at the plant

10.0 References

Baker, M. J., & Glazier, N. (2019, April 5). Beef Cattle Management. Retrieved October 24, 2022, from https://blogs.cornell.edu/beefcattle/2019/04/05/results-of-packing-plant-study-released/

Bustillo-Lecompte, C. F., & Mehrvar, M. (2015). Slaughterhouse wastewater characteristics, treatment, and management in the meat processing industry: A review on trends and advances. *Journal of environmental management*, *161*, 287-302.

Cornell Cooperative Extension Capital Area Agriculture and horticulture ... (2021). Retrieved October 25, 2022, from https://cpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/3/3955/files/2019/11/WGU_2020_brochure.pdf

Dmcintos. (2020, December 6). *Beef Cattle: Economics and marketing: UT Beef & Forage Center*. UT Beef Forage Center. Retrieved November 10, 2022, from https://utbeef.tennessee.edu/beef-cattle-economics-and-marketing/

Gwin, L., & Thiboumery, A. (n.d.). *From convenience to commitment: Securing the long-term viability of local meat and poultry*. University of California Agriculture and Natural Resources. Retrieved December 24, 2022, from https://ucanr.edu/sites/CESonomaAgOmbuds/files/230045.pdf

Gwin, L., Thibourney, A., & Stillman, R. (n.d.). *Local Meat and Poultry Processing - The Importance of Business Commitments for Long-Term Viability*. Retrieved December 25, 2022, from https://www.ers.usda.gov/webdocs/publications/45094/37949_err-150.pdf?v=41445

Holcomb, R. B., Flynn, K., & Kenkel, P. (2012). A feasibility template for small, multi-species meat processing plants. *Journal of Extension*, *50*(5), 5TOT11.

Kansas Department of Agriculture. (n.d.). *New Facility Handbook - Kansas Department of Agriculture*. Retrieved October 4, 2022, from https://agriculture.ks.gov/docs/default-source/meat-and-poultry/new_facility_handbook.pdf?sfvrsn=cb370d52_2

Kansas Department of Agriculture. Kansas Department of Agriculture - Home. (n.d.). Retrieved October 2, 2022, from https://agriculture.ks.gov/

Local meat and poultry - USDA. (n.d.). Retrieved October 20, 2022, from https://www.usda.gov/sites/default/files/documents/5-Meatandpoultry.pdf

Matson, J., Brockhouse, J. W., & Wadsworth, J. J. (n.d.). *Vital Steps: A Cooperative Feasibility Study Guide*. USDA - Rural Development. Retrieved October 15, 2022, from https://www.rd.usda.gov/files/sr58.pdf

Meat processing feasibility studies. Niche Meat Processor Assistance Network. (n.d.). Retrieved December 24, 2022, from https://www.nichemeatprocessing.org/meat-processing-feasibility-studies/

Nudell, D. J., Kraenzel, D. G., Petry, T. A., Faller, T., Hughes, H. G., & Brown, E. (1999). *A Preliminary Feasibility For Establishing A Multi-Species Meat Processing Plant In Southwestern North Dakota* (No. 1189-2016-94405).

Rabinowitz, A. N., Sawadgo, W., Brothers, D., Kelly, K., & Runge, M. (2021, December 21). *The Feasibility, Marketing, and Economic Impact of New Beef Cattle Processing in Alabama*. Alabama Cattlemen's Association. Retrieved October 1, 2022, from https://cdn.safefire.com/files.ashx?t=fg&rid=AlabamaCattlemensAssociation&f=Beef_Cattle_Processing_Study_12-20-21.pdf

The State of USDA Inspected Red Meat Harvets Processing Industry in New York and New England. (n.d.). Retrieved December 25, 2022, from https://cpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/3/3955/files/2019/04/USDA_Meat_Processing_Extension_Bulletin-1a9w3x7.pdf

USDA. (2022). *National Agricultural Statistics Service*. United States Department of Agriculture. Retrieved October 3, 2022, from https://www.nass.usda.gov/Data_and_Statistics/

United States Department of Agriculture - Rural Development. (n.d.). *Meat and poultry processing expansion program - USDA rural development*. USDA. Retrieved October 20, 2022, from https://www.rd.usda.gov/sites/default/files/mppepfeasibility_study_guide.pdf

United States Department of Agriculture (USDA). (2021). *Livestock and meat domestic data*. USDA ERS - Livestock and Meat Domestic Data. Retrieved October 23, 2022, from https://www.ers.usda.gov/data-products/livestock-and-meat-domestic-data/livestock-and-meat-domestic-data/

Vilsack, T. J. (n.d.). *USDA Secretary Announcement, Investments and Opportunities for Meat and Poultry Processing Infrastructure*. Investments and Opportunities for Meat and Poultry Processing Infrastructure [Docket No. AMS-TM-21-0058]. Retrieved September 3, 2022, from https://www.usda.gov/sites/default/files/documents/Meat%20Processing%20RFI.pdf

Wachenheim, C., P. Novak, E. DeVuyst, and D. Lambert. Demand Estimation for Agricultural Processing Co-products, Agribusiness and Applied Economics Report, No. 453. Fargo: North Dakota State University, Department of Agribusiness and Applied Economics, 2001.

Attachment A - Kansas Meat or Poultry Processin Facility icensin Guide

Attachment B - Kansas Department o A riculture ew Facility andboo

Attachment C - Summary o Federal Inspection e uirements or Meat Products Food Sa ety Inspection Ser ices FSIS

Attachment D - Fully Inspected State Slau hterin and Processin ocations

Attachment E - Meat and Poultry Inspection - Poultry Exemptions

Attachment F - Meat and Poultry Inspection - abbit Exemptions

Attachment - Known Deer Processors in Kansas

Attachment - Pro Forma Balance Sheets by Friesla

Kansas Department of Agriculture

Meat or Poultry Processing Facility Licensing Guide

Attachment A

The Kansas Department of Agriculture (KDA) is devoted to the total support of agriculture in Kansas. While we must fulfill our statutory obligations, the department is dedicated to providing support and assistance to make Kansas farms, ranches and agribusinesses successful and help them grow if that is their desire. We also encourage more farms, ranches and other agriculture businesses to expand in or relocate to Kansas. This checklist will help guide you through various resources and requirements for opening and operating a typical Kansas meat or poultry processing facility. In addition to license requirements by KDA, other Kansas agencies, as well as local or federal government agencies, may have regulatory requirements to follow. Contact your local planning authority to ensure you follow all local business development laws, rules, regulations and guidelines. This guide is designed to assist you as you work to build and operate a successful meat or poultry processing facility in Kansas.

✓	Department	Description	Renewal
	Office of the Secretary of State https://sos.ks.gov/	Complete the appropriate business entity filings and forms required by the Kansas Secretary of State. Call (785) 296-4564 for more information.	Prior to starting
	Department of Revenue www.ksrevenue.gov	Visit the Department of Revenue website to find important business tax information. Call (785) 368-8222 for more information.	Prior to starting
	Department of Agriculture — Meat and Poultry Program www.agriculture.ks.gov	To see what forms are needed for your meat processing initiative, visit the Meat and Poultry Inspection Registration webpage. The New Facility Handbook provides guidance for the regulatory requirements of sanitation and the design and construction of meat and poultry slaughter and processing plants. The handbook consists of information such as recommended building standards, registration requirements and HACCP consultants. For more information, visit the Meat and Poultry Program webpage or call (785) 564-6776. If interested in starting a mobile processing facility, please contact the Meat and Poultry Inspection Program at (785) 564-6776 for more information.	Prior to opening, Annual renewal January 1
	U.S. Department of Agriculture — Food Safety Inspection Service (FSIS) www.fsis.usda.gov	Meat or poultry products produced under federal inspection can be sold within and outside Kansas, including international markets. For requirements for federal inspection, see the USDA Food Safety Inspection Service website.	
	Department of Agriculture — Weights and Measures www.agriculture.ks.gov	No license is needed from Weights and Measures. Any business with a weighing or measuring device (e.g. scales, fertilizer meters, oil meters, measuring tapes, electric car chargers, taxi meters, etc.) must hire a licensed service company to inspect and test devices once annually, and any time additional maintenance, repairs, adjustments and calibrations are made throughout the year if the devices are used to determine the cost of any transaction. Examples include scales at grocery stores, yogurt shops, restaurants, hardware stores, nurseries, seed dealers, etc. Examples of meters include meters used at a car service center to add oil to your engine, fertilizer meters at agronomy centers, water meters in grocery stores for sale of bottled water, etc. For more information, visit the Weights and Measures Program webpage or call (785) 564-6681.	Annual service
	Department of Health and Environment — Bureau of Waste Management www.kdheks.gov	A meat processing facility is required to dispose of waste. There are several options for disposal through a solid waste processing facility, incineration (KDHE Bureau of Air) or biological decomposition (composting). If a composting facility is less than one-half acre, registering the operation with KDHE Bureau of Waste Management is all that is required. A permit is required if it is more than one-half acre. An application for approval must be obtained to apply organic waste to land. For additional information and training on composting processing wastes, contact KDHE Bureau of Waste Management at (785) 296 -2751.	Annually; Prior to composting or land application

