

COLORADO'S MID-SCALE TO SMALL MEAT VALUE CHAIN

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PURPOSE

The purpose of this issue brief is to summarize key contemporary challenges for Colorado's meat value chains as experienced by consumers, producers, and mid-scale¹ to small processors. Additionally, this brief identifies several potential policy opportunities to support the continued growth, improvement, and innovation of these meat value chains. An appendix about COVID specific impacts has been added to this issue brief that will be updated as new information becomes available.

SECTION ONE: OVERVIEW OF MEAT VALUE CHAINS

This section provides an overview of meat value chains and the current regulatory frameworks that shape them.

Meat Value Chains Overview

Ranches and farms all across Colorado raise significant numbers of a wide variety of livestock, including cattle, sheep, pigs, goats, bison, elk, and more. Colorado livestock moves from these ranches and farms to consumers primarily through retail or institutional markets. While limited, producers are increasingly connecting directly with consumers as well. As Colorado livestock moves from ranch to plate, an often-hidden infrastructure of feeders, processors, regulators/inspectors (state, federal, and third-party), and distributors/wholesalers play an essential role of converting livestock into meat. These webs of connections from ranch to plate are called meat value chains.

Regulatory Overview

Every aspect of raising livestock and selling meat falls under the purview of at least one local, state, and/or federal entity. These regulations influence where animals may be raised and how those animals can be slaughtered, processed, and sold. The slaughter and processing nodes in particular tend to lay at the crux of key contemporary meat value chain challenges. Meat reaches consumers

through three primary regulatory channels that differ based on the type of slaughter and processing intermediaries: 1) Facilities Under USDA Inspection, 2) Custom Exempt Facilities, and 3) Facilities Under State Inspection.

¹ Under approximately 1,000 head per day
²Image from Julie Moore, CO Beef Council

Colorado Beef Supply Chain Examples

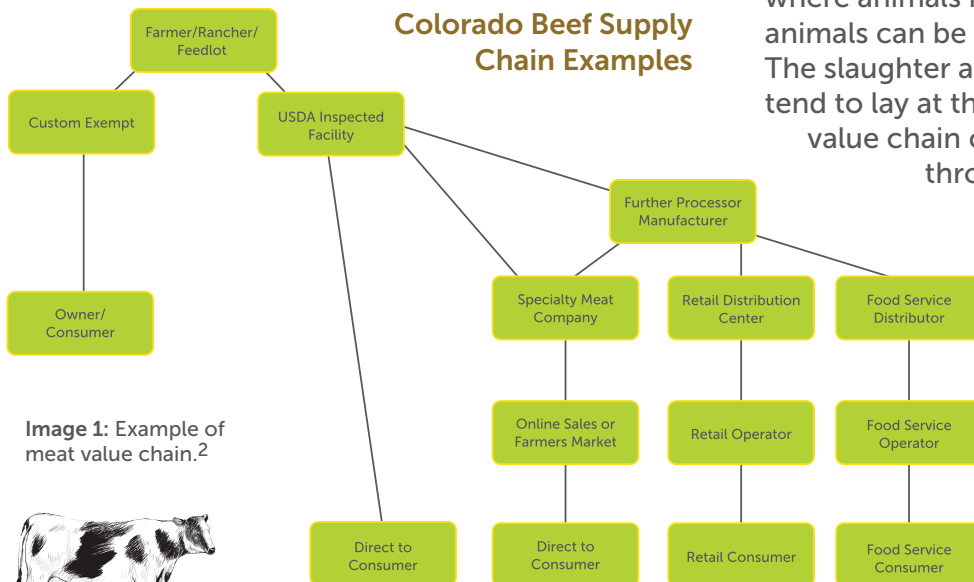


Image 1: Example of meat value chain.²





Slaughter and Processing at Facilities Under USDA Inspection



Facilities inspected under the USDA Food Safety Inspection Service (FSIS) require that each animal is inspected by a USDA inspector before and after slaughter. Inspection is mandatory for all cattle, swine, sheep and goats, and voluntary for other game and exotic species such as bison, elk, deer, antelope, and rabbit, etc. Meat processed under USDA inspection will carry a USDA stamp (aka “bug”) indicating that it was processed in a federally inspected plant and met USDA FSIS standards. Products from facilities under USDA inspection can be sold and shipped over state lines and sold commercially (as whole animals or in retail packages) to retailers, institutions, etc. Once slaughtered under inspection, retail exemptions may be used by other meat processors, restaurants and retail stores to further process, package, and sell certain meat products without additional inspection.³

