

HALAL + KOSHER MINNESOTA MEAT MARKET ASSESSMENT

ANALYSIS, IMPLICATIONS, AND
RECOMMENDATIONS



Regional Sustainable
Development Partnerships

UNIVERSITY OF MINNESOTA
EXTENSION

This project was made possible through funding from the Agricultural Utilization Research Institute (AURI) and the Minnesota Department of Agriculture (MDA).

Published January 8th, 2020

First revision published June 22nd, 2020

PROJECT LEADS:

Ariel Kagan, MN Department of Agriculture Strategy & Innovation Specialist

Ren Olive, UMN Extension Regional Sustainable Development Partnership Sustainable Ag and Food Systems

Dr. Kathryn Draeger, UMN Extension Regional Sustainable Development Partnership Director

EDITORS:

Anne Dybsetter, UMN Extension Southwest Regional Sustainable Development Partnership Exec. Director

Kristen Mastel, UMN Extension Outreach & Instruction Librarian

Wayne Martin, UMN Extension Educator Alternative Livestock Systems

Serdar Mamedov, UMN Extension Educator Health & Nutrition Programs

RESEARCH TEAM/ADVISORS:

Ryan Pesch, UMN Extension Educator-Community Economics

Jim Chamberlin, Sustainable Farming Association

Theresa Keaveny, Sustainable Farming Association Director

Anne Dybsetter, UMN Extension Southwest Regional Sustainable Development Partnership Exec. Director

Kristen Mastel, UMN Extension Outreach & Instruction Librarian

Wayne Martin, UMN Extension Educator Alternative Livestock Systems

Serdar Mamedov, UMN Extension Educator Health & Nutrition Programs

Brenda Postels, UMN Extension Educator Agriculture

Abdullahi Hashi, Community Partner

Swan Ray, UMN Extension Regional Sustainable Development Partnership Supply Chain Development Specialist

Lisa Dierks, UMN Extension Southern Regional Director

Susanne Hinrichs, UMN Extension Northeast Regional Director

Molly Zins, UMN Extension Central Regional Sustainable Development Partnership Director

Greg Schweser, UMN Extension Regional Sustainable Development Partnership Sustainable Ag and Food Systems Director

David Abazs, UMN Extension Northeast Regional Sustainable Development Partnership Exec. Director

Dr. Okey Ukaga, UMN Extension Southeast Regional Sustainable Development Partnership Exec. Director

Linda Kingery, UMN Extension Northwest Regional Sustainable Development Partnership Exec. Director

REPORT REVIEWERS:

Morris Allen, Beth Jacob Congregation Rabbi Emeritus

John Emery, Islamic Resource Group Executive Director

Anna Wasescha, West Central Initiative President/CEO

Lorrene Occhino, Agricultural Utilization Research Institute Scientist of Food & Nutrition

Ashley Harguth, Agricultural Utilization Research Institute Program Specialist

TABLE OF CONTENTS

SUMMARY	3
INTRODUCTION	3
SECTION 1. OVERVIEW	5
Seasonality	5
Regulatory Framework	6
Animal Welfare	10
Farmers and Ranchers	11
Processors	12
SECTION 2. KOSHER PRACTICES and MARKET	15
What is Kosher?	15
Kosher Certification	19
Kosher Retailers	20
Kosher Consumers	20
Kosher Trade	22
SECTION 3. HALAL PRACTICES and MARKET	23
What is Halal?	23
Halal Certification	27
Halal Retailers	30
Halal Consumers	31
Halal Trade	33
Halal Analysis	34
Halal Lending	36
Halal Case Study	37
Halal Supply Chain	38
SECTION 4. GOATS IN MINNESOTA	42
Raising Meat Goats in Minnesota	42
Meat Goat Market in Minnesota	43
Pasture-Based Livestock Benefits and Implications	45
SECTION 5. EMERGING MODELS	48
Emerging Models for Halal and Kosher	48
SECTION 6. RECOMMENDATIONS	50
SECTION 7. APPENDIX	53
Methods	56
Glossary	59

SUMMARY

Halal and kosher meat markets offer untapped opportunities for Minnesota farmers to diversify and expand their markets and for new and emerging farmers to become involved in food production. In order to do so there is a need to describe the landscape of the halal and kosher markets. This report provides an overview, criteria, barriers, and consumer concerns and preferences.

INTRODUCTION

The markets for halal and kosher meat in Minnesota hold untapped potential for communities throughout the state. On the consumer side, Minnesota is home to thousands of people with an unmet preference for fresh, high quality, and affordable meats processed using halal or kosher methods. On the producer side, many farmers and ranchers across the state are looking for new markets and have an interest in serving these consumers. Each stop along the supply chain requires understanding the requirements for halal and kosher production. No single barrier stands in the way of entering either of these markets; instead, a lack of information about requirements and a lack of relationships among farmers, brokers, processors, and retailers have kept these markets fragmented.

This report is intended to provide a landscape view of the markets for both halal and kosher meats in Minnesota. The issue of halal and kosher meat availability was identified by the Minnesota Department of Agriculture (MDA) and the Agricultural Utilization Research Institute (AURI). The two sets of practices are paired together in this report because of their similarity as religious categories of meat production. Halal and kosher meats are similar in some ways, but different in many others. Most common types of meats, such as beef, chicken, lamb, goat, and fish, but specifically excluding pork, can be halal or kosher. While this report attempts to assess the broad markets for both halal and kosher, it provides a specific focus on the market for halal goat meat due to the currently undeveloped local food system and unmet consumer demand for this meat in particular in Minnesota. Minnesota's halal consumer base is larger than the kosher consumer base, which from a market assessment perspective makes halal a larger opportunity for farmers and entrepreneurs. However, the kosher market, as detailed in the kosher section of this report, presents distinct opportunities as well.

This report is structured in five main parts:

1. **Overview:** The overview provides information relevant to both halal and kosher markets and includes regulatory oversights, seasonality, meat processing availability and animal welfare rules.
2. **Kosher practices and markets:** This section will provide an in-depth look at the kosher market, with information on criteria, barriers to market growth, and consumer concerns and preferences.
3. **Halal practices and markets:** This section will provide an in-depth look at the halal market, with information on criteria, barriers to market growth, and consumer concerns and preferences.
4. **Goats in Minnesota:** Because goat meat is of primary importance in the halal market, this section will present a close look at the challenges and opportunities for raising meat goats in Minnesota.
5. **Recommendations and Appendix**

Note: Separating the halal and kosher sections reflects the fact that while these markets are similar in that they are both based in religious traditions, they are also quite different — with different consumer profiles, different preferences for types of meat and frequency of consumption and different production processes.

USE OF REPORT

This report is most useful when read in its entirety because there are both meaningful differences and nuanced similarities between halal and kosher practices. Readers should use this report as a starting point while keeping in mind that it is not a substitute for a business plan for entering the market. Entrepreneurs entering the halal or kosher markets will need to conduct their own business plan(s) and develop a more specific understanding of the communities they plan to serve and the specific opportunities and challenges in those settings.