Kansas Department of Agriculture

Meat or Poultry Processing Facility Licensing Guide

✓	Department	Description	Renewal
	Department of Health and Environment — Bureau of Water, Industrial Program Section www.kdheks.gov	NPDES Industrial Stormwater Permit is required for the operation of the facility and must be obtained prior to the start of operation. In lieu of this permit, the operator can obtain a 'No Exposure Waiver,' found in the NPDES Industrial Stormwater Permit, if waiver requirements are met. Call (785) 296-4347 for more information. NPDES Construction Stormwater Permit is required only if one or more acres are disturbed during construction. The permit is required prior to the start of soil disturbing activities (construction). For more information, contact (785) 296-5549. Any on-site water pollution control system will have to be permitted. A permit has to be issued prior to the start of construction. If wastewater will be directed to a municipal wastewater collection and treatment system for treatment and disposal, approval for use of the municipal system, along with any permits, needs to be secured from the municipality. Contact (785) 296-5551 for more information.	Prior to construction
	Department of Health and Environment — Bureau of Water, Public Water Supply and Geology & Well Technology Section www.kdheks.gov	If the facility will not utilize a municipal public water supply or rural water supply as the source of drinking water and the facility will serve 25 people or more per day, 60 or more days per year, it will be considered a public water supply subject to state/federal drinking water requirements. Contact the KDHE Public Water Supply Section at (785) 296-5514. Water wells shall be constructed by Kansas-licensed water well contractors. There are special construction requirements for water wells serving public water supplies. For more information, contact the KDHE Geology & Well Technology Section at (785) 296-3565.	Prior to construction
	Department of Health and Environment — Bureau of Water, Municipal Program Section www.kdheks.gov kslepp.org	If the facility will employ an on-site wastewater treatment system for human wastewater rather than utilize a municipal sanitary sewer for handling and disposal of sewage from the facility, contact the KDHE Municipal Program Section at (785) 296-5527 for construction and permitting requirements.	Prior to construction
	Department of Health and Environment — Bureau of Air www.kdheks.gov	A permit may be required if proposing to install equipment such as a fuel combustion device (e.g., boiler, engine, fuel burning unit). You must submit the Notification of Construction or Modification application form, appropriate Process/Equipment forms and receive a permit before commencing construction or installation of the equipment. Gasoline dispensing facilities are subject to federal air regulation. Refer to Standard Construction Permit/ Approval for Gasoline Dispensing Facilities if applicable. For more information, review the KDHE Bureau of Air website or call (785) 296-6024.	Prior to starting construction
	Kansas Department of Wildlife and Parks (KDWP) www.ksoutdoors.com	Projects that involve public funds, government assistance, require another state or federal permit or potentially affect a current listed species or its critical habitat need an environmental review. Contact KDWP's Ecological Services Section at (620) 672-0720 for more information.	Prior to construction

Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, KS 66502
Phone: (785) 564-6700
Email: ksag@ks.gov
Website: http://agriculture.ks.gov

Attachment B

Kansas
Department of Agriculture

New Facility Handbook

Meat and Poultry Inspection Program
109 SW 9th Street, Topeka, KS 66612
785-296-3511

Introduction

The Kansas Meat and Poultry Inspection Act governs the meat and poultry inspection program of the Kansas Department of Agriculture. The regulations which state inspected plants must follow included in this handbook are reproduced from the Kansas Meat Inspection Regulations Handbook and the code of Federal Regulations, Title 9, Parts 200 to the end. The purpose of this handbook is to provide guidance for the regulatory requirements of sanitation and the design and construction of meat and poultry slaughter and processing plants. To offer further explanation of each regulatory requirement, included are commentaries reflecting the experience of inspection and industry personnel.

The Kansas Meat Inspection Act, as amended by the legislature in 2003, applies to livestock (cattle, buffaloes, sheep, swine, goats, domesticated deer, all creatures of the ratite family that are not indigenous to this state, including but not limited to ostriches, emus and rheas or horses, mules or other equines), domestic rabbits and poultry, or the meat or meat products of poultry or poultry products thereof, which are capable of use as human food and which may be brought into any slaughtering, canning, salting, packing or similar establishment where inspection under this act is maintained. Livestock shall not include buffalo or domesticated deer slaughtered for sport or recreational purposes.

As described in K.S.A. 65-6a34, registration and annual fees must be made with the secretary for persons engaging in business, in or for intrastate commerce, as a meat broker, animal food manufacturer, wholesaler, public warehouseman or operate a packing house, sausage plant, poultry packing plant, slaughterhouse or poultry dressing plant. According to K.S.A. 65-6a27, of the Kansas Meat and Poultry Inspection Act,

(a) It shall be a violation of this act for any person:

(1) To slaughter any livestock, domestic rabbits or poultry, except in compliance with this act;

(2) To prepare any meat, meat food product, poultry or poultry product which is capable of use as human food, at any establishment preparing such products, except in compliance with the requirements of this act;

(3) To do, with respect to any meat, meat food product, poultry or poultry product which is capable of use as human food, any act, while being distributed or transported or while being held for sale after such distribution or transportation, which has the effect of causing such products to be adulterated or misbranded; or

(4) To engage in a business specified in subsection (a) of K.S.A. 65-6a34 and amendments thereto or engage in business or operate a packing house, sausage plant, poultry packing plant, slaughterhouse or poultry dressing plant unless such person is currently registered with the secretary in accordance with the provisions of K.S.A. 65-6a34 and amendments thereto and has paid the fees required for the current calendar year as required by that section.

(b) It shall be a violation of this act for any person to sell, offer or expose for sale or to distribute or transport:

(1) Any carcass or part thereof which is capable of use as human food, or any meat, meat food product, poultry or poultry product which is adulterated or misbranded; or

(2) Any carcass or part thereof which is capable of use as human food, or any meat, meat food product, poultry or poultry product, which is required to be inspected

under the provisions of this act, unless such products have been so inspected and passed.

Sanitation Performance Standards and Sanitation Standard Operating Procedures

The Kansas Department of Agriculture is adopting FSIS' new food safety strategy, by moving away from a command and control methodology toward a more flexible regulatory approach based on Hazard Analysis and Critical Control Point (HACCP) philosophy and performance standards. Performance standards set the results to be achieved but not the specific means used to achieve those results. Though establishments can use different and varying means to meet the performance standards—the required results must always be the same: establishments must prevent insanitary conditions that could lead to adulterated product. Performance standards are results-oriented. Performance standards provide flexibility allowing innovation and the discovery of new ways and technologies for achieving desired results. Further, performance standards more clearly differentiate between inspection's responsibility and the establishment's. Performance standards neither lessen inspection's authority nor weaken the statutory and regulatory requirements that official meat and poultry establishments must meet to maintain sanitary conditions.

The Kansas Meat & Poultry Inspection Act establishes that a meat or poultry product is adulterated if it has "been prepared, packed, or held under insanitary conditions whereby it may have become contaminated with filth, or whereby it may have been rendered injurious to health." When Inspection personnel inspect the grounds, facilities, and equipment at meat and poultry establishments, they are looking for these insanitary conditions. To determine whether conditions in or around an establishment are insanitary, inspection program personnel must ask the question posed by the Act: "Could these conditions cause product to be contaminated with filth or cause product to be unsafe?"

There are so many ways that insanitary conditions can cause product to be adulterated that they cannot all be listed. Instead, this guidance explains the intent of the sanitation regulations and gives examples of some of the ways inspection program personnel can determine whether a meat or poultry establishment is operating under insanitary conditions.

Inspected establishments must meet two sets of regulations concerning sanitation: The Sanitation Standard Operating Procedures (Sanitation SOP) requirements and the Sanitation Performance Standards (SPS). Under the Sanitation SOP requirements, each establishment must develop, implement, and maintain written procedures for the actions it takes daily, before and during operations, to prevent product from being directly contaminated and adulterated. An establishment's Sanitation SOP typically covers the scheduled, daily pre-operational and operational cleaning and sanitation of equipment and surfaces that may contact product directly. The SPS regulations cover all of the other

aspects of plant sanitation that can affect food safety, e.g., pest control, adequate ventilation and lighting, and plumbing systems. Keep in mind that these two sets of regulations overlap somewhat in the plant activities they cover. Also, some establishments may address certain sanitation problems within their HACCP plans.

Sanitation Performance Standards

§ 416.1 General rules

Each official establishment must be operated and maintained in a manner sufficient to prevent the creation of insanitary conditions and to ensure that product is not adulterated.

Proper sanitation is a fundamental requirement under both the Federal Meat Inspection Act (FMIA) and the Poultry Products Inspection Act (PPIA) and the Kansas Meat & Poultry inspection Act. Meat and poultry products produced, packed, or held under insanitary conditions, where they may have become contaminated with filth or may have been rendered injurious to health, are adulterated.

§ 416.2 Establishment grounds and facilities

(a) Grounds and pest control. The grounds about an establishment must be maintained to prevent conditions that could lead to insanitary conditions, adulteration of product, or interfere with inspection by FSIS personnel. Establishments must have in place a pest management program to prevent the harborage and breeding of pests on the grounds and within establishment facilities. Pest control substances used must be safe and effective under the conditions of use and not be applied or stored in a manner that will result in the adulteration of product.

Grounds

Proper maintenance of the grounds about an establishment is essential for ensuring good sanitation. Inspectors will request written designation of the official premises boundaries (FSIS Directive 7640.1, *Inspection Duties Related to Facilities and Equipment, and Plant Operated Quality Control Programs; http://www.fsis.usda.gov/OPPDE/rdad/FSISDirectives/7640-1Amend1.pdf*). Inspectors may use this information as reference when inspecting establishment grounds. Establishments should keep in mind, however, that they are responsible for preventing the adulteration of product even if the cause of the adulteration originates from conditions outside the designated boundaries of the establishment.

Pest Control

Proper maintenance of the grounds about an establishment is essential for ensuring good sanitation. The pest management program does not have to be written. FSIS no

longer requires the prior approval of pesticides because prior approval is contrary to the HACCP philosophy where establishments are responsible for identifying hazards and establishing critical controls. These performance standards establish that it is the establishment's responsibility for the safe and effective use and storage of pesticides. The regulations require that documentation substantiating the safety of other chemicals, including pesticides, be made available for inspection to review (416.4 (c)). In most cases the document record will be the "Material Safety Data Sheet."

The FSIS regulations in 9 CFR 416.2 to 416.5 set forth more specific performance standards that each official establishment must meet to prevent the creation of insanitary conditions that could cause the adulteration of meat and poultry products. These regulations provide the sanitation standards the establishment must meet for the Federal or State mark of inspection to be applied to its products. Some of the SPS regulations address conditions within or around the establishment (e.g., ventilation, lighting, facility and equipment construction, and maintenance of the grounds). Other SPS address establishment operations and so may be met by an establishment through its Sanitation SOP (e.g., sanitizing of food contact surfaces) or its HACCP plan (e.g., water reuse).