Slaughter and Processing at Custom Exempt Facilities

Custom Exempt Facilities (CE) slaughter livestock belonging to someone else and processes the carcasses and parts, for exclusive use by the owner, members of the owner’s household, non-paying-guests, and employees. In Colorado, CE facilities are regulated by state law under Title 35, Article 33: Custom Processing of Meat Animals, and are intermittently inspected by the Colorado Department of Agriculture, but not for the slaughter of each and every animal. Meat processed in a custom exempt facility cannot be sold in retail packages, sales may not cross state lines, and all products must be labeled “Not for Sale.” Many CE facilities also process wild game, so scheduling domestic livestock may be challenging during hunting season. Furthermore, some facilities under USDA Inspection offer custom exempt processing in addition to federally inspected processing services.⁴

Slaughter and Processing at Facilities Under State Inspection

State Inspection Programs exist in 27 states and provide inspection for the slaughter and processing of meat under an agreement with USDA FSIS.⁵ State programs may have some benefits for local communities and operators, but state expenses are only partially reimbursed by the USDA and facilities must operate under regulations that are “at least equivalent” to the standards of facilities under USDA inspection. Colorado relinquished its state inspection program for poultry in 1971 and its meat program in 1975.⁶ Eight states with state inspection programs participate in the Cooperative Interstate Shipment (CIS) Program (Indiana, Iowa, Maine, Missouri, North Dakota, Ohio, Vermont, and Wisconsin), enabling interstate sales among these states.⁷ The only additional requirement for a CIS program is that inspectors must have the same training as their federal counterparts in FSIS-inspected plants which may be a barrier for some state programs.⁸ Without CIS, a state-inspected plant is limited to sales within its own state borders.

³Niche Meat Processor Assistance Network, <https://www.nichemeatprocessing.org/meat-inspection/>

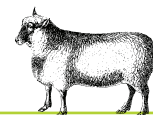
⁴<https://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/mpi-directory>

⁵<https://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/state-inspection-programs/state-inspection-and-cooperative-agreements/states-operating-their-own-mpi-programs>

⁶<https://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/state-inspection-programs/state-inspection-and-cooperative-agreements/states-without-state-mpi-programs>

⁷<https://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/state-inspection-programs/cis/states-participating>

⁸<https://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/state-inspection-programs/cis/backgrounder>





SECTION TWO: MULTI-STAKEHOLDER CHALLENGES & OPPORTUNITIES IN MEAT VALUE CHAINS

This section summarizes key contemporary challenges for Colorado's small to mid-scale meat value chains as experienced by consumers, processors, and producers and identifies potential policy opportunities to support their continued growth, improvement, and innovation.

Meat Value Chains: Consumer Perspective Background

Meat is a significant consumer market with demand in Colorado exceeding \$450 million.⁹ Overall, US consumers' per capita meat consumption has rebounded to all-time highs¹⁰ and global demand for meat continues to rise as well.¹¹ Domestic demand is shifting, both in the types of meat consumed¹² and types of production attributes desired, like free from antibiotics¹³ or grass-fed¹⁴ among others. While safety, nutrition, taste, and price remain most important to consumers,¹⁵ studies reveal consumers are willing to pay more for meat and poultry products perceived as "better-for-you"/"better for the environment" and are increasingly seeking these attributes in alternative retail venues like farmers markets and natural food stores.¹⁶ Other research shows that the willingness-to-pay for differentiated beef products is the highest for multi-label claims including a locally or regionally produced label¹⁷ further explaining premium prices for some product attributes.

Core Challenges

Under normal market conditions retail access to undifferentiated meat is relatively ubiquitous,¹⁸ however, federal policy barriers do limit state inspected meat from crossing state borders which may reduce available supply particularly during market disruptions.¹⁹ While local and direct marketing of meat may support some premium prices, the overall volume is still likely

small and may be difficult for consumers to access. Overall, meat is only a portion of Colorado's \$30 million direct to consumer market for ALL foods.²⁰ As consumers seek alternative and direct ways to access meat they may encounter both potential and perceived barriers from state laws.