STATEMENT FROM RESEARCH TEAM

This report was conducted by a team of researchers, farmers, community leaders, Extension educators and staff, and community educators from various religious and non-religious affiliations, including Islam and Judaism. It was important to the team to have representatives from the Muslim and Jewish communities involved with all steps of the research process. The report was reviewed by a number of community groups for accuracy and sensitivity. Any summary about the preferences of religious communities or ethnic groups is bound to include assumptions and generalizations; this report was researched, prepared, and written with the utmost respect for the religious and cultural traditions of these communities. Any errors or misstatements are unintentional, and the authors welcome feedback at any time regarding the content of this report.

section 1 OVERVIEW

Both halal and kosher are faith practices related to foods that are permissible to eat: halal is traditionally practiced by Muslim people and kosher is traditionally practiced by Jewish people. For detailed specifics about halal and kosher practices, consumer groups and markets, please refer to the Halal and Kosher sections of this report, respectively. This section of the report will give information relevant to both halal and kosher markets, including regulatory oversights, seasonality, meat processing availability and animal welfare rules.

SEASONALITY

Halal and kosher consumers, like the Christian and secular community, have demand patterns based on seasonal events and holidays. Around these holidays, demand for certain types or cuts of meat increases. Both Islam and Judaism use a lunar calendar, which is about eleven days shorter than the solar (Gregorian) year. The Jewish community adjusts their Hebrew calendar 7 times in every 19 year cycle. This keeps season-specific holidays (such as *Sukkot*, the harvest festival) in the appropriate season and means that Jewish holidays are typically around the same time each year. The Islamic calendar (*Hijri*) is a strictly lunar system, and so holidays move around the Gregorian year. While most Christian holidays are based on the Gregorian calendar (for example, Christmas is always on December 25), Easter is the one Christian holiday that is based on the lunar calendar so it, too, moves slightly each year.

Producers, processors, brokers and retailers should be aware of the holidays in the Muslim and Jewish calendars and prepare accordingly. For example, one broker in the metro area reported preparing for over 300 goats to be purchased for Eid al-Adha.¹

	First day of Passover (Judaism)	Rosh Hashana (Judaism)	First day of Ramadan (Islam)	Eid al-Adha (Islam)	Christmas (Christianity)	Easter (Christianity)
2019	April 19	September 29	May 5	August 10	December 25	April 21
2020	April 8	September 18	April 23	July 30	December 25	April 12
2021	March 27	September 6	April 12	July 19	December 25	April 4
2022	April 15	September 25	April 2	July 9	December 25	April 17

Table 1. Major Religious Holidays 2019-2022

Other important holidays to be aware of include - Judaism: Rosh Hashanah, Hanukkah, Sukkot | Islam: Eid ul-Fitr, Al-Hijra

¹ Personal interview, 7.17.19

REGULATORY FRAMEWORK

The First Amendment of the United States Constitution guarantees freedom of religion. In the context of food processing, this means that the government cannot make laws that pertain to the definition of halal and kosher foods. All halal and kosher standards are thus defined and audited by third-party certification bodies rather than through governmental agencies such as the United States Department of Agriculture (USDA).² Though no federal laws specifically define halal and kosher products or practices, US laws and policies do affect the marketplace and protect consumers.

Labeling

At the federal level, the US Food and Drug Administration (FDA) has regulatory authority over kosher labeling through the Food Drug and Cosmetic Act of 1938, which makes it illegal to misbrand or adulter products.³ In 1997 the FDA codified the terms “Kosher” and “Kosher Style,” asserting that only food that is kosher should be labeled as such, but still relied on religious authorities to define what is or is not kosher. FDA guidance recommends not using adjacent symbols or language (for example, a Star of David, menorah, Hebrew words, or Hebrew-style letters) if the product is not kosher as it may mislead consumers looking for kosher products.

Many halal and kosher laws are found at the state or municipal level rather than the federal level. The New York Kosher Law, introduced in 1915, was the first law designed to protect and define the kosher market. The law required that kosher food be prepared according to Orthodox Jewish law, but was found unconstitutional in 2000 on the basis that it preferred the Orthodox community over Conservative or Reform Jewish practices and therefore violated the First Amendment. Many states and municipalities have emulated that law, and many of those laws have likewise been deemed unconstitutional by the courts for the same reason (including Minnesota which altered its statutes in 2004, New Jersey in 1992⁴, Baltimore in 1995). These laws have since been either repealed or re-written to place the definition of kosher with nongovernmental certifying bodies or religious authorities. Thus the primary role of state and federal law is protecting consumers from fraud, while refraining from defining the parameters of the label.

In Minnesota, both halal and kosher labeling are protected under state statute. The respective laws are similar but do contain a key difference in labeling requirements; kosher must have a written label, while halal can be oral or written statements.

² USDA oversees many production and labeling certifications, most notably the USDA Certified Organic label and related certification process.

³ Gottlieb, C. (1998). *Can the FDA keep kosher? : Regulation of kosher claims on product labels*. Retrieved from <https://dash.harvard.edu/handle/1/8846768>

⁴ McFadden, R.D., & Fried, J.P. (2000, August 4). Judge voids law certifying kosher food. *The New York Times*. Retrieved from <https://www.nytimes.com/2000/08/04/nyregion/judge-voids-law-certifying-kosher-food.html>

The kosher label is protected under MN Statute 31.651⁵ which states:

“No person shall sell or expose for sale any poultry, poultry products, meat, or meat preparations and falsely represent the same to be kosher, whether such poultry, poultry products, meat, or meat preparations be raw or prepared for human consumption; nor shall the person permit any such products or the contents of any package or container to be labeled or to have inscribed thereon the word "kosher" in any language unless such products display a stamp, label, or other type of indicia from a rabbinic authority indicating that the products were prepared or processed in accordance with that rabbinic authority, with the name and institutional affiliation and denominational affiliation, if any, of the rabbinic authority identified...

Any person who sells or exposes for sale in the same place of business both kosher and nonkosher poultry, meat, or meat preparations, either raw or prepared for human consumption, shall indicate on window signs and all display advertising, in block letters at least four inches in height, "kosher and nonkosher meat and poultry sold here"; and shall display over each kind of poultry, meat, or meat preparation so exposed a sign, in block letters at least two inches in height, reading, "kosher meat," "kosher poultry," "nonkosher meat," or "nonkosher poultry," as the case may be; provided that subdivision 2 shall not apply to persons selling or offering for sale kosher poultry, poultry products, meats, or meat products solely in separate consumer packages, which have been prepackaged and properly labeled "kosher."

The halal label is regulated under MN Statute 31.658 which states:

“A person must not:

(1) serve, sell, or expose for sale food or food products, meat or meat products, or poultry or poultry products that are falsely represented as Halal;

(2) permit food, food products, meat or meat products, or poultry or poultry products, or the contents of a package or container to be labeled or inscribed with the "Halal" sign unless the food or food products, meat or meat products, or poultry or poultry products have been prepared and maintained in compliance with the laws and customs of the Islamic religion; or

(3) make an oral or written statement that deceives or otherwise leads a reasonable person to believe that non-Halal food or food products, meat or meat products, or poultry or poultry products are Halal.

Possession of non-Halal food or food products, meat or meat products, or poultry or poultry products in a place of business is presumptive evidence that the person in possession of them exposes them for sale.

It is a defense against a charge of misrepresenting non-Halal food or food products, meat or meat products, or poultry or poultry products as Halal that the person relied in good faith upon the representation of a slaughterhouse, manufacturer, processor, packer, distributor, or person or organization which certifies or represents a food or food product, meat or meat product, or poultry or poultry product as having been prepared under or sanctioned by Islamic religious requirements.”

⁵ Sec. 31.651 MN Statutes. (2019). Retrieved November 7, 2019, from <https://www.revisor.mn.gov/statutes/cite/31.651>

Meat Processing Policy and Governance

Livestock slaughter and processing is regulated at the federal level by the Food Safety and Inspection Service (FSIS) of the USDA. The FSIS guidance regarding definitions of halal and kosher labels defers to the Islamic authority and rabbinical councils respectively. All livestock slaughtered for meat in the United States for interstate commerce must meet USDA standards.