§ 416.2(b) Construction

(1) Establishment buildings, including their structures, rooms, and compartments must be of sound construction, kept in good repair, and be of sufficient size to allow for processing, handling, and storage of product in a manner that does not result in product adulteration or the creation of insanitary conditions.

(2) Walls, floors, and ceilings within establishments must be built of durable materials impervious to moisture and be cleaned and sanitized as necessary to prevent adulteration of product.

(3) Walls, floors, ceilings, doors, windows, and other outside openings must be constructed and maintained to prevent the entrance of vermin, such as flies, rats, and mice.

(4) Rooms or compartments in which edible product is processed, handled, or stored must be separate and distinct from rooms or compartments in which inedible product is processed, handled, or stored, to the extent necessary to prevent product adulteration and the creation of insanitary conditions.

The establishment buildings must be sound and kept in good repair to prevent insanitary conditions or the adulteration of product. Establishments currently maintaining sanitary conditions will not be required to make changes to their construction or layout because of this performance standard.

Some examples of noncompliance with these standards commonly reported by inspectors are listed below. They are not all inclusive; they represent noncompliance only with the performance standards in 416.2(b), provisions (1) through (3).

- Doors not closing tightly allowing the entrance of vermin, dirt, or dust;

- Holes in ceilings or windows allowing the entrance of vermin, dirt, or dust;
- Scaling rust or scaling paint in edible areas on ceilings or walls;
- Walls in production area have mold growth.

Establishments can process, handle, or store edible and inedible product in the same room as long as they are separated by time or space, in a manner sufficient to prevent the adulteration of the edible product or the creation of insanitary conditions.

§ 416.2(c) Light

Lighting of good quality and sufficient intensity to ensure that sanitary conditions are maintained and that product is not adulterated must be provided in areas where food is processed, handled, stored, or examined; where equipment and utensils are cleaned; and in hand-washing areas, dressing and locker rooms, and toilets.

FSIS has abolished the specific lighting requirements in the poultry regulations and have combined the separate meat and poultry lighting requirements into one performance standard. While FSIS is giving establishments flexibility in determining lighting requirements, lighting must be adequate in quality and well distributed to allow for the monitoring of sanitary conditions and processing conditions, and to examine product for evidence of adulteration. FSIS is not rescinding the lighting requirements for inspector and reprocessing stations (sections 307.2 and 381.36).

Establishments should keep in mind that their lighting should be sufficient not only to allow their own employees to maintain sanitation and prevent product adulteration, but also to allow inspection personnel to verify that conditions are sanitary and product is not adulterated. This does not mean, however, that lighting sufficiency is to be determined subjectively, by the inspector. Establishments must determine which intensities and qualities of light are appropriate in different processing environments. KDA will direct its inspection personnel to make judgments accordingly.

§ 416.2(d) Ventilation

Ventilation adequate to control odors, vapors, and condensation to the extent necessary to prevent adulteration of product and the creation of insanitary conditions must be provided.

Inspection does not expect that an establishment's ventilation will be able to completely eliminate all odors, vapors, and condensation but it must control them as far as necessary to prevent adulteration of product or the creation of insanitary conditions.

In regard to condensation, keep in mind that some forms are unavoidable and acceptable within a food processing environment, since they will neither adulterate product nor create insanitary conditions. Other forms of condensation are expected, but must be controlled by the establishment, and others are unacceptable at any time. Examples of different types of condensation and corresponding inspection responses:

SITUATIONS INVOLVING CONDENSATION IN WHICH NO ACTION IS REQUIRED

In certain situations, condensation within an official establishment has no affect on product safety, sanitary conditions, or inspection. If inspection program personnel determine that such a situation exists, no action is necessary by him/her or the establishment. Some examples:

- Condensation forms on the underside of a stainless steel vessel lid during cooking.
- The packaging of packaged entrees or soups comes into contact with condensation which has formed as a result of freezing operations.
- Condensation forms on the wall or ceiling of a loading dock where canned products are stored in wrapped boxes on palettes. (Although this situation may not threaten product safety or impede inspection, establishments should avoid allowing excessive condensation to form anywhere food is processed or stored.)

SITUATIONS IN WHICH CONDENSATION IS EXPECTED AND CONTROLLED BY THE OFFICIAL ESTABLISHMENT

In other situations, establishments expect condensation to form as a result of certain operations and take action to ensure that the condensation does not adulterate product or create insanitary conditions. Such actions must be documented in the establishment's Sanitation Standard Operating Procedures (Sanitation SOP's). Most often, establishments will control such condensation by cleaning and sanitizing, on a daily or as-needed basis, the surface(s) where the condensation is expected to form. Examples of such surfaces include:

- The inside or outside of stainless production chutes.
- Ceilings over open kettle cooking areas and over poultry chill vats.
- The outside of stainless steel ice vats or ice chutes in chill areas.

SITUATIONS IN WHICH INSPECTION PROGRAM PERSONNEL MUST TAKE ACTION

In some situations, condensation clearly adulterates product, creates insanitary conditions, and/or interferes with inspection. Some examples:

- Heavily beaded condensation forms on a ceiling or wall of a processing area that is not regularly cleaned and sanitized in accordance with the establishment's SSOP's (an insanitary condition is created that could lead to the adulteration of product).
- Condensate from a cooler ceiling drips onto carcasses.
- Condensate from refrigeration unit surfaces, which have not been cleaned and sanitized, drips onto exposed product.

- Condensate from a loading dock ceiling or wall drips onto boxes of boneless beef, breaking down the packaging.

§ 416.2(e) Plumbing

Plumbing systems must be installed and maintained to:

(1) Carry sufficient quantities of water to required locations throughout the establishment;
(2) Properly convey sewage and liquid disposable waste from the establishment;
(3) Prevent adulteration of product, water supplies, equipment, or utensils, and maintain sanitary conditions throughout the establishment;
(4) Provide adequate floor drainage in all areas where floors are subject to flooding-type cleaning or where normal operations release or discharge water or other liquid waste on the floor;
(5) Prevent back-flow conditions in and cross-connection between piping systems that discharge wastewater or sewage and piping systems that carry water for product manufacturing; and
(6) Prevent the backup of sewer gases.

§ 416.2(f) Sewage disposal

Sewage must be disposed into a sewage system separate from all other drainage lines or disposed of through other means sufficient to prevent backup of sewage into areas where product is processed, handled, or stored. When these wage disposal system is a private system requiring approval by a State or local health authority, the establishment must furnish inspection with the letter of approval from that authority upon request.

It is the responsibility of the establishment to ensure that plumbing and sewage systems provide an adequate supply of potable water and remove waste and sewage from the establishment without adulterating product or creating insanitary conditions.

§ 416.2(g) Water supply and water, ice, and solution reuse

(1) A supply of running water that complies with the National Primary Drinking Water regulations (40 CFR Part141), at a suitable temperature and under pressure as needed, must be provided in all areas where required (for processing product, for cleaning rooms and equipment, utensils, and packaging materials, for employee sanitary facilities, etc.). If an establishment uses a municipal water supply, it must make available to FSIS, upon request, a water report, issued under the authority of the State or local health agency, certifying or attesting to the potability of the water supply. If an establishment uses a private well for its water supply, it must make available to FSIS, upon request, documentation certifying the potability of the water supply, that has been renewed at least semi-annually.

2) Water, ice, and solutions (such as brine, liquid smoke, or propylene glycol) used to chill or cook ready-to-eat product may be reused for the same purpose, provided that they are maintained free of pathogenic organisms and fecal coliform organisms and that other physical, chemical, and microbiological contamination have been reduced to prevent adulteration of product.

(3) Water, ice, and solutions used to chill or wash raw product may be reused for the same purpose provided that measures are taken to reduce physical, chemical, and microbiological contamination so as to prevent contamination or adulteration of product. Reuse water which has come into contact with raw product may not be used on ready-to-eat product.

(4) Reconditioned water that has never contained human waste and that has been treated by an onsite advanced wastewater treatment facility may be used on raw product, except in product formulation, and throughout the facility in edible and inedible production areas, provided that measures are taken to ensure that this water meets the criteria prescribed in paragraph (g)(1) of this section. Product, facilities, equipment, and utensils coming in contact with this water must undergo a separate final rinse with non-reconditioned water that meets the criteria prescribed in paragraph (g)(1) of this section.

(5) Any water that has never contained human waste and that is free of pathogenic organisms may be used inedible and inedible product areas, provided it does not contact edible product. For example, such reuse water may be used to move heavy solids, flush the bottom of open evisceration troughs, or to wash ante-mortem areas, livestock pens, trucks, poultry cages, picker aprons, picking room floors, and similar areas within the establishment.

(6) Water that does not meet the use conditions of paragraphs (g)(1) through (g)(5) of this section may not be used in areas where edible product is handled or prepared or in any manner that would allow it to adulterate edible product or create insanitary conditions.

The water performance standard makes transparent the current requirement that potable water complies with EPA's National Primary Drinking Water regulations. Certifications of water potability provided by the state or local governments or other responsible entities will show whether water meets the EPA requirements.
Some meat and poultry establishments use private wells for their water supply. EPA does not require testing for these water sources. Usually the state or local governments do not test the wells for potability. Most establishments can obtain the needed documentation from private laboratories**. The regulations require that documentation certifying the potability of water from private systems be renewed at least semi-annually**.

§ 416.2(h) Dressing rooms, lavatories, and toilets

(1) Dressing rooms, toilet rooms, and urinals must be sufficient in number, ample in size, conveniently located, and maintained in a sanitary condition and in good repair at all times to ensure cleanliness of all persons handling any product. They must be separate from the rooms and compartments in which products are processed, stored, or handled.

(2) Lavatories with running hot and cold water, soap, and towels, must be placed in or near toilet and urinal rooms and at such other places in the establishment as necessary to ensure cleanliness of all persons handling any product.

(3) Refuse receptacles must be constructed and maintained in a manner that protects against the creation of insanitary conditions and the adulteration of product.

OSHA has always had standards for lavatories in their regulations (29 CFR 1910.141). These standards should be followed when establishments are constructed. FSIS will no longer dictate the number of lavatories required. Lavatory facilities need to be maintained by the establishment in good repair and in a sanitary manner.