⁹Estimate based on BLS estimate of \$271/household beef spending and Census estimate of 1,658,238 Colorado households. <https://www.bls.gov/cex/csregion.htm#y1718> and <https://www.census-charts.com/HF/Colorado.html>

¹⁰<https://www.ers.usda.gov/data-products/livestock-meat-domestic-data/livestock-meat-domestic-data/>

¹¹https://www.who.int/nutrition/topics/3_foodconsumption/en/index4.html ; <http://www.agri-outlook.org/commodities/Agricultural-Outlook-2018-Meat.pdf>

¹²<https://www.nationalchickencouncil.org/about-the-industry/statistics/per-capita-consumption-of-poultry-and-livestock-1965-to-estimated-2012-in-pounds/>

¹³<https://www.supermarketperimeter.com/articles/4911-consumers-are-looking-for-whats-left-out-of-meat-and-poultry>

¹⁴https://www.stonebarnscenter.org/wp-content/uploads/2017/10/Grassfed_Full_v2.pdf

¹⁵Lusk, J.L., and Briggeman, B.C. (2009). Food Values. American Journal of Agriculture Economics.

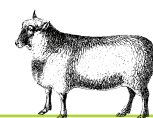
¹⁶McFadden, J. R., and Huffman, W. E. (2017). Willingness-to-pay for natural, organic, and conventional foods: The effects of information and meaningful labels. Food Policy; Katt, F., and Meixner, O. (2020). A systematic review of drivers influencing consumer willingness to pay for organic food. Trends in Food Science & Technology.

¹⁷Onozaka, Y. and Dawn Thilmany McFadden, D.. (2011) Does Local Labeling Complement or Compete with Other Sustainable Labels? A Conjoint Analysis of Direct and Joint Values for Fresh Produce Claim. American Journal of Agricultural Economics, Volume 93, Issue 3, April 2011, Pages 693–706, <https://doi.org/10.1093/ajae/aar005>

¹⁸<https://www.ers.usda.gov/amber-waves/2019/december/us-per-capita-availability-of-red-meat-poultry-and-seafood-on-the-rise/>

¹⁹<https://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/state-inspection-programs/cis/background>

²⁰Note: total direct to consumer sales in Colorado is 0.4% of total agricultural sales; Source: 2017 Census of Agriculture, Colorado: https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1_Chapter_1_State_Level/Colorado/cov1.pdf





Opportunities to Improve Meat Value Chains for Consumers

- Request that federal agencies and elected officials explore relaxing limit to interstate shipping of state inspected meat so Colorado consumers can access meat from all 27 states with state inspection programs. [Partners: Governor's Office]
- Explore ways Colorado can relax regulations that limit, or appear to limit, consumers' ability to purchase meat from animals processed at Custom Exempt facilities. Include an assessment of lessons learned from the cooperative herd ownership mechanisms enabled by the Wyoming Food Freedom Act²¹ and what could be applied in Colorado. [Partners: CO Department of Agriculture]

Meat Value Chains: Producer's Perspective Background

Livestock is Colorado's largest agricultural sector with particular strength in beef which accounts for almost \$4 billion in total sales²² plus an additional \$182 million in pork, \$128 million in lamb, and \$101 million in poultry sales.²³ Livestock operations are also a significant portion of Colorado farms and ranches with almost 18,000 Colorado producers (46% of all producers) selling livestock.²⁴ Livestock operations also play essential cultural, historical, and bioregional land management roles in Colorado. Interest in meat production has increased among producers operating at all scales as a potential strategy to grow sales and/or diversify existing marketing channels.

Core Challenges

Producers, particularly small and mid-scale producers, have expressed frustrations with limited access to USDA inspected processing facilities siting it as a core barrier to expanding access to retail and restaurant markets.²⁵

Producers also mentioned multiple challenges with growing direct market

sales as finding individual consumers is more time intensive and complex than selling through other channels. Overall, producers are also seeing reduced profit margins through the parallel impacts of increased input costs and the declining price of live animals sold to feedlots/processors.²⁶ Producer concerns about market consolidation of feedlots, processors, and input suppliers have even led to lawsuits,²⁷ statements from the White House to explore anti-competitive practices,²⁸ inquiries from Senators,²⁹ and proposed federal legislation.³⁰ For producers, the combined impacts of these challenges have led to steady increases in the average size of operation required for viability, number of ranch family members seeking off-ranch employment, and questions from producers about their ability to secure a livelihood and to maintain their agricultural operations.³¹

²¹In 2015, the Wyoming Legislature passed HB0056, creating the Wyoming Food Freedom Act, W.S. 11-49-101 through 11-49-103. The Wyoming Food Freedom Act was amended July 2017 and again March 2020.