Prior to passage of the Humane Slaughter Act in 1958, there were few federal laws regulating animal slaughter practices.⁶ The Humane Slaughter Act defines two humane methods of slaughter.⁷ The first and most common practice is for the animal to be rendered senseless before the time of slaughter. This can be achieved by electrical stunning (most common), a gunshot, or a blow to the head. The other method of humane slaughter as defined by the law is ritual slaughter without stunning. Halal and kosher practices are protected under this definition of “ritual slaughter.” Though halal and kosher methods are often referred to as a “religious exemption” to humane slaughtering, the method of slaughtering without stunning is codified as humane in the Humane Slaughter Act language (see below).

“§1902. Humane methods

No method of slaughtering or handling in connection with slaughtering shall be deemed to comply with the public policy of the United States unless it is humane. Either of the following two methods of slaughtering and handling are hereby found to be humane:

(a) in the case of cattle, calves, horses, mules, sheep, swine, and other livestock, all animals are rendered insensible to pain by a single blow or gunshot or an electrical, chemical or other means that is rapid and effective, before being shackled, hoisted, thrown, cast, or cut; or

(b) by slaughtering in accordance with the ritual requirements of the Jewish faith or any other religious faith that prescribes a method of slaughter whereby the animal suffers loss of consciousness by anemia of the brain caused by the simultaneous and instantaneous severance of the carotid arteries with a sharp instrument and handling in connection with such slaughtering.”⁸

Meat Processing in Minnesota

There are three classifications of slaughter facilities that Minnesota farmers can utilize: USDA-inspected, Minnesota “equal-to” facilities, and custom exempt. For definitions of these classifications, please see page 9.

⁶ The Humane Slaughter Act was updated in 1978 to a more expansive framework.

⁷ Poultry is not covered by the Humane Slaughter Act, but there are regulatory requirements regarding good commercial practices. For more information see the FSIS directive related to poultry: *FSIS Directive 6110.1 Verification of poultry good commercial practices*. (2018). Retrieved November 7, 2019, from <https://www.fsis.usda.gov/wps/wcm/connect/39d791f2-6bc2-4bb4-bdfc-72504da30f76/6110.1.pdf?MOD=AJPERES>

⁸ U.S.C. Title 7—Agriculture— Humane methods of livestock slaughter. (2015). Retrieved November 7, 2019, from <https://www.govinfo.gov/content/pkg/USCODE-2015-title7/html/USCODE-2015-title7-chap48-sec1902.htm>

1

USDA-inspected slaughterhouses are the only usable facilities if the meat is sold commercially across state lines or internationally. A USDA FSIS inspector must be present during all operations for continuous inspection of the process and facilities to ensure that no signs of disease are present in slaughtered animals. Approximately 150 USDA-inspected processing facilities operate in Minnesota, and many of these are small-scale facilities.

2

“Equal-to” inspection is a program in Minnesota through which MDA provides an inspection service for products sold solely within the state. This program is delivered through the Minnesota Meat and Poultry Inspection Program (**MMPIP**). Meat processing plants using “equal-to” (also called E2) must also meet requirements set by the federal Meat Inspection Act or the Poultry Products Inspection Act, including continuous inspection, to ensure safe food from disease-free animals. There are currently 22 equal-to slaughter facilities in Minnesota.

3

Custom exempt slaughterhouses or state-inspected slaughterhouses can be used by a livestock owner to process their own meat for their own personal consumption. However, meat processed by custom slaughterhouses may not be sold and can only be returned to the owner of the live animal in packages marked “Not for sale.” These slaughterhouses must follow the same standards as USDA-inspected slaughterhouses and are regularly inspected, but are not continuously inspected and do not have a continuous inspector present at all times during processing operations. Custom exempt plants are inspected periodically by the USDA to assure food safety, record keeping and quality.

On-farm Slaughter

Many farmers and consumers are interested in on-farm slaughter for ritual practices. The regulatory framework around on-farm slaughter is complex. The Minnesota Institute for Sustainable Agriculture (MISA) includes information about on-farm slaughter in their guide for selling local meat. It is important to understand the regulatory difference between slaughter and processing. Animals can be killed, skinned, and eviscerated on-farm and brought into custom exempt plants for further processing. The processing itself cannot be done on-farm, unless the farm has a slaughter and processing facility approved by the MDA and a custom exempt processing license. Taking the carcass to a custom exempt plant for processing is required from a food safety perspective, but does not assess the welfare of the animal before or during slaughter. The regulatory framework for on-farm slaughter is outside

the scope of this report, but interested readers are advised to research further by referencing the MISA guides and the MDA Dairy and Meat Inspection Division.

In addition to on-farm slaughter, there are five live animal markets with custom slaughter facilities in Minnesota: three in St. Paul, one in Faribault, and one in the North Metro area. These facilities house live animals; customers choose an animal, purchase it, and have it slaughtered and processed to their specifications, including ritual slaughter. These are popular for the Muslim holidays of Eid and Ramadan and are also used frequently by Hmong, Vietnamese, and Hispanic residents.

ANIMAL WELFARE

Animal welfare and the respectful treatment of animals is a central tenet to both halal and kosher guidance as understood through the Quran and Torah. In these religious perspectives, the practice of ritual slaughter is intended to enhance, not degrade, animal welfare.

Animal welfare should be a primary concern of any business involved in the slaughter and processing of livestock. Both USDA and MDA inspectors are trained in the requirements of religious slaughter standards and are instructed to intervene if any animal welfare violations are witnessed. Ritual slaughter does not exempt processing facilities from animal welfare requirements. If an animal is observed to be suffering, the animal must be stunned immediately, regardless of the religious exemption.

The process for religious slaughter is much the same as conventional slaughter, except for the moment of killing. The moment of killing during the religious slaughter process is often referred to as the “religious bubble” or just the “bubble” by many within the meat processing community of practice. Halal practices require the animal to be alive and healthy at the time of slaughter. Different certification bodies have different interpretations of whether stunning changes the animal’s condition to “unhealthy” at the time of slaughter. Some people believe that an animal that has been rendered unconscious is no longer healthy in that moment, even if it could make a full recovery after a short

Animal welfare abuses are **not** inherent to either halal or kosher practices, nor are animal welfare issues a problem only in specialized meat processing. Inspection for and enforcement of animal welfare rules is critical in all slaughtering facilities, including those doing ritual slaughter. Those interested in entering the market for halal and kosher meats should spend additional time to learn about the humane slaughter practices developed by Grandin and Regenstein, available at www.spiritofhumane.org.

period of time.⁹ As noted above, ritual slaughter without stunning is listed as one of two humane handling methods by the Humane Slaughter Act of 1978. However, much of the halal meat on the market in Minnesota, including all meat from New Zealand and most from Australia, has been slaughtered with the use of reversible (non-fatal) stunning, though many consumers may not be aware of this fact.^{10 11}

A number of high-profile animal abuse stories have emerged from kosher slaughterhouses, most notably at the Agriprocessors plant in Postville, Iowa, in the early 2000s. The practice of shackling and lifting a conscious animal was common in all slaughterhouses until the practice was outlawed with the Humane Slaughter Act of 1958, when stunning before hoisting became a requirement.¹² After the Act passed, the religious exemption for kosher slaughter still allowed for the shackling and hoisting of live, conscious animals. However, this practice is no longer in use in kosher slaughter facilities in the U.S., and was banned by the Israeli government in 2018.¹³ These changes are based on an understanding that shackling and hoisting of a live, large animal is inhumane and can cause unnecessary pain and harm to the animal before slaughter occurs.