§ 416.3 Equipment and utensils

(a) Equipment and utensils used for processing or otherwise handling edible product or ingredients must be of such material and construction to facilitate thorough cleaning and to ensure that their use will not cause the adulteration of product during processing, handling, or storage. Equipment and utensils must be maintained insanitary condition so as not to adulterate product.

(b) Equipment and utensils must not be constructed, located, or operated in a manner that prevents FSIS personnel from inspecting the equipment or utensils to determine whether they are in sanitary condition.

(c) Receptacles used for storing inedible material must be of such material and construction that their use will not result in the adulteration of any edible product or in the creation of insanitary conditions. Such receptacles must not be used for storing any edible product and must bear conspicuous and distinctive marking to identify permitted uses.

Establishments have the flexibility to choose whatever method they want to clean utensils and equipment to ensure that they are maintained in sanitary condition so as not to adulterate product. FSIS has eliminated the requirement that utensils and equipment used to dress diseased meat carcasses be cleaned with either 180 degree F. water or an approved disinfectant. FSIS no longer requires a specific method for the cleaning of utensils and equipment used to dress diseased meat carcasses, although they must still be maintained in a sanitary condition.

§ 416.4 Sanitary operations

(a) All food-contact surfaces, including food-contact surfaces of utensils and equipment, must be cleaned and sanitized as frequently as necessary to prevent the creation of insanitary conditions or the adulteration of product.

(b) Non-food-contact surfaces of facilities, equipment, and utensils used in the operation of the establishment must be cleaned and sanitized as frequently as necessary to prevent the creation of insanitary conditions or the adulteration of product.

(c) Cleaning compounds, sanitizing agents, processing aids, and other chemicals used by an establishment must be safe and effective under the conditions of use. Such chemicals must used, handled, and stored in a manner that will not adulterate product or

create insanitary conditions. Documentation substantiating the safety of a chemical's use in a food processing environment must be available to FSIS inspection personnel for review.

(d) Product must be protected from adulteration during processing, handling, storage, loading, and unloading at and during transportation from official establishments.

Usually, an establishment cleans its operations once a day; however, some establishments have for some time conducted chemical cleanup procedures less than once a day. Currently, establishments may use extended cleanup procedures without prior approval of FSIS. FSIS expects an establishment to incorporate extended cleanup procedures into its Sanitation SOP's (See 416.12). To ensure that extended cleanup procedures prevent insanitation and the adulteration of product, most establishments will probably conduct microbiological and chemical sampling that evaluates the effectiveness of the extended cleanup. The establishment's Sanitation SOPs records would include the microbiological and chemical data that distinguish acceptable sanitary conditions from marginal or unacceptable sanitary conditions. (See 416.14). During the normal course of an establishment's operations meat and poultry products should not come in contact with non-food contact surfaces. Still if non-food contact surfaces are not properly cleaned and sanitized, insanitary conditions could result, leading to the potential adulteration of product.

FSIS has discontinued approving all nonfood compounds and proprietary substances for use in official meat and poultry establishments. Inspection continues to require that meat and poultry products be neither adulterated nor misbranded through the misuse of proprietary substances and nonfood compounds. Documentation substantiating the safety of a chemical's use in a food-processing environment must be available for Inspection's review. The documentation will vary with the nature and intended use of that chemical. For example, for a pesticide, an establishment should have documentation showing that the compound is registered with EPA and the label information for the pesticide. For a chemical sanitizer used on food contact surfaces, an establishment should have documentation showing that the compound complies with the relevant Food and Drug Administration regulations in 21 CFR 178.1010. (Sanitizers meeting this requirement are usually identified as "Food Grade.") Meat and poultry establishments are responsible for ensuring that all proprietary substances and nonfood compounds are safe for their intended use and used appropriately. Establishments are free to choose whatever scientifically supportable method they find effective in limiting microbial growth in their operations.

§ 416.5 Employee Hygiene

(a) Cleanliness. All persons working in contact with product, food-contact surfaces, and product-packaging materials must adhere to hygienic practices while on duty to prevent adulteration of product.

(b) Clothing. Aprons, frocks, and other outer clothing worn by persons who handle product must be of material that is disposable or readily cleaned. Clean garments must

be worn at the start of each working day and garments must be changed during the day as often as necessary to prevent contamination or adulteration of product.

(c) Disease control. Any person who has or appears to have an infectious disease, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination must be excluded from any operations which could result in product adulteration until the condition is corrected.

Specific types of unhygienic practices have been removed from the regulations. Inspection continues to have the authority to take action against any unhygienic practice that could result in insanitary conditions or adulterated product.

§ 416.6 Tagging insanitary equipment, utensils, rooms or compartments

When a Program employee finds that any equipment, utensil, room, or compartment at an official establishment is insanitary or that its use could cause the adulteration of product, he will attach to it a "U.S. Rejected" tag. Equipment, utensils, rooms, or compartments so tagged cannot be used until made acceptable. Only a Program employee may remove a "U.S. Rejected" tag.

Sanitation SOPs

The establishment has the responsibility to develop, implement, and maintain written Sanitation SOPs. The basic regulatory requirements are described in 9 CFR 416.12. At the time inspection is granted, the establishment must have a Sanitation SOP that meets these requirements. Inspection verifies that the written procedures meet the basic regulatory requirements.

§ 416.11 General rules

Each official establishment shall develop, implement, and maintain writ-ten standard operating procedures for sanitation (Sanitation SOP's) in accordance with the requirements of this part.

§ 416.12 Development of Sanitation SOP's

(a) The Sanitation SOP's shall describe all procedures an official establishment will conduct daily, before and during operations, sufficient to prevent direct contamination or adulteration of product(s).

(b) The Sanitation SOP's shall be signed and dated by the individual with overall authority on-site or a higher level official of the establishment. This signature shall signify that the establishment will implement the Sanitation SOP's as specified and will maintain the Sanitation SOP's in accordance with the requirements of this part. The Sanitation SOP's shall be signed and dated upon initially implementing the Sanitation SOP's and upon any modification to the Sanitation SOP's.

(c) Procedures in the Sanitation SOP's that are to be conducted prior to operations shall be identified as such, and shall address, at a minimum, the cleaning of food contact surfaces of facilities, equipment, and utensils.

(d) The Sanitation SOP's shall specify the frequency with which each procedure in the Sanitation SOP's is to be conducted and identify the establishment employee(s) responsible for the implementation and maintenance of such procedure(s).

§ 416.13 Implementation of SOP's

(a) Each official establishment shall conduct all other procedures in the Sanitation SOPs at the frequencies specified.

(b) Each official establishment shall monitor daily the implementation of the procedures in the Sanitation SOPs.

Each official establishment shall conduct the pre-operational procedures in the Sanitation SOPs before the start of operations.

§ 416.14 Maintenance of Sanitation SOP's

Each official establishment shall routinely evaluate the effectiveness of the Sanitation SOP's and the procedures therein in preventing direct contamination or adulteration of product(s) and shall revise both as necessary to keep them effective and current with respect to changes in facilities, equipment, utensils, operations, or personnel.

Note: Construction and removal of walls, ceilings, and floors may cause harborage sites for *Listeria monocytogenes* to be dislodged from otherwise protected areas.

§ 416.15 Corrective Actions

(a) Each official establishment shall take appropriate corrective action(s) when either the establishment or FSIS determines that the establishment's Sanitation SOP's or the procedures specified therein, or the implementation or maintenance of the Sanitation SOP's, may have failed to prevent direct contamination or adulteration of product(s).

(b) Corrective actions include procedures to ensure appropriate disposition of product(s) that may be contaminated, restore sanitary conditions, and prevent the recurrence of direct contamination or adulteration of product(s), including appropriate reevaluation and modification of the Sanitation SOP's and the procedures specified therein or appropriate improvements in the execution of the Sanitation SOP's or the procedures specified therein.

Examples of noncompliance:

- The Sanitation SOP failed to prevent direct contamination or other adulteration of product, and the establishment did not implement corrective actions to ensure appropriate disposition of product.

- The Sanitation SOP failed to prevent direct contamination or other adulteration of product, and the establishment did not implement corrective actions to restore sanitary conditions.
- The Sanitation SOP failed to prevent direct contamination or other adulteration of product, and the establishment did not implement corrective actions to prevent recurrence of direct contamination or adulteration of product. This may lead to a trend of repeated noncompliances.

§ 416.16 Recordkeeping requirements

(a) Each official establishment shall maintain daily records sufficient to document the implementation and monitoring of the Sanitation SOP's and any corrective actions taken. The establishment employee(s) specified in the Sanitation SOP's as being responsible for the implementation and monitoring of the procedure(s) specified in the Sanitation SOP's shall authenticate these records with his or her initials and the date.

(b) Records required by this part may be maintained on computers provided the establishment implements appropriate controls to ensure the integrity of the electronic data.

(c) Records required by this part shall be maintained for at least 6 months and made available to FSIS. All such records shall be maintained at the official establishment for 48 hours following completion, after which they may be maintained off-site provided such records can be made available to FSIS within 24 hours of request.

§ 416.17 Agency verification

FSIS shall verify the adequacy and effectiveness of the Sanitation SOP's and the procedures specified therein by determining that they meet the requirements of this part. Such verification may include:

(a) Reviewing the Sanitation SOP's;

(b) Reviewing the daily records documenting the implementation of the Sanitation SOP's and the procedures specified therein and any corrective actions taken or required to be taken;

(c) Direct observation of the implementation of the Sanitation SOP's and the procedures specified therein and any corrective actions taken or required to be taken; and

(d) Direct observation or testing to assess the sanitary conditions in the establishment.

Regulations governing other facility requirements

§ 305.2 Separation of official establishments.

(a) Each official establishment shall be separate and distinct from any unofficial establishment except a poultry products processing establishment operated under federal inspection under the Poultry Products Act or under State inspection.