²²https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Colorado/cp99008.pdf

²³https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Colorado/cp99008.pdf

²⁴2017 Census of Agriculture, Colorado: https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1_Chapter_1_State_Level/Colorado/cov1.pdf

²⁵Recent statewide community and industry engagement as part of Colorado State University's Colorado Blueprint for Food and Agriculture (Personal communications and <https://foodsystems.colostate.edu/regional-impacts/colorado-blueprint/community-engagement/>)

²⁶USDA ERS. April 2020. <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=98312>

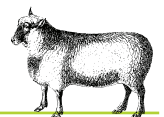
²⁷<https://www.agriculture.com/livestock/cattle/lawsuits-allege-price-fixing-by-big-beef-companies>

²⁸<https://www.reuters.com/article/us-health-coronavirus-usa-packing/trump-asks-justice-department-to-look-into-meat-price-disparities-idUSKBN221366>

²⁹Senators Tammy Baldwin of Wisconsin and Josh Hawley of Missouri (<https://www.bloombergquint.com/onweb/senators-ask-trade-agency-to-probe-meat-industry-consolidation>)

³⁰PRIME ACT: <https://www.congress.gov/bill/116th-congress/house-bill/2859/text> and RAMP Up Act:

³¹https://www.aphis.usda.gov/animal_health/nahms/smallscale/downloads/Small_scale_beef.pdf





Opportunities to Improve Meat Value Chains for Producers

Assess findings from industry³² and CO Proud Meat Label Research Project. Specifically identify whether and how the use of a CO Proud Meat label could help small and mid-scale producers capture additional value for their products in direct, intermediated, and/or export markets. [Partners: Colorado Department of Agriculture]

- Promote opportunities for public institutions and state-funded food buyers to intentionally and preferentially buy meat products from Colorado producers as outlined by CRS 24-103-907: Preference for state agricultural products [Partners: Colorado Department of Agriculture]
- Request support from Colorado attorney general to look into input, processing, and market consolidation. [Partners: CO Attorney General]
- Promote the success of meat producers by encouraging diversification of product and market channels and promoting Colorado State University Extension’s Meat School and Meat Summits³³ which help build the skills required to produce high quality meat, develop long-term successful relationships, and assess new markets for improved profitability. [Partners: CO State University Extension]
- Explore the feasibility of creating new USDA inspected processing capacity, or strengthening connections with existing USDA inspected processors, to expand small to mid-scale producers’ access to scarce processing slots. [Partners: Colorado Department of Agriculture, USDA Cost Share Grant Programs]

Meat Value Chains: Processor’s Perspective Background

Livestock slaughter and fabrication account for an additional \$3.4 billion in economic value for Colorado per year.³⁴ Processors are

an important source of employment (~7,460 jobs across Colorado)³⁵ with 44% of employees earning a median hourly wage of \$14.26-15.23.³⁶ Processors are also an important small business ownership opportunity for Colorado as well with 103 operations of which 87% offer processing services for domestic livestock and the remaining 13% processing wild game only.³⁷ USDA inspected facilities make up just under 15% of all custom livestock processors but, according to a recent CSU survey, process nearly 80% of the total volume of animals.³⁸ Processors also offer critical supply chain infrastructure which creates and retains wealth in rural communities and ensures that dollars stay and circulate in regional economies.³⁹

Core Challenges

According to the CSU survey, facilities under USDA inspection report operating at or very near capacity for much of the year. In general, Custom Exempt

³²Osburn, M., Holcomb, R.B., & Neill, C.L. (2020). Masked Heterogeneity in Aggregation: Incorporating Beliefs and Geographic Information into Consumer Willingness to Pay for State Brands. *Journal of Agricultural and Applied Economics*.

³³CSU Food Systems Meat Supply Chains: <https://foodsystems.colostate.edu/educational-impacts/meat-supply-chains/>

³⁴Thilmany, D., Jablonski, B., & Graff, G. (2017). Value Chain of Colorado Blueprint of Food and Agriculture.