Animal welfare expert Temple Grandin has worked with many halal and kosher experts and practitioners on slaughter practices to decrease suffering and maintain religious standards. Grandin, along with Dr. Joe Regenstein of Cornell University, have developed a restraint designed for the requirements of halal and kosher slaughter. When used properly with a well-trained slaughterer, consistency in animal welfare is possible. Of significant importance is the shape and sharpness of the blade that is used for slaughter. For best results, a blade should be straight with a squared end, twice the circumference of the animal's neck, and should be sharpened between each slaughter. This is the practice in kosher slaughter, in which the blade (known as the *sakin* or *hallaf*) is sharpened between each killing by a ritually trained slaughterer, or *shochet*. This practice is not as explicit in halal slaughter traditions, but is encouraged by Grandin and Regenstein.

FARMERS AND RANCHERS

A number of livestock farmers were interviewed in this research through in-person interviews, phone calls, and email correspondence. Many farmers expressed a desire to serve the halal market, but lacked knowledge of the requirements for halal or kosher production and how to find buyers.

⁹ Regenstein webinar; Abdullah Abdullah et al, 2019 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6718994/>

¹⁰ What is halal slaughter in Australia? – RSPCA knowledgebase. (2019). Retrieved November 7, 2019, from <https://kb.rspca.org.au/knowledge-base/what-is-halal-slaughter-in-australia/>

¹¹ EBLEX “Halal Meat Market”

¹² Dorff, E. N., & Roth, J. (2002). Shackling and hoisting. *The Committee on Jewish Law and Standards of the Conservative Movement*. The Rabbinical Assembly, New York. Retrieved from <https://www.grandin.com/ritual/conservative.jewish.law.html>

¹³ JTA. (2017, May 19). Israel mandates more humane slaughter methods for beef imports. Retrieved November 7, 2019, from <http://www.timesofisrael.com/israel-requires-more-humane-slaughter-methods-for-beef-imports/>

Raising livestock for halal or kosher markets does not require significant changes to farming methods. However, a key issue is regarding the use of vaccines or other veterinary medicines, many of which were developed originally or are grown using porcine cells.¹⁴ There are a wide range of opinions about whether or not porcine based medicines render an animal not kosher, farmers and ranchers should consult with the certifying body they are working with.

Other than porcine-based veterinary issues, kosher rules have no guidelines for the methods of raising animals. Halal practices differ depending on the community and their interpretation of the Quran. Generally halal requires animals to be raised through humane and compassionate methods, but some interpret that to mean animals should be pasture-raised and grass-fed while others are comfortable with conventional methods of livestock raising. One Muslim consumer interviewed indicated that animals can be made halal by going on a grass-fed diet for a certain amount of time (for example, cattle for 3 weeks, goat for 3 days, etc.). In general, halal certifying agencies seem to be less concerned with methods of livestock production than with the method of slaughter and the treatment of the meat from the processing facility to the consumer.

PROCESSORS

Regulatory

Any Minnesota meat processing facility is able to apply for ritual slaughter processes through MDA or USDA. The requirements for MDA are to list the name of the slaughterer, the explanation for the request, and the time period for the exemption. For a USDA-inspected plant, there is a place to select “Religious Slaughter Exemption”¹⁵ on the Grant of Inspection application. USDA also requires the name of the religious authority to be on file.¹⁶

Halal or kosher slaughter needs to be included in a processor’s humane handling plan, which is a required document for USDA inspection. The plan needs to include information on the specific slaughterer, policies, and standard operating procedures. A letter from a religious authority is required only if the meat is to be labeled halal. If the buyer does not require labeled packaging (for example, the buyer is buying a whole carcass), a letter from a religious authority is not required by the USDA.

Similarly, for state-inspected equal-to facilities an application for exemption to utilize ritual slaughter is available from MDA and requires the name of the slaughterer, the type of ritual slaughter being practiced, and the reason for requesting exemption (*form in appendix p. 50*). The form requires only the signatures of the establishment owner/manager and the MDA representative. A signature from a religious authority is

¹⁴ Pigs are *haram/treiff*/forbidden in both halal and kosher practices

¹⁵ As previously noted, ritual slaughter is defined as one of the two methods for humane slaughter by US law, and so is not technically an exemption

¹⁶ Personal interview

not required for the religious exemption in equal-to plants. However, any labeling of the meat may require a letter from a religious authority or certification body.

Working with inspectors to complete the Grant of Inspection for religious slaughter was identified as a barrier by one of the processors interviewed for this report. The interviewee noted confusion, stating, “What I was originally told is different than what I found out in the end.” One processor stated that it took many conversations with the USDA inspectors to figure out what was needed and how to proceed with halal slaughter. Another processor who had explored getting certified for kosher slaughter joked, “In the end I learned I’m not Jewish,” and explained that the complexity of kosher certification was more than he wanted to handle from a management point of view.

Getting Started

The most common method of religious processing identified in this research is for a broker or a buyer to bring a halal or kosher slaughterman to the facility, rather than using a facility with a halal- or kosher-trained slaughterman on staff. One interviewee noted that there can be “tension in the room,” particularly the first time when there is a new person present. At kosher facilities, there may be additional challenges of providing kosher food and religious resources for observant Orthodox Jews in rural areas. The *shochtim* may fly in for a few weeks to work before returning to New York City or elsewhere. One processing plant owner interviewed noted that he had to fly in kosher food from New York for the shochets working in his plant.

Costs

Religious slaughter practices tend to slow down line speeds by roughly 30 percent,¹⁷ adding costs and decreasing productivity. Reduced productivity is challenging in an industry with low margins and high fixed costs. Live slaughter takes longer and can increase the risk of injury for workers. Many processors interviewed were concerned about the human safety aspect of halal or kosher slaughter.

Processors typically charge for slaughter either per head or by weight. Due to the fixed costs associated with the slaughter line and the small size of goats, which means not much meat remains after slaughter and processing, goats are relatively expensive to process. Many processors have thus moved away from processing goats because of the high cost and labor intensity.¹⁸ One interviewee noted that brokers' and buyers' expectations of price of slaughter and processing is closer to \$25 per animal, while the break-even price for a small processing plant is closer to \$55 per animal.

Minnesota’s halal goat consumers tend to prefer smaller animals (less than 30 pounds hanging weight), which are perceived as younger and better tasting. However, there is also a market for older, larger animals because they are less expensive. One processor

¹⁷ Regenstein webinar

¹⁸ Personal communication

indicated that he will often buy a mix of old and young goats at auction to be able to supply different price points.

Hogs

Another major issue for processors is the slaughter of hogs in the same facility as halal or kosher slaughter. Many consumers expect that halal meat was not processed in the same facility as hogs. This was confirmed through interviews with consumers: all

All consumers interviewed said that a facility that processes hogs would not be permissible.

consumers interviewed said that a facility that processes hogs would not be permissible. However, this practice appears to be somewhat regular, with many halal brokers using facilities that process hogs as well. One interviewee noted, “The halal individuals that I’ve had come through look the other way on pork....if it’s not in the [same] room and it’s not here when I’m here, that’s okay.” A Jewish content expert interviewed agreed that for kosher there would be “concern about that duality.”