(c) Inspection shall not be inaugurated in any building, any port of which is used as living quarters, unless the part for which inspection is requested is separated from such quarters by floors, walls, and ceilings of solid concrete, brick, wood, or similar material; and the floors, walls, and ceilings are without openings that directly or indirectly communicate with any part of the building used as living quarters.

§ 305.3 Sanitation and adequate facilities.

Inspection shall not be inaugurated if an establishment is not in a sanitary condition nor unless the establishment agrees to maintain a sanitary condition and provides adequate facilities for conducting such inspection.

§ 307.1 Facilities for program employees.

Office space, including necessary furnishings, light, heat and janitor service, shall be provided by official establishments, rent free, for the exclusive use for official purposes of the inspector and assigned program employees. The space set aside for this purpose shall meet with approval of the supervisor and shall be conveniently located, properly ventilated and provided with lockers suitable for protection and storage of program supplies and with facilities suitable for program employees to change clothing if such facilities are deemed necessary. At the discretion of the Administrator, small plants requiring the services of less than one full-time inspector need not furnish facilities for program employees as prescribed in this section, where adequate facilities exist in a nearby convenient location. Laundry service for inspectors' outer work clothing shall be provided by each establishment.

§ 307.2 Other facilities and conditions to be provided by establishment.

When required by the supervisor, the following facilities and conditions, and such others as may be found to be essential to efficient conduct of inspection and maintenance of sanitary conditions shall be provided by each official establishment.

(a) Satisfactory pens, equipment and assistants for conducting ante-mortem inspection and for separating, marking and holding apart from passed livestock those marked "K.S. suspect" and those marked "K.S. condemned." (Pens, alleys, and runways

shall be paved, drained and supplied with adequate hose connections for cleanup purposes);

(b) Sufficient light to be adequate for proper conduct of inspection;

(c) Racks, receptacles, or other suitable devices for retaining such parts as the head, tongue, tail, thymus gland, viscera, and all parts and blood to be used in the preparation of meat food products or medical products, until after the post-mortem examinations is completed, in order that they may be identified in case of condemnation of the carcass; equipment, trucks, and receptacles for the handling of viscera of slaughtered animals so as to prevent contact with the floor and trucks, racks, marked receptacles, tables, and other necessary equipment for the separate and sanitary handling of carcasses or parts passed for cooking;

(d) Tables, benches, and other equipment on which inspection is to be performed must be of such design, material and construction as to enable program employees to conduct their inspection in a ready, efficient and clean manner;

(e) Watertight metal trucks or receptacles for holding and handling diseased carcasses and parts, so constructed as to be readily cleaned such trucks or receptacles to be marked in a conspicuous manner with the phrase " U.S. Condemned" in letters not less than 2 inches high and, when required by the supervisor, to be equipped with facilities for locking or sealing;

(f) Adequate arrangements, including liquid soap and cleansers, for cleansing and disinfecting hands, for disinfecting all implements used in dressing diseases carcasses, floors, and such other articles and places as may be contaminated by diseased carcasses or otherwise;

(g) In establishments in which slaughtering is done, rooms, compartments, or specially prepared open places, to be known as "final inspection places," at which the final inspection of retained carcasses may be conducted (competent assistants for handling retained carcasses and parts shall be provided by the establishment; final inspection places shall be adequate in size and their rail arrangement and other equipment shall be sufficient to prevent carcasses and parts passed for food or cooking, from being contaminated by contact with condemned carcasses or parts; they will be equipped with hot water, lavatory, sterilizer, tables, and other equipment required for ready, efficient and sanitary conduct of the inspection the floors shall be of such construction as to facilitate the maintenance of sanitary conditions and shall have proper drainage connections and when the final inspection place is part of a larger floor, it shall be separated from the rest of the floor by a curb, railing or otherwise);

(h)Retention rooms, cages, or other compartments and receptacles in which carcasses and product may be held for further inspection. (These shall be in such number and in such locations as the needs of the inspector in the establishment may require they shall be equipped for secure locking or sealing and shall be held under locks or official seals furnished by the Department, the keys of such locks shall not leave the custody of program employees. Every such room, compartment, or receptacle shall be marked

conspicuously with the phrase " U.S. retained" in letters not less than 2 inches high; rooms or compartments for these purposes shall be secure and susceptible to being kept clean, including a sanitary disposal of the floor liquids; establishment employees shall not enter any retention rooms or compartments or open any retention receptacles unless authorized by program employees);

(i) Adequate facilities, including denaturing materials, for the proper disposal of condemned articles in accordance with the regulations in this subchapter (tanks or other rendering equipment which, under the regulations in this subchapter, must be sealed, shall be properly equipped for sealing as specified by the regulations in Part 314 of this subchapter or by the supervisor in specific cases);

(j) Docks and receiving rooms, to be designated by the operator of the official establishment, with the supervisor, for the receipt and inspection of all products as provided in §318.3 of this subchapter;

(k) Suitable lockers in which brands bearing the official inspection legend and other official devices (excluding labels) and official certificates shall be kept when not in use (all such lockers shall be equipped for sealing or locking with locks or seals to be supplied by the Department; the keys of such locks shall not leave the custody of Program employees);

(l) Sanitary facilities and accommodations as prescribed by §308.4 of this subchapter.

(m) In addition to any facilities required to accomplish sanitary dressing procedures, the following inspection station facilities for cattle and swine slaughter lines described in §310.1(b) of this subchapter are required:

(1) An inspection station consisting of 5 feet of unobstructed line space for each head or carcass inspector and, for viscera table kills, 8 feet for each viscera inspector on the inspector's side of the table.

(2) A minimum of 50 foot-candles of shadow-free lighting at the inspection surfaces of the head, viscera, and carcass.

(3) A hand wash lavatory (other than one which is hand operated) furnished with soap, towels, and hot and cold water, and located adjacent to the inspector's work area. In addition, for each head and viscera inspector on cattle slaughter lines, and each head inspector on swine slaughter lines, a sterilizer located adjacent to the inspector's work area.

(4) For mechanized operations, a line control switch located adjacent to each inspection station.

(5) Facilities to position tally sheets or other recording devices, such as digital counter, and facilities to contain condemned brands.

(6) For swine slaughter lines requiring three or more inspectors, and for those one- and two-inspector configurations where the establishment installs a mirror: At the carcass inspection station one glass or plastic, distortion-free mirror, at least 5 feet by 5 feet, mounted far enough away from the vertical axis of the moving line to allow the carcass to be turned, but not over 3 feet away, and so mounted that any inspector standing at the carcass inspection station can readily view the back of the carcass.

§ 313.1 Livestock pens, driveways and ramps

(a) Livestock pens, driveways and ramps shall be maintained in good repair. They shall be free from sharp or protruding objects which may, in the opinion of the inspector, cause injury or pain to the animals. Loose boards, splintered or broken planking, and unnecessary openings where the head, feet, or legs of an animal may be injured shall be repaired.

(b) Floors of livestock pens, ramps, and driveways shall be constructed and maintained so as to provide good footing for livestock. Slip resistant or waffled floor surfaces, cleated ramps and the use of sand, as appropriate, during winter months are examples of acceptable construction and maintenance.

(c) U.S. Suspects (as defined in §301.2(xxx) and dying, diseased, and disabled livestock (as defined in §301.2(y) shall be provided with a covered pen sufficient, in the opinion of the inspector to protect them from the adverse climatic conditions of the locale while awaiting disposition by the inspector.

(d) Livestock pens and driveways shall be so arranged that sharp corners and direction reversal of driven animals are minimized.

Retail/Restaurant/Central Kitchen Exemption (9 CFR 303.1(f)(iv)(a)(6))

Operations traditionally and usually conducted at retail stores, restaurants, and retail-type establishments that offer meat and meat food products for sale or service to household consumers generally are exempt from mandatory inspection.

Only inspected and passed meat and meat food products (those bearing a mark of inspection) may be used in the preparation of products sold (including meals) at retail stores or restaurants.

Sales must be in normal retail quantities, and certain Federal requirements apply (e.g., safe handling labels are required for raw product). Retail stores may prepare product for sale to other than household consumers (i.e., hotels, restaurants, or similar institutions (HRI)), but such HRI sales are limited to the annual dollar value or percentage of total retail sales specified by FSIS regulations (http://www.fsis.usda.gov/wps/wcm/connect/caa3b2a4-cb0f-4835-a112-fb216ea3db72/2015-0009.pdf?MOD=AJPERES). HRI sales also are limited by regulation to certain kinds of products (9 CFR 303.1(d) (2)).

Under certain conditions, products may be prepared at a restaurant central kitchen for sale in another facility without the benefit of inspection. To qualify, such products must be ready-to-eat when they leave the facility and safely transported under strict temperature controls to the destination restaurant where the product will be reheated and served to the end consumer. Product prepared at a central kitchen may only be transported to and prepared by restaurants under the same ownership.

Operations exempt from inspection under the FMIA may be regulated and inspected under State and local laws.