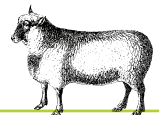
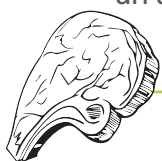
³⁵Data from Emsi Q2 2020 Data Set, Industry Summary for Animal Slaughtering and Processing in Colorado (Industry Code 3116) Timeframe 2019-2020

³⁶Data from Emsi Q2 2020 Data Set, Staffing Patterns for Animal Slaughtering and Processing in Colorado (Industry Code 3116) Timeframe 2019-2020

³⁷List of custom exempt meat processing services (maintained by the Colorado Department of Agriculture) accessed in 2018

³⁸Mooney, D. M. Sullins, B. Jablonski, and D. Thilmany. “Small Processors Survey Results and Discussion.” Presentation at the 2019 Hands Across the Rockies Meat Processor Convention. Ignacio, CO, April 11 - 13, 2019.

³⁹Artz, Georgeanne M.; Orazem, Peter F.; and Otto, Daniel M., “Measuring the Impact of Meat Packing and Processing Facilities in the Nonmetropolitan Midwest: A Difference-in-Differences Approach” (2005). *Economics Working Papers* (2002–2016). 230. http://lib.dr.iastate.edu/econ_las_workingpapers/230





facilities report some excess capacity, but that varies significantly and is mostly seasonal with peak periods corresponding to the fall hunting season. While the survey indicates that many Custom Exempt processors are interested in expansion, it also indicates critical barriers in accessing labor, appropriate technology, and financial capital for expansion. Operators of Custom Exempt facilities also report multiple barriers to obtaining USDA inspection, including inadequate physical facilities, unclear markets, uncertain access to labor, and potential delays accessing inspectors (Note: the USDA must legally provide inspectors after a processor gains a grant of inspection from USDA, but that process can take 6 or more months and there may be additional delays depending on the location of the facility and availability of inspectors).⁴⁰ A range of investment and regulatory challenges for equipment like boilers, refrigeration, surface water, ground water, grease traps, etc. create additional operational and expansion challenges, particularly for small and mid-scale facilities.⁴¹ Processors have also suffered lost markets for processing by-products, like hides,⁴² and a reduction in the number of domestic rendering facilities, leading to increased costs for waste disposal. Costs of disposal including viscera/offal have further increased as processors report the inability to compost waste. Increasing offal processing is possible but likewise costly.⁴³ Lastly, processors wishing to start, expand, or reopen processing facilities face challenges associated with plant design to manage potential traffic, noise, and odor concerns.⁴⁴

Opportunities to Improve Meat Value Chains for Processors

- Enhance the staff capacity of the Colorado Association of Meat Processors (CAMP) and/or Colorado State University's meat science program to provide direct technical assistance to small and mid-scale meat processors seeking to start or grow their operations. [Partners: Colorado Department of Agriculture, Colorado Department of

Economic Development and International Trade, Colorado's Cooperative Development Center]

- Align workforce development, state incentives, and economic development programs in a cross-agency campaign to support processors interested in expanding for niche and value-added opportunities; developing and integrating innovative advanced manufacturing technologies; and/or converting from Custom Exempt to USDA inspected facility. [Partners: Colorado Department of Agriculture, Colorado Department of Economic Development and International Trade]
- Ensure adequate funding and use of Colorado's value-added development grants⁴⁵ to support business development needs for processors. [Partners: General Assembly]
- Explore the feasibility of reinstating a state inspection program in Colorado including coordinating with the Colorado Department of Agriculture to complete analysis of state inspection costs and with Colorado State University to complete a net regional economic cost-benefit study for expanding USDA inspection capacity. [Partners: Colorado Department of Agriculture, Colorado State University]
- Coordinate with CDPHE to develop and deploy scale-relevant guidance for environmental compliance efforts of meat processing including composting/disposal of waste water, offal, etc. [Partners: Colorado Dept of Public Health and Environment]

⁴⁰<https://www.nichemeatprocessing.org/how-to-apply-for-meat-and-poultry-inspection/>

⁴¹<https://www.politico.com/newsletters/morning-agriculture/2020/06/15/small-meatpackers-scramble-to-meet-booming-demand-788513>

⁴²<https://www.latimes.com/business/story/2019-08-18/america-is-obsessed-with-beef-but-it-has-no-use-for-hides-so-leather-prices-plunge>

⁴³<https://www.foodnavigator.com/Article/2020/07/20/Western-Meat-Packers-Group-to-expand-thanks-to-300k-WA-grant>

⁴⁴"Guide to Designing a Small Red Meat Plant." Iowa State University of Extension. March 2009.

⁴⁵CRS 35-75-201 through 35-75-205





RECOMMENDED CITATION

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