Two separate interviewees explained that for their halal slaughter, they request to be the first animals on the line on Monday mornings, and that the processing of any non-halal animals, including hogs, occurs after their processing is completed. The issue of hogs on the same line is something that should be discussed in detail with any buyers, particularly with halal, because the market is highly based on trust and verbal affirmation of practices. Ideally, a processing facility that pursues halal slaughter would not also process hogs.

section 2

KOSHER PRACTICES + MARKETS

“These are the creatures that you may eat from among all the land animals, any animal that has true hoofs, with clefts through the hoofs, and that chews the cud -- such you may eat.” Leviticus 11:3

“You shall not boil a kid in its mother’s milk.” Exodus 23:19

“You shall not eat the blood, you shall spill it on the ground like water.”
Deuteronomy 12: 16

“You shall not eat anything that dies of itself.” Deuteronomy 14:21

WHAT IS KOSHER?

Kosher refers to foods that meet the requirements to be consumed under Jewish law, or the *Halakah*. The religious laws of kosher, or *kashrut*, are based on the teachings of the Torah, the core Jewish text. Jewish rabbis have further refined these teachings through the Talmud, the books of Jewish law. The Hebrew word for products that are not kosher is *treif*. The term kosher can be applied to all food, not only meats, and refers to both the type of food and the preparation of the food.

The estimated world population of people of Jewish faith¹⁹ is about 15 million, with approximately 5.3 million living in the United States. Minnesota is home to approximately 45,600 Jews (out of a total Minnesota population of approximately 5.6 million people). However, while kosher comes from the Jewish tradition, observant Jews make up less than 20 percent^{20 21} of the total market for kosher food. Many non-Jewish consumers look for the kosher label as a sign of quality, safety, or, for non-meat products, as an assurance of vegetarian or vegan ingredients. Furthermore, many Reform Jews, who make up the largest proportion of the American Jewish population, do not keep kosher, or may only keep kosher during the major Jewish holidays.

It is important to note the differences in Jewish traditions and the way that these differences affect kosher consumer practices. The three main²² Jewish traditions are Reform, Conservative, and Orthodox. Orthodox Judaism adheres to a literal view of Halakhah, and sees keeping kosher as a commandment from God, and it is thus a central core of the religion. Conservative Jews blend the Orthodox approach with an

¹⁹ Jewish identity can be more than faith based, and many Jews identify as cultural or ethnically Jewish.

²⁰ Berry, D. (2017, March 7). The trends fueling kosher certification. Retrieved November 7, 2019, from Food Business News website: <https://www.foodbusinessnews.net/articles/9015-the-trends-fueling-kosher-certification?v=preview>,

²¹ Severson, K. (2010, January 12). For some, ‘kosher’ equals pure. *The New York Times*. Retrieved from <https://www.nytimes.com/2010/01/13/dining/13kosh.html>

²² There are many other Jewish traditions, including reconstructionist, humanist and others.

idea that while Halakah is binding, it must be understood in the context of both the original iteration and the modern application. Therefore, some in the Conservative tradition view kosher consumption as a central tenet of their faith but are also concerned about environmental and labor concerns as understood by Jewish values and ethics over time. Reform Jews tend to put less emphasis on the practice of kosher, though they may practice a kosher-style diet (for example, not mixing dairy and meat). There are also differences in dietary preferences and kosher traditions between the Ashkenazi (mostly European) and Sephardic (mostly Middle Eastern) Jews. As always, these practices are driven by individual beliefs and practices, and there is variation across populations.

Kosher Animals

For kosher meat, the animal itself must be kosher, which means it must have cloven hooves and chew its cud.²³ Pork is not kosher because hogs do not chew cud. Camels and horses are not kosher because they do not have cloven hooves. In the American marketplace, many products, such as gelatin, are made with pork by-products and some forms of vaccines are cultured in porcine tissues. Any product that contains pork is typically not kosher, however there are nuances to this issue. Certifying bodies and rabbinical authorities can provide further information about specific products.²⁴

Seafood also has kosher rules; fish with fins and scales are kosher (salmon, tuna), while fish without scales are not kosher (eels, halibut). Shellfish are not kosher. Birds of prey are not kosher, but birds like chicken and turkey are kosher.

Kosher rules also forbid the mixing of meat and dairy products. Some Jewish homes keep two sets of plates and cooking sets, with one designated only for dairy and the other only for meat. A product that is neither dairy nor meat is called *parve*.

Kosher Slaughter

Kosher slaughter must be performed by a trained *shochet*. The *shochet* begins by blessing the animals, which is done once at the beginning of the slaughter over the entire group of animals. He²⁵ then is responsible for inspecting and sharpening the knife before beginning the slaughter. The *shochets* must use a specific knife called a *sakin* or *hallaf*. The knife must be longer than the neck width, ideally at least twice as long as the animal's neck is wide. The knife must be straight and must not be serrated or have a pointed end. The *shochet* must check and sharpen the knife between each killing. Many *shochets* will travel to a facility from New York or Israel to work for a set period of time, typically between one and six weeks, and then travel back to their homes.

²³ Ruminants chew cud, which is partially digested grasses from the first stomach.

²⁴ For more information, see halakhic writings on Davar Hadash: <https://www.rabbinicalassembly.org/sites/default/files/assets/public/halakhah/teshuvot/20012004/33.pdf>

²⁵ The *shochet* is nearly always a man, as women *shochets* are still uncommon in the Orthodox tradition

Live slaughter without stunning is done by cutting the neck and severing the trachea and esophagus with a sharp knife. After the animal has been killed, the lungs are examined for lesions. If lesions are found, depending on how many and which certification body is overseeing, the meat may not be kosher. Lung lesions are seen as a sign that the animal was not healthy at the time of slaughter, which is a necessary condition for kosher meat. After slaughter, the blood must be entirely drained from the meat. To achieve this, the meat is soaked in a salt bath to draw out any residual blood in the tissue.²⁶

Kosher definitively rejects the practice of rendering the animal senseless before slaughter because, according to Talmudic law, the animal must be alive and healthy at the moment of slaughter. The use of stunning of any kind, in the view of the Jewish *kashrut* interpretation, violates the requirement that the animal be healthy.

In 2018, the American-based Orthodox Union certifying body, as well as the Israeli Ministry of Agriculture, made the decision to stop certifying any slaughter that included the shackling and hoisting of animals. Kosher slaughter now mandates the use of a rotating restraint device, designed by Temple Grandin and referred to as “the box”.²⁷

Kosher Processing in Minnesota

For certification, the forequarters of the animal can be sold as kosher, while the hindquarters of the animal are considered *treif*.²⁸ Since about half of each animal is non-kosher by definition, in order to enter the kosher market a broker, producer, or processor needs to have alternate secular market channels for the *treif* meat as well.

Additional carcasses may also need to enter these non-kosher market channels due to the presence of lung lesions. The typical practice for testing for lung lesions is for a *shochet* to submerge the lungs of the animal in water to see if air escapes, which indicates the presence of a lesion. Because the presence of lung lesions is not known until after slaughter, a significant proportion of the animals killed using kosher practices are deemed *treif*, or not kosher, after slaughter and must be sold into alternate channels.

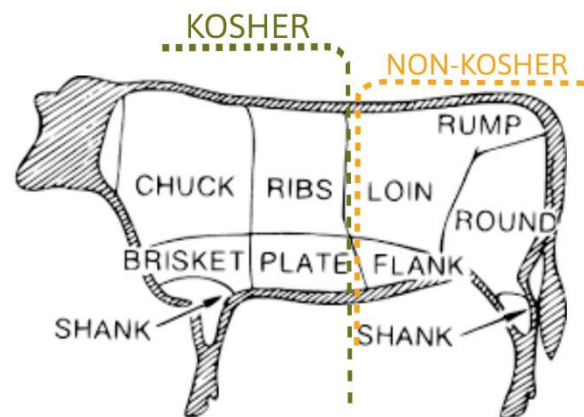


Figure A. Portions of the animal that are kosher vs non-kosher. Adapted from <https://www.iconspng.com/image/79679/beef-cuts>, edited by Ren Olive

²⁶ One interviewee reported that salted wastewater from a kosher slaughterhouse corroded the town’s water treatment plant, a significant impact that should be considered in any plan review.