Attachment C

USDA United States Department of Agriculture

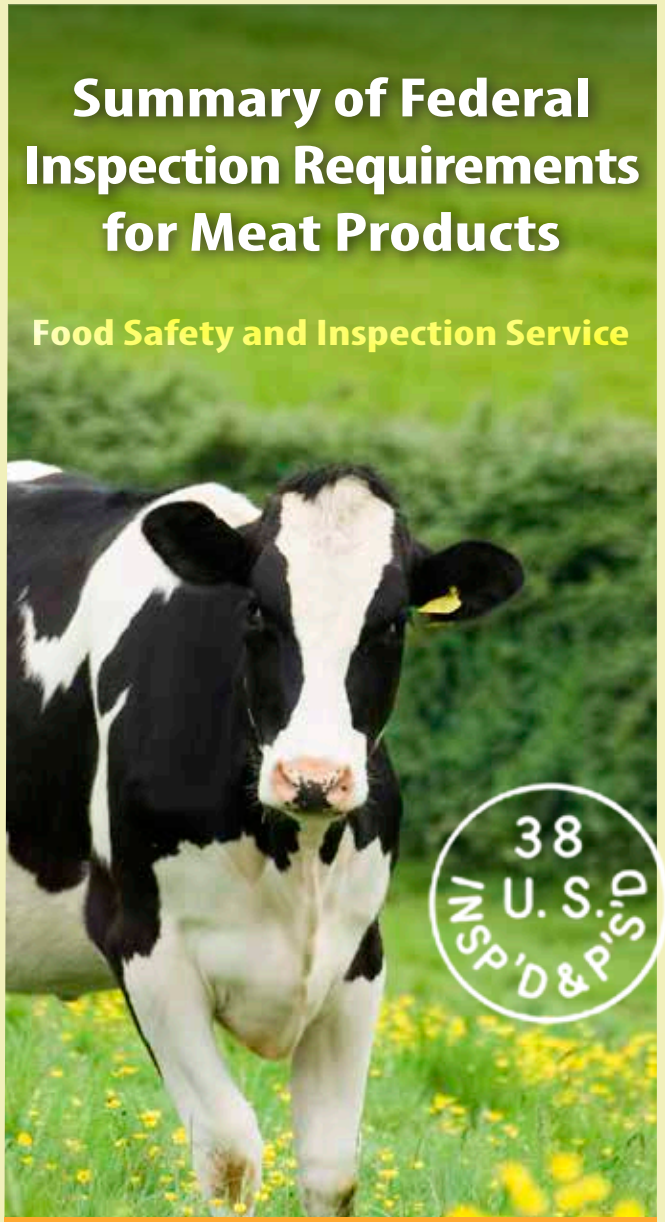
The Food Safety Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture responsible for ensuring that the Nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.

For more information,
contact
FSIS Small Plant Help Desk
1-877-374-7435 or InfoSource@fsis.usda.gov

USDA United States Department of Agriculture

Summary of Federal Inspection Requirements for Meat Products

Food Safety and Inspection Service



Slightly Revised September 2015

Inspection Requirement:

Meat products intended for commercial sale must be inspected.

Federal Inspection

(21 U.S.C. 601, et seq.)

The Federal Meat Inspection Act (FMIA) requires that all meat sold commercially be inspected and passed to ensure that it is safe, wholesome, and properly labeled.

The USDA Food Safety and Inspection Service (FSIS) is responsible for providing this inspection.

The FMIA requires inspection for any product intended for human consumption, wholly or in part, from the carcass or parts of any cattle, sheep, swine, and goat. These animals, defined as "livestock" in the regulations, must be slaughtered and processed under Federal inspection, and the meat food products must be inspected and passed for human consumption.

> *Food products from animals not subject to inspection under the FMIA (nonamenable species) are subject to regulation by U.S. Food and Drug Administration (FDA) and State and local authorities.*

Federal inspection personnel must be present at all times during livestock slaughter operations and for at least part of each shift during which there is further processing of meat products.

In slaughter plants, inspection personnel verify the humane handling of animals and conduct ante-mortem inspection to ensure that the live animal is fit for slaughter. These inspection personnel also conduct post-mortem inspection to ensure that the meat from the carcass and internal organs are fit for human food. When meat is distributed to other federally inspected establishments for further processing, the product is inspected to ensure that the product is safe, wholesome, and correctly labeled and packaged. Inspected establishments must maintain and follow written Sanitation Standard Operating Procedures (SSOP) and Hazard Analysis and Critical Control Point (HACCP) plans.

In addition to inspecting the meat products, inspection personnel inspect the facilities and equipment to ensure sanitary conditions are maintained. FSIS also reviews records to ensure they accurately document establishment verification that the meat food products are in compliance with all applicable requirements.

State Inspection

(21 U.S.C. 661)

Establishments that produce meat products sold entirely within a State require Federal inspection unless they are regulated under a State Meat and Poultry Inspection (MPI) program.

These State MPI programs are required to enforce requirements "at least equal to" those imposed under the Federal Acts.

State MPI programs certify annually, and FSIS reviews each State MPI program annually to determine whether each program meets the requisite "at least equal to" standard. As of September 2015, 27 States maintain cooperative agreements with FSIS to administer MPI programs, and FSIS reimburses a portion of the State's operating costs.

Exemptions: *Certain meat products may be exempt from inspection requirements. However, they are still subject to the adulteration and misbranding provisions of the FMIA.*

Personal/Individual Use Exemption

(9 CFR 303.1(a)(1))

Under certain conditions, a person may slaughter/prepare livestock of his/her own raising for the exclusive use by him/her, members of his/her family, and his/her non-paying guests without the benefit of inspection. Absolutely no product produced under this exemption may be sold commercially.

Custom Exemption

(9 CFR 303.1(a)(2))

A custom-exempt establishment is one that slaughters and prepares livestock belonging to someone else for the exclusive use of that person. The custom-exempt facility provides a service for the livestock owner; it is not producing commercial product.

Custom-exempt facilities are exempt from the FMIA requirements for carcass-by-carcass inspections and the daily presence of inspectors during operations. Even so, the facility is not exempt from the adulteration, misbranding, and certain record-keeping provisions of those statutes.

Custom-exempt establishments are reviewed periodically to verify that facilities are maintained and operated in a manner that produces a safe, clean, and wholesome meat food product in a sanitary environment and are otherwise complying with the FMIA.

KDA Inspected Operations

At inspected slaughter and processing facilities, continuous inspection is provided for commercial slaughter operations, and daily inspection is provided for commercial processing operations. Inspection coverage includes all aspects of intrastate slaughter and processing from ante-mortem inspection through slaughter, processing and to the retail level. The Kansas inspection legend will be applied only to wholesome carcasses and products slaughtered and produced that day. These facilities must be able to provide a clean and sanitary environment for the production of wholesome, unadulterated meat and poultry products.

Products are sampled during inspection and sent to the Kansas Agriculture Laboratory. These samples are analyzed for economic wholesomeness, label guarantees, antibiotic residues, and are tested for harmful food borne bacteria. Laboratory support is also provided for veterinarians in their diagnosis of conditions found in livestock presented for slaughter.

KDA Custom Operations

Custom slaughter and processing facilities are not inspected on a continuous basis. These facilities are inspected for construction and sanitation requirements but on a less frequent basis.

Revised 05/2022

Attachment D

The Kansas Meat and Poultry Inspection Program is a cooperative state-federal program responsible for administering the Kansas Meat and Poultry Inspection Act that governs the wholesomeness, proper labeling and deceptive advertising of meat and poultry products.

Our purpose is to provide for the inspection, labeling and disposition of animals, poultry, carcasses, and meat and poultry products that are to be offered for sale through commercial outlets for human consumption.

This agency is an equal opportunity employer and provider.

KANSAS DEPARTMENT OF AGRICULTURE
MEAT AND POULTRY INSPECTION

Fully Inspected State Slaughter and Processing Establishments

Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, KS 66502
Office: 785-564-6776
Fax: 785-564-6779
Agriculture.ks.gov

Kansas
Department of Agriculture

NORTHEAST KANSAS

Alta Vista Meat Company
785-499-6829
Alta Vista, KS

Bob's Locker
785-325-2920
Washington, KS

Bowser Meat Processing
785-484-2454
Meriden, KS

Circle P Processing
785-363-6120
Waterville, KS

Duis Meat Processing
785-243-7850
Concordia, KS

First Choice Meats
785-258-3160
Herington, KS

Flint Hills Custom Meats
785-608-8250
Onaga, KS

Frankfort Meat Processing
785-292-4436
Frankfort, KS

Holton Meat Processing
785-364-2331
Holton, KS

SOUTHEAST KANSAS

Canton Lockers
620-628-4495
Canton, KS

Coal Valley Processing (on request)
620-429-2382
Columbus, KS

Mont Ida (on request)
785-489-2212
Welda, KS

Moran Locker
620-237-4331
Moran, KS

Olpe Locker (on request)
620-475-3375
Olpe, KS

Oswego Locker (on request)
620-795-4723
Oswego, KS

Santa Fe Trail Meats
785-665-7713
Overbrook, KS

Schroeder's Inc
620-347-8521
Arma, KS

NORTHWEST KANSAS

Ellinwood Packing Plant
620-564-3156
Ellinwood, KS

Ellsworth Packing
785-472-4177
Ellsworth, KS

Grinnell Locker Plant
785-824-3400
Grinnell, KS

Heritage Meats
620-375-5151
Leoti, KS

South Fork Meat Processing
785-798-3464
Ness City, KS

ZD's Meatz
785-672-9003
Oakley, KS

SOUTH CENTRAL & SOUTHWEST KANSAS

Duncan Lockers (on request)
620-355-6351
Lakin, KS

Ehresman Packing Company
620-276-3791
Garden City, KS

Kirby Meat Company
620-225-0031
Dodge City, KS

Meade Locker and Processing
620-371-4056
Meade, KS

Peabody Sausage House
620-983-2160
Peabody, KS

Stroot Lockers—Goddard
316-794-8762
Goddard, KS

Stroot Lockers—Mulvane
316-777-4421
Mulvane, KS

Yoder Meats
620-465-3807
Yoder, KS

For a list of USDA inspected slaughter and processing facilities in Kansas, contact:

Krista Moore, Office Manager
Meat & Poultry Inspection Program
Krista.Moore@ks.gov
(785) 564-6776

Attachment E

Meat and Poultry Inspection

Poultry Exemptions

Exempt Poultry Slaughter and Processing Guidelines

Summary of Poultry Exemptions in Kansas K.S.A. 65-6a31 and 65-6a44 9 CFR 381.10	
↓Exemption	Criteria →
Personal Use 9 CFR 381.10(a)(3)	• slaughter and processing performed by the owner, for private use of owner, owner's household, and owner's nonpaying guests and employees • No limit on the number of birds slaughtered • Poultry is healthy when slaughtered, and slaughtered and processed under sanitary conditions and practices that result in poultry products that are sound and fit for human food (not adulterated) • Poultry is not sold or donated for use as human food • Shipping containers* bear: producer's name, producer's address, and the statement, Exempt P.L. 90-492 • Registration with the agency is not required **product cannot be sold, can be transported for use by owner, members of his household, and non-paying guests and employees*.
Custom Slaughter/ Processing 9 CFR 381.10 (a)(4) & (d)	• a business or person who slaughters/ processes poultry belonging to someone else. • A custom slaughterer provides a service to a customer and does not engage in the business of buying or selling poultry products capable of use as human food. • No limit • Poultry for private use of owner, owner's household, and owner's nonpaying guests and employees • poultry is healthy when slaughtered • poultry is slaughtered and processed under sanitary conditions and practices that result in poultry products that are sound and fit for human food (not adulterated) • exempt poultry is not sold or donated for use as human food • shipping containers bear: owner's name, owner's address, and the statement, Exempt P.L. 90-492 Selling live poultry to a customer does not disqualify a business from the Custom Slaughter Exemption. For example, a custom slaughterer may sell live poultry to a person and then custom slaughter the bird. However, a person who custom slaughters poultry may not buy or sell poultry products used for human food. A person operating under a Custom Slaughter Exemption may slaughter and process poultry of his or her own raising provided such slaughtered poultry is for his or her exclusive consumption, or consumption by members of his or her household, nonpaying guests, and employees. A person who is a custom slaughterer and who is also a poultry grower may raise and sell his or her live poultry to poultry businesses not associated with his or her custom slaughter business. A custom slaughter business may use a mobile slaughter/ processing unit to custom slaughter and process poultry. There is compliance with the requirements of the Act and regulations when the owner of poultry delivers poultry to a mobile slaughter/processing unit operated by a custom slaughterer provided the slaughtered or processed poultry is for the personal use of the owner of the poultry. The owner of the poultry may deliver the poultry to the mobile

	slaughter/processing unit located at his or her own premises or any other person's premises. Ostrich and other poultry can be custom slaughtered and processed in an official red meat establishment that is subject to the regulatory requirements of the Federal Meat Inspection Act, provided the establishment does not engage in the business of buying and selling poultry products. Also, carcasses or parts of ostrich or poultry not slaughtered at the red meat establishment may be delivered by the owner for custom processing provided the poultry has been previously inspected, passed, and identified as such in accordance with the requirements of the Poultry Products Inspection Act or has been inspected and passed by an equivalent State inspection.	
Producer/Grower 9 CFR 381.10(c)	**1,000 Limit Exemption**	• Grower only slaughters birds raised by grower • for sale <u>from the farm</u>, no restriction on who selling to • poultry grower does not engage in buying or selling poultry products other than those produced from poultry raised on his or her own farm • Slaughter or processing is not done at a facility used for slaughter or processing poultry by another person • Registration with the agency is not required • There are no labeling requirements While there is no regulatory requirement to keep records, KDA encourages the best practice of keeping records indicating how many birds are sold per calendar year and to whom the birds are sold. Keeping these records may assist the producer/grower in the event that KDA investigates a complaint, or a customer contracts a food borne illness.
Producer/Grower 9 CFR 381.10(a)(5) and (b)(1) & (2)	**20,000 Limit Exemption**	• grower slaughters and processes, on his or her own premises, no more than 20,000 poultry, raised by him or her, in a calendar year • grower sells, in a calendar year, only poultry or poultry products he or she prepares according to the criteria for the Producer/Grower – 20,000 Limit Exemption; he or she may not buy or sell poultry products prepared under another exemption in the same calendar year in which he or she claims the Producer/Grower– 20,000 Limit Exemption [PPIA Section (464)(c)(1) last sentence before (c)(2)] • poultry products are distributed solely by the grower and only within the State in which the poultry product is produced • poultry is healthy when slaughtered • slaughter and processing at the producer/grower's premises are conducted using sanitary standards, practices, and procedures that produce poultry products that are sound, clean, and fit for use as human food (not adulterated) • producer only distributes poultry products he or she produced under the Producer/Grower Exemption • facility used to slaughter or process the poultry is not used to slaughter or process another person's poultry unless the Administrator of FSIS grants an exemption [PPIA Section 464(c)(3); Title 9 CFR 381.10b)(2)] • shipping containers bear: producer's name, producer's address, and the statement, Exempt P.L. 90-492 (Instead of the Federal law, a State law may be cited when operations are exempted under the authority of a State law and the operations are reviewed by a State Agency.) **Product may be sold <u>intrastate</u> to:** other businesses for resale as meat or meals, including a

		distributor, hotel, restaurant, retail store, institution, or small enterprise when the product is produced under a Federal or a State exemption.
Producer/Grower or Other Person (PGOP) 9 CFR 381.10(a)(6) & (b)	**20,000 Limit Exemption**	• An owner (either grower or purchaser) who slaughters poultry • for sale directly to household consumers, restaurants, hotels, and boarding houses to be used in those homes and dining rooms for the preparation of meals served or sold directly to customers intrastate • poultry processed by a PGOP is poultry that the PGOP slaughtered • poultry products are distributed solely by the processor and only within the State in which the poultry product is produced • PGOP does not engage in the business of buying or selling poultry or poultry products prepared under other exemptions in the same calendar year he or she claims the Producer/Grower Exemption [PPIA Section 464(c)(1) last paragraph before (c)(2)] • slaughter and processing at the PGOP's facility is conducted in a manner that results in the preparation of poultry products that are wholesome, sound, clean, and fit for human food (not adulterated) • facility used to slaughter and process poultry is not used to slaughter or process another person's poultry unless the Administrator of FSIS grants an exemption [PPIA Section 464(c)(3); Title 9 CFR 381.10b)(2)] • shipping containers bear: processor's name, processor's address, and the statement, Exempt P.L. 90-492 (Instead of the Federal law, a State law may be cited when operations are exempted under the authority of a State law and the operations are reviewed by a State Agency.) May **not** slaughter or process poultry owned by another person May **not** sell to a retail store, or other producer grower
Small Enterprise Exemption 9 CFR 381.10(a)(7) & (b)	**20,000 Limit Exemption**	• Processing of Federal or State inspected or exempt poultry product is limited to the cutting up of carcasses • facility operates and is maintained in a manner that prevents the creation of insanitary conditions and ensures that the product is not adulterated [PPIA Section 464(c)(2); and Title 9 CFR 381.10(a)(7) and 416.2-416.5) • facility used to slaughter or process poultry is not used to slaughter or process another person's poultry unless KDA grants an exemption [PPIA Section 464(c)(3); Title 9 CFR 381.10(b)(2)] • poultry products are distributed solely by the processor and only within the State in which the poultry product is produced • product is not misbranded, label must include: product name; ingredient statement; net quantity; manufacturer name and address; handling statement; safe handling instruction; pack date; **not** required to have slaughtered the poultry it cuts up under a Small Enterprise Exemption. The small enterprise may purchase Federal or State inspected and passed poultry for its cut up operation and from exempt businesses that are allowed to sell to a small enterprise. **may** handle "pass through" product and may cut exempt

		product produced under the Producer/Grower Exemption, or Federal or State inspection **may** slaughter or cut up poultry for sale to household consumers, HRI, and retail stores **may** sell live poultry to a customer and then slaughtering, dressing, and cutting up the poultry for the customer. Selling live poultry is not the same as selling buying or selling poultry products' one of the criteria that prevents a business from claiming as "Custom Slaughter/Processing Exemption." **may not** cut up and distribute poultry products to businesses operating under the Producer/Grower or PGOP, Retail Dealer, or Retail Store exemption
Retail Exemption 9 CFR 381.10(a)(1) and (d)(2)(vi), and 381.10(d)(1) and (d)(2)(i), (ii) and (iii)	**(Store/Dealer/Restaurant)** A retail business is a facility where poultry products are sold to a customer (household consumers and hotels, restaurants, and similar institutions) at the retail business and the amount purchased by the customer is considered to be a normal amount for a retail purchase.	• Only poultry carcasses and parts derived from federally inspected and passed poultry are transported in interstate commerce [Title 9 CFR §381.10(a)(1)] • Poultry products used in the preparation of meals at a restaurant are derived from federally or state inspected and passed poultry products, or poultry products from exempt operations that may sell to restaurants [§381.10(d)(2)(iv)(2)] • retail business does not custom slaughter poultry delivered by the owner • retail business does not prepare exempt products that the business sells to another retail store or a distributor of poultry products • The only poultry slaughtered at a retail store is poultry that is purchased live by the customer, at the retail store, and then the poultry product is prepared according to the customer's instructions and delivered back to the customer • retail business may custom process poultry delivered by the owner provided that the poultry is from an acceptable source, Federal or State inspected and passed, or exempt poultry) • facility operates and is maintained in a manner that prevents the creation of insanitary conditions and ensures that the product is not adulterated • Operations of types traditionally and usually conducted at retail stores are conducted in the store and include boning, cutting up, stuffing, smoking, rendering, or salting • No canning operation is conducted in the retail store • Product sold in intrastate commerce is not misbranded- all requirements of an official label except the inspection legend. Label must include: product name; ingredient statement; net quantity; manufacturer name and address; handling statement; safe handling instruction; pack date; explanatory statement why legend not on package (suggested phrase: "Retail Exemption from Inspection) • Sales of poultry and poultry products are in normal retail quantities or served to consumers at the retail store (normal retail quantities are 75 pounds or less to household consumers and 150 pounds or less to hotels, restaurants, and similar institutions) • Sales to hotels, restaurants, and similar institutions do not exceed either one of two limits: 25 percent of the dollar value of total poultry product sales, and the calendar year dollar limit for retail stores set by the Administrator of FSIS (does not include pass-through

		products derived from USDA inspected and passed poultry that is not further processed at the retail store) If the retail store takes orders for dressed poultry before the arrival of the customer, and slaughters several birds at one time, the birds must be identified throughout the process, so that the customer receives the same bird selected for/by the customer.
Religious dietary	Available by application exemption from certain requirements of the PPIA and the regulations is granted only if the purposes of the Act or regulations are met Poultry prepared in accordance with a religious dietary law under a religious exemption does not bear the official inspection legend but must meet all inspection and regulatory requirements not specifically listed on the submitted application (FSIS Form 5200-1) and exempted on the exemption certificate issued by FSIS	

What does exempt mean? The term "exempt" means that certain types of poultry slaughter and processing operations qualify to operate without the benefit of Federal or state inspection on a daily basis, and a grant of inspection is not required. Such operations are exempt from continuous bird-by-bird inspection and the presence of inspectors during the slaughter of poultry and processing of poultry products. These products cannot bear the inspection legend. However, a facility operating under such an exemption is not exempt from all requirements of the Act. All businesses slaughtering or processing poultry for use as human food, including exempt operations, can only slaughter healthy birds, and must produce poultry product that is not adulterated or misbranded.