²⁷ End of Hoisting and Shackling Should Not Create Shortage of Glatt Kosher Meat. (2018, August 6). Retrieved November 7, 2019, from Kosher Today website:

²⁸ In Sephardic Jewish practices, the hindquarters may be eaten if the sciatic nerve is appropriately removed.

Different certification bodies have different standards for how many lesions are allowable to pass certification. The strictness of the criteria influences the total proportion of animals able to be labeled kosher. Some plants see up to 70 percent of carcasses qualified as kosher while others have a much lower rate, with only 30 percent of the animals successfully labeled as kosher. This adds to the cost for kosher meat, as so much of the animal is sold without the kosher label into alternate mainstream channels with no price premiums. Thus all the additional costs of kosher slaughter must be captured by the portion of the meat sold as kosher. Identifying alternate market channels for the 30-70 percent of carcasses that do not qualify as kosher, as well as the markets for the hindquarters of all the animals, can add to the management necessary for processors and brokers.²⁹

In Minnesota, there is one dedicated kosher processing plant located in Dawson, Minnesota, called Noah's Ark. Noah's Ark is a large-scale USDA-inspected facility which retails meat under the brand Solomon's and produces a variety of meat products including hotdogs, beef cuts, ground beef, and specialty items like *kishka* (a traditional Jewish sausage of beef and grains). These products can be found locally, but are distributed nationally.

There have been other large-scale facilities in the state (one interviewee stated that the processing facility they operated brought in approximately 3,600 animals per week), but they have closed due to market challenges. Pricing the meat appropriately to maintain profitability was cited as the number one challenge by a former kosher processing facility expert. There were also previously more small-scale kosher slaughterhouses and butcheries throughout the Twin Cities, but as with conventional small-scale facilities, most of these have closed due to market conditions that encourage consolidation.

In the kosher market, one interviewee gave insights into the history of kosher meat production:

"There was a decision to consolidate kosher meat production so that it could be distributed, not through butcher shops, but through grocery stores across the country, in the same way that non-kosher meat is bought. These days, you go to a grocery store and there's packaged meat... they may do some slicing, but mostly it's all packaged. The [kosher] chicken industry had undergone that change years before, really with the emergence of Empire kosher chicken out of Pennsylvania as the major force in chicken production, and Agriprocessors then was the second largest producer of meat. So instead of doing one cow or... two cows a week for a local ritual slaughter.... what happened was that Agriprocessors was ritually slaughtering 500 head of cattle a day and about 60,000 chickens a day."

²⁹ Personal interview

KOSHER CERTIFICATION

Overall, the American kosher certification landscape is much more formalized than the halal certification landscape. This is due to two primary factors. First, kosher standards include additional requirements such as the separation of meat and dairy, and so prepared food products must be clearly labeled as “includes dairy,” or as *parve* (neutral) for kosher observance. In contrast, halal requirements have traditionally only related to meat processing, and so have not required such structured certification, particularly when commerce was localized between a producer, butcher, and consumer.

The second reason kosher certification has been more formalized than halal is the integration of Jewish practices into American commerce and governance for a greater length of time. Kosher certification was protected as early as 1915 in New York City, and kosher certification agencies have been actively recruiting companies to become kosher-certified for decades, most famously with the kosher-ization of the Oreo cookie in 1997. There are only a few major kosher certification agencies throughout the United States, although there are hundreds of small agencies that certify as few as one or two products.

In general, the kosher labeling agencies adhere to Orthodox Jewish Law. Each certification has different specialties and, as with any market, different niches.



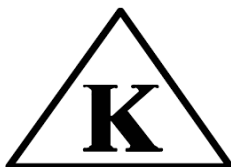
KSA KOSHER

Based in California, KSA is a more common label in the western United States



OK KOSHER

With over 300,000 products, this label is used in 90 countries worldwide.



Triangle K

Most well-known as the certifying agency for Hebrew National hotdogs, some Orthodox rabbis feel the Triangle K agency is not a strict enough kosher standard (for example Triangle K is not included in the kosher directory maintained by the Chicago Rabbinical Council). This may be in part due to the “Glatt” Kosher standard that many other agencies adhere to, which maintains that any animal with any lung lesions is not kosher. Triangle K allows for a higher number of lung lesions than other certifying agencies, which allows them to have a higher percentage of animals certified as kosher. For Reform, Conservative, and some Orthodox Jews, non-Glatt Kosher meats are still considered kosher.



Figure B. Examples of kosher labels.

KOSHER RETAILERS

In the Minneapolis/St Paul metropolitan area, which represents the largest market for kosher meats in the state, there are a few designated kosher stores, and kosher meats are also sold at Lunds & Byerlys, Cub Foods, and Trader Joe’s in St. Louis Park (most metro Trader Joe’s stores carry kosher meat, and all have certified kosher products). The Kosher Spot, an all-kosher grocery store in Minneapolis, does not have a butcher in-house but carries a selection of packaged fresh and frozen meats, most of which come from the East Coast. Fishman’s Deli was the main kosher market in Minneapolis until it closed in 2013. Fishman’s had a meat counter and could provide cuts to order and specialty meats, such as beef tongue or liver, when requested.

KOSHER CONSUMERS

There is a price premium for kosher over conventional meats, likely because of the increased cost of production as well as the lower price sensitivity within the consumer base. One interviewee noted that she did not look at the prices for kosher meat, instead focusing on the cut and quality. Kosher consumers interviewed for this report indicated a preference for beef and chicken, both of which are becoming more difficult to find in the Twin Cities area. One consumer interviewee stated, “The supply chain for kosher meat has had a number of problems, and outlets to purchase kosher meat are dwindling.” For example, the closing of Fishman’s Deli in St. Louis Park in 2013 greatly decreased the availability of fresh kosher meats for the community. Trader Joe’s is now the main source for kosher meats, with Lunds & Byerlys and Cub Foods also providing some kosher products in St. Louis Park (which has the highest density of Jewish people in Minnesota).

Quality and consistency were key issues for the kosher consumers interviewed. One consumer noted,

“When I was buying kosher meats, the type of butchering was very inconsistent. The quality and the freshness was inconsistent and unreliable. For example, I would buy a ribeye steak that looked nice, and then you opened it and it was a shorn steak pressed together to look like a ribeye. It wasn’t respectful of the consumer, and I felt that I was being taken advantage of because we keep kosher for faith reasons. We are beholden to the organization that is keeping these kashrut.”

One interviewee recently stopped buying kosher-labeled meat, but still keeps to a kosher-style diet, “I have kept kosher for many years and recently stopped due to lack of availability, cost, and poor quality of product.” Another interviewee has stopped buying kosher red meats and now only buys kosher chicken. The same person explained that they have switched to alternative meats like Beyond Burger™ and Impossible Burger™. “I think there are many reasons people have stopped [keeping kosher], like having an ethical objection to what is happening in our meat packing industry because of a lack of ethics in the kosher meat production. It’s really a serious problem.” Family members were cited as a main reason to buy kosher by two interviewees.