"**Exempt P.L. 90-492**" identifies the product as product produced under an exemption from the Act, Public Law 90-492. Instead of the Federal law 90-492, a State law may be cited when the inspection of the slaughter and processing of poultry is exempted under the authority of a State law and the operations are reviewed by a State Agency.

How is Adulteration Defined? Both the PPIA and the supporting Federal regulations define the circumstances and conditions that would render poultry products adulterated. Simply put, a product is adulterated if it bears or contains a substance that makes it injurious to health, or if it has been held, packed or produced under insanitary conditions. To qualify for any one of the poultry exemptions, a business must slaughter poultry or process poultry products under sanitary conditions using procedures that produce sound, clean poultry products fit for human food.

How is Misbranded Defined? Exempt poultry products cannot bear the official mark of inspection. In addition, there is specific labeling or identification requirements for exempt product to meet in lieu of bearing all required elements of a label. The information that shipping containers or packages of exempt poultry products must bear varies depending on the exemption. The specific information required on the shipping containers or packages of exempt products is presented later in discussions for each type of exemption.

What is Intrastate Commerce? Intrastate Commerce is the exchange or transportation of poultry products between entities within the state of Kansas.

What is Slaughter? The term slaughter refers to the act of killing poultry for use as human food.

What is Processed or Processing? The terms "processed" and "processing" refer to operations in which the carcasses of slaughtered poultry are defeathered, eviscerated, cut-up, skinned, boned, canned, salted, stuffed, rendered, or otherwise manufactured or processed.

How many exemptions may a person or business claim when slaughtering or processing poultry? A person or business may slaughter or process poultry under an exemption if the operation qualifies for the exemption. However, a slaughterer or processor of poultry may not simultaneously operate under more than one exemption. When FSIS or a State reviews a business to determine compliance with the Act and regulations, FSIS or the State inspectors must be informed of which exemption the business is claiming. FSIS or State inspectors will determine compliance based on only one exemption. A business may not simultaneously claim or operate under more than one exemption.

The selection of either the Producer/Grower Exemption or the Producer/Grower or Other Person Exemption is for the calendar year. In the same calendar year, a poultry producer or other person producing product under either the Producer/Grower Exemption or the Producer/Grower or Other Person Exemption may not produce product under another exemption. In addition, a poultry business that slaughters or processes poultry operating under a Custom Slaughter or Small Enterprise Exemption may not operate under the Producer/Grower or Producer/Grower or Other Person exemption in the same calendar year.

A facility or business may house more than one exempt operation if there is complete financial and structural autonomy of each operation. A true and complete separation must exist between the business records and the physical structures (rooms and equipment) of the two operations.

A facility or business producing product under a Custom Slaughter, Small Enterprise, or Retail Store Exemption may operate under another one of these three exemptions in the same calendar when there is financial and temporal autonomy of each operation. For example, a person using a facility for a custom slaughter business may close the custom slaughter business and open a retail store or small enterprise business at the facility in the same calendar year.

Who determines whether an operation qualifies for an exemption? KDA personnel are authorized to make inspections in accordance with the law to ascertain whether any of the provisions of the Act or the regulations applying to producers, retailers, or other persons purporting to be exempt from and requirements (criteria) of the Act have been violated. [Code of Federal Regulations Title 9 Section 381.14]

In States that operate a poultry inspection program equivalent to the Federal inspection program, a State Agency conducts inspections and reviews of exempted operations.

Suspension or termination of exemptions. KDA may, by order, in accordance with the applicable rules of practice [Code of Federal Regulations Title 9 Part 500] suspend or terminate any exemption with respect to any person whenever FSIS finds that such action will aid in effectuating the purposes of the Act. Failure to comply with the conditions (criteria) of the exemption including but not limited to failure to process poultry and poultry products under clean and sanitary condition may result in termination of an exemption, in addition to other penalties [Code of Federal Regulations Title 9 Section 318.13].

If your operation does not meet the exemption requirements, you should contact our office to discuss the requirements for inspection.

Attachment F

Meat and Poultry Inspection

Rabbit Exemption

Exempt Rabbit Slaughter and Processing Guidelines

Is rabbit considered meat? Yes. The definition of meat food product in the Kansas Meat and Poultry Inspection Act includes domestic rabbits.

Can I slaughter and process some rabbits without inspection? Yes. K.A.R. 4-16-3a(d) allows a person to slaughter or process 250 or less in a calendar year without inspection. The following requirements must be met to qualify for this exemption:

Registration: There is no requirement to register with the Kansas Department of Agriculture, Meat & Poultry Inspection Program under this exemption. The department will inspect these operations on a complaint basis.

Business operations: You do not engage in the business of buying and selling any rabbits or rabbit products capable of use as human food in a calendar year. Therefore, the rabbits must be raised by you.

Sale of rabbit meat: Rabbits are for distribution directly to the household consumer from that person's own premises. If you maintain control of the meat products, you can deliver the meat products directly to household consumers from your premises.

Healthy rabbits: Only healthy rabbits may be slaughtered to preclude adulteration of the finished product.

Sanitation and adulteration: Sanitation and adulteration requirements of the Kansas Meat and Poultry Inspection Act apply to the slaughter and processing of rabbits under this exemption. The applicable regulations can be found at http://www.gpo.gov/fdsys/pkg/CFR-2008-title9-vol2/pdf/CFR-2008-title9-vol2-part354.pdf.

Sanitation: Sanitation is found specifically in 9 CFR 354.210 through 354.248, and can be accessed through the link above. This includes maintaining proper temperatures in freezers or coolers. If you freeze the meat products, keep the product solidly frozen. If the meat is fresh, you should hold it at a temperature not to exceed 36° F. (9 CFR 354.244(d))

Adulteration: Adulteration includes rabbits:

- that contain any substance that might make it injurious to health,
- that have been fed or injected with a poisonous substance,
- that consist of any filthy, or decomposed substance, or is otherwise unwholesome,
- that have been prepared or held under insanitary conditions that may contaminate the meat product,
- that die other than by slaughter, or
- that are put in containers that are composed of any poisonous substance that may render the rabbit injurious to health.

If your operation does not meet the exemption requirements, you should contact our office to discuss the requirements for inspection.

Known Deer Processors in Kansas

Wild game processors are exempt from registration or regulation under Kansas law. This list is for reference purposes only and is not all-inclusive.

Updated 12/22/2021

Attachment G

NORTHEAST KANSAS

Alta Vista Meat Co.	Alta Vista	785-499-6829	
Anderson Meats	Troy	785-985-2292	
Bichelmeyer Meats	Kansas City	913-342-5945	*(bone out only)*
Bowser Meat Processing	Meriden	785-484-2454	*(bone out only)*
Donnie Allison	Carbondale	785-249-7272	
Farview Farms	Topeka	785-246-1154	*(must be field dressed)*
Flint Hills Custom Meat	Onaga	785-608-8250	
Glasco Locker	Glasco	785-568-2364	*(trim only)*
Hack's Meat Shack	Sabetha	785-284-2947	
S&M Deer Processing	Greenleaf	785-447-1753	
Steve's Meat Market	De Soto	913-583-1390	
The Deer Barn	Riley	785-477-6374	
The Deer Shack	Clay Center	785-447-1795	
Winchester Meat Processing	Winchester	913-774-2860	

NORTHWEST KANSAS

B&B Quality Meats	Larned	620-285-6376	*(must be field dressed)*
Ellsworth Packing	Ellsworth	785-472-4177	
Kensington Locker	Kensington	785-476-2834	
Phillipsburg Lockers	Phillipsburg	785-543-2312	
Prairie View Outfitting	Grainfield	785-673-3337	
South Fork Meat Processing	Ness City	785-798-3464	*(bone out only)*
ZD's Meatz	Oakley	785-672-9003	*(bone out only)*

CENTRAL KANSAS

Champion Meats	Halstead	316-835-2255	
Jackson Meat	Hutchinson	620-662-4465	*(must been skinned and dressed)*
Krehbiels Specialty Meats	McPherson	620-241-0103	*(must be field dressed)*
Peabody Sausage House	Peabody	620-983-2160	
Phil's Farm	Hutchinson	620-960-2673	*(unskinned, must be field dressed)*
Stroot Locker	Mulvane	316-777-4421	
Stroot Locker	Goddard	316-794-8762	
Walnut Valley Packing	El Dorado	316-321-3595	
Yoder Meats	Yoder	620-465-3807	
Yoder Meats West Street	Wichita	316-942-1213	

SOUTHEAST KANSAS

Bauman's Processing	Garnett	785-448-2239	*(must be field dressed)*
Bronson Locker	Bronson	620-939-4575	
Cedar Vale Locker	Cedar Vale	620-758-5657	
Country Side Custom Butchering	Galesburg		
Freedom Meats	Caney	620-306-6003	
Gene's Processing	Pittsburg	620-670-5056	
Jo's One Stop	Arma	620-347-4778	
Linn County Butcher Block	Mound City	913-795-2228	
Mama C's Grocery	Thayer	620-839-5686	
Moran Locker	Moran	620-237-4331	
Olpe Locker	Olpe	620-475-3375	*(limited number accepted)*

SOUTHWEST KANSAS

B & B Quality Meats	Larned	620-285-6376	*(must be field dressed)*
Duncan Lockers	Lakin	620-355-6351	
Garden City Community College	Garden City	620-276-9527	
Meade Locker and Processing	Meade	620-371-4056	
The Ole Butcher Shop	Elkhart	620-697-4424	
Ron's Market	Holcomb	620-277-2073	
T and T Processing	Fowler	620-646-5911	*(bone out only)*