Environmental sustainability and labor practices were also major considerations. One interviewee recently gave up eating kosher meat after 30 years because of frustration about the lack of environmental aspects in the kosher certification, along with a decline in quality and increase in prices. “I would always buy organic [if I could]. Always, if it were available, [but] it is not available. Kosher organic is not available in the city.” A Conservative and an Orthodox Jew interviewed together noted that environmental sustainability is more important to them than the kosher label, agreeing that they would prefer to eat less meat overall, and they would prefer for the meat they do eat to be local and organic, more so than kosher certified.

Many cited the tension between Orthodox certifying bodies and the expectations of the community. “If we [Conservative Jews] were a large enough community to have the conservative movement *kasher*³⁰ our meat, I would buy it again. But I have objections to the Orthodox rabbinate and the monopoly that they have on labeling kosher products here.” Another person stated, “If there were kosher meat of high quality, at a reasonable price, I would definitely be interested. But I would also be interested in who the certifying authority is. Part of my distancing from kosher is my sense, as a Conservative Jew, that the certification is in the hands of the Orthodox. There is not enough buying power in the Conservative or Reform communities.”³¹

In addition, some non-Jewish consumers look for the kosher label on meat because they view it as a quality standard. Hebrew National hotdogs is one example of a kosher

³⁰ “Kasher” is the verb, meaning “to make something kosher.” Literally *kasher* means “to salt”

³¹ The tendency of labeling requirements to trend toward the Orthodox, or more rigid interpretation of the religious texts, is something that could also happen with halal labeling and should be researched in more detail. Organic labeling is another example where the community is frustrated by the limitations of labels and has started grass-roots labeling initiatives like the Real Organic Project and the move toward Beyond-Organic practices.

meat product that is often sought by non-Jewish consumers. It is often the only kosher meat product available at many mainstream retailers (such as Cub and Walmart).

KOSHER CRITERIA
<ul style="list-style-type: none"> ● Absolutely no pork processed in the same facility ● Animal must be healthy at the time of slaughter ● Animal must be killed by slitting the throat with a sharp blade ● Blood must be completely drained before processing ● Meat must be salted and soaked before packaging or further processing ● Slaughter must be done by a <i>shochet</i> ● No mixing of meat and dairy ● Only animals with cloven feet and that chew their cud; no birds of prey, no shellfish, only fish with fins and scales ● No stunning of animal before slaughter
<p>Key Terms:</p> <p><i>Kashrut</i>: dietary laws of Judaism</p> <p><i>Treif</i>: food that is not kosher</p> <p><i>Parve</i>: food that is neither meat nor dairy, literally “neutral”</p>

Table 2. Summarized criteria for kosher food.

KOSHER TRADE

A handful of large-scale kosher processing plants within the United States serve the domestic kosher market. Data regarding the quantity of kosher meat imported are not readily available. Some estimates put the imported amount at between 30-40 percent of the total kosher meat market.³² Israel, the largest market for kosher meats in the world, imports most of its kosher meat from South America, specifically Paraguay, Argentina, and Uruguay. Imports of Argentinian beef were banned in the United States from 2001 until 2019 due to foot-and-mouth disease. The re-opening of beef trade between the United States and Argentina may affect the availability and quality of kosher beef within the United States. Additionally, Israel banned the import of US beef in 2003 due to bovine spongiform encephalopathy (BSE), but in 2016 allowed US beef imports again. The analysis of export of kosher beef is not explored in this report, but is an additional opportunity for this market.

³² Dolstein, J. (2018, July 24). Orthodox Union to stop certifying kosher beef slaughtered using controversial method. Retrieved November 7, 2019, from Jewish Telegraphic Agency website: <https://www.jta.org/2018/07/24/united-states/orthodox-union-stop-certifying-kosher-beef-slaughtered-using-controversial-method>

section 3

HALAL PRACTICES + MARKETS

“He has forbidden to you only carrion, and blood, and the flesh of swine, and that over which any name other than God’s has been invoked; but if one is driven by necessity — neither coveting it nor exceeding his immediate need — no sin shall be upon him: for, behold, God is much-forgiving, a dispenser of grace.” Surah Al Baqarah Chapter:2, Verse:173.

“He has only forbidden to you dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah. But whoever is forced [by necessity], neither desiring [it] nor transgressing [its limit] – then indeed, Allah is Forgiving and Merciful.” Surah Al Nahl

WHAT IS HALAL?

The word halal describes anything that Muslims can use or engage in. In Islam, every food is halal unless it is specially designated as *haram* (not halal or not permissible) in the Quran or the Hadith (a collection of prophetic sayings). By simple definition, halal foods are those that are free from anything that is *haram* according to Islamic (also called *Sharia*) law.³³ Muslims are prohibited from consuming anything *haram*. Additionally, halal food should be processed, produced, manufactured, and stored using equipment and machinery that have been cleansed according to Islamic law.³⁴

Globally, the market for halal products is growing. The halal market is closely aligned with the Muslim population, with few non-Muslim consumers looking for halal labels on food. Around the world, there are an estimated 1.8 billion Muslims. According to Pew Research Center, in 2017 there were about 3.45 million Muslims living in the United States. By 2050, the US Muslim population is expected to reach 8.1 million. US Muslims have come from many different countries across the world. In 2012, most Muslim immigrants to the United States came from Pakistan, Iran, Bangladesh, and Iraq.³⁵ In Minnesota, a large number of Muslim immigrants have come from Somalia and Ethiopia. Many Muslims, regardless of where they are from or where they reside, live according to the pillars of Islam and eat and drink only halal food. Therefore

³³ While referred to as “law,” *Sharia* is a guide for Muslims on how to live. Some Muslim majority countries have used *Sharia* to influence their government policies. It is similar to codes in other religions: Judaism has *halaka* or Jewish law, and Catholics have the magisterium. *Sharia* is derived from the Quran and the Hadith, and has been adapted over the years through *Fatwabs*, which are rulings on how to live as a Muslim. Those interested should research further can visit <https://ing.org/a-closer-look-at-sharia-in-the-united-states/>

³⁴ For example, cleaning supplies may not contain alcohol.

³⁵ Lipka, M. (2017, August 9). Muslims and Islam: Key findings in the US and around the world. Retrieved November 7, 2019, from Pew Research Center website: <https://www.pewresearch.org/fact-tank/2017/08/09/muslims-and-islam-key-findings-in-the-u-s-and-around-the-world/>

availability of halal food is important particularly for Muslims residing in Western countries.

In some instances when halal food is not available and no viable alternative exists, Muslims may choose to consume non-halal food. Some Muslims may choose to eat meat labeled kosher in specific cases where halal food is unavailable (for example, air travel). However the halal and kosher practices are not identical and not exactly substitutable.

It is difficult to know exactly how many Muslims live in Minnesota.³⁶ A few demographic surveys have been conducted that ask about religion, and groups like the Islamic Resource Group also provide numbers based on their own information. Minnesota's estimated Muslim population is around 150,000 people. About one-third of that, approximately 46,300 people, are of Somali descent,³⁷ making them the largest cohort within the Minnesota Muslim population. While ethnicity and religious practices are not the same thing, given constraints of existing data most estimates of religious demographic

information available for Minnesota are based on heritage/ethnicity. The US Census Bureau reports that Minnesota's population includes 38,200 people of Asian Indian descent, 21,393 of Arab ethnicity, and 118,792 of sub-Saharan African descent. These populations are noted here because they tend to be from geographic locations with a high percentage of Muslims, but it is important to note that all of these groups will include a wide array of religious traditions and practices and that there are Muslims of every ethnicity in all parts of the world.

Within Minnesota, the halal meat market is concentrated in metropolitan areas like the Twin Cities, Fargo/Moorhead, Rochester, and St. Cloud, but there is demand for halal meat in small- to mid-sized towns throughout the state as well. Willmar, Fairmont, and Pelican Rapids, for example, all have halal consumers and small halal grocers that serve these populations. Many consumers looking for halal meat may send money with a friend or family member going to a city with a halal meat grocer to buy meat for their household as well.³⁸

Muslims in the United States are very heterogeneous, representing diverse cultural, traditional and ethnic backgrounds. Regardless of their cultural and traditional backgrounds, many Muslims in the United States choose halal products over non-halal products. Changing demographics and increased halal consumers may open market opportunities throughout the food supply environment. For example, since being

³⁶ Specific population data and geographic data on the religions of Minnesotans is not readily available, and for some, would be seen as harmful for the community. For example, the Minnesota Jewish community is currently pursuing a population census in order to better understand their demographics, but the data will be destroyed at the end of the project to protect the population from those with harmful intent who may be interested in a list of Jews. The Muslim American Society of Minnesota (MAS MN) has a form where people of other religions can sign up as a "Muslim," with the intention of skewing the data on who is and who is not a Muslim in order to protect other Muslims from being targeted either socially or politically.

³⁷ Brower, S., Egbert, Andi, & Minnesota State Demographic Center. (2016). The Economic Status of Minnesotans : A Chartbook with Data for 17 Cultural Groups. Retrieved November 7, 2019, from the State of Minnesota website: https://mn.gov/admin/assets/the-economic-status-of-minnesotans-chartbook-msdc-jan2016-post_tcm36-219454.pdf

³⁸ Personal interview

certified halal, “KFC, Burger King and Taco Bell have all seen an increase of 20 percent in customers.”³⁹ Also, according to the Nielson research firm,⁴⁰ recent sales for halal foods in the United States reached \$1.9 billion.



Halal Animals

Muslims refer to the Quran and Hadith regarding which animals' meat is to be eaten and which is not. Halal animals consume plants, do not prey on other animals, and are not poisonous or venomous. Common halal animals are cattle, goats, sheep, camels, chickens, ducks, and turkeys. *Haram*, or forbidden, animals include birds of prey, hogs, horses, and carnivorous animals like cats and dogs.

The key characteristic of halal food is the absolute exclusion or cross contamination with anything that is *haram* – that is, unpermitted by the Quran and Hadith. Vaccines and other veterinary care with porcine origins or porcine cultures are *haram*. Alcohol is *haram* as well. There is also discussion within the Muslim community about whether or not genetically-modified organisms (GMOs) are halal or *haram*.⁴¹ The debate is centered on whether or not these GMO products are healthy for consumption. Definitions of halal meats vary widely across Muslim populations, with some halal guidance pertaining to the way the animal is raised and fed, and others only affecting the moment of slaughter.

Halal Slaughter

The halal meat supply chain must follow a set of rules and regulations outlined in Islamic law, with particular attention paid to the process of slaughter, known as *zabihah*. The slaughtering should be done in a humane way, and the animal must be alive and healthy at the time of slaughter. The process involves restraining, stunning (if required, but the stunning should be reversible, i.e. should not kill the animal), and using a sharp knife to sever the trachea, esophagus, and main arteries, without cutting the spinal cord. While there are differences in the criteria of the halal slaughtering

³⁹ Sabri, M. (2006). Singapore expands e-certification of halal products [online]. Retrieved September 1, 2017, from <https://www.Islamonline.net>

⁴⁰ Green, J., & Giammona, C. (2016, September 14). How halal food became a \$20 billion hit in America. Bloomberg.com. Retrieved from <https://www.bloomberg.com/news/articles/2016-09-14/america-loves-muslim-food-so-much-for-a-clash-of-civilizations>

⁴¹ Omobowale, E., Singer, P., & Daar, A. (2009). The three main monotheistic religions and gm food technology: An overview of perspectives. *BMC International Health and Human Rights*, 9(1), 18.

process among Muslims, nearly all agree that the slaughtering should be done in the name of Allah,⁴² and no other name but the name of Allah should be invoked in order for the meat to become halal for Muslims to consume. The blessing is *bismillah*, or “in the name of God/Allah.”

The act of slaughtering should take place quickly, with the cut made in one motion. The slaughtering blade should be newly sharpened and not lifted off the animal until the animal is no longer alive. It is also recommended to perform the slaughtering while facing Mecca. In Minnesota this is toward the northeast, as the shortest distance to Mecca is over the Arctic Circle. The animal must be respected, should not see the blade before the time of slaughter, and should not witness the slaughter of other animals.

The other requirement for halal slaughtering is that the blood of the animal must be completely drained before butchering may occur. It is assumed that some blood left in the meat and internal organs will be neutralized during cooking. Brining meat in a salt bath is not traditional practice for halal meats, in contrast with kosher tradition.

There is no complete agreement on whether or not halal slaughtering should be performed only by Muslims. Many Muslims accept meat slaughtered by a Christian slaughterer; others may reject it if they believe the slaughterer consumes pork, is not a person of good integrity, or does not invoke the name of Allah.

HALAL CRITERIA
<ul style="list-style-type: none">● Absolutely no pork processed in the same facility● Blood must be completely drained before processing● Animal must be healthy at the time of slaughter● Animal must be killed by slitting the throat with a sharp blade● Focus on respect to the animal and reducing pain and suffering● A prayer to Allah must be said out loud at the time of slaughter● Alcohol is not permissible in any form● Other animals may not witness the slaughter of the animal● Most stunning is not permissible, but some certifying bodies allow it● Some face the animal toward Mecca at the time of slaughter
Key Terms: Haram: Food that is forbidden Zabihah: The method of slaughter for halal

Table 3. Summarized criteria for halal food.

⁴² The Arabic name of God

Halal Processing in Minnesota

There is no designated halal slaughter facility in Minnesota, but there are a few custom exempt, equal-to, and USDA-inspected slaughterhouses that have filed paperwork to perform halal slaughter. Currently two equal-to and at least one USDA-inspected meat processing facilities in the state process halal meat. These facilities are not exclusively halal, but have applied with MDA or USDA to perform ritual slaughter (see application in appendix Table 6).

To enter the halal market, a broker, producer, or processor may want to have an additional secular or non-halal market channel as well. Some animals will be *haram* due to being injured while in transit, co-mixing with *haram* products after slaughter, or for other reasons. If processed at an equal-to or USDA-inspected facility, these products can still be sold through other market channels but should not be labeled as halal.

Alcohol is forbidden in halal products, and so any cleaning solvents used in halal processing should not include alcohol.

HALAL CERTIFICATION

Halal meat supply chains and logistics include all activities pertaining to animal procurement, slaughter, material handling, packaging, labeling, warehousing, transportation, distribution to wholesalers, retailers, and the handling and merchandising activities leading to purchase by end consumers. The supply chain also includes the exchange of money, information, and the coordination across all supply chain players. In the case of halal, the proper procedures must be guaranteed at all fundamental stages across the supply chain to ensure that halal standards are upheld and that halal products are free from contamination with non-halal products⁴³.

Due to the complexity of modern food production chains, supply chain assurance for halal relies heavily upon certification, documentation, and system-wide standards for food control management, as well as inspection, information, and communication.⁴⁴ While several studies have shown evidence that halal certification improves supply chain operational efficiency and financial performance, it is also recognized that these improvements would “not materialize if halal food certification procedures and executions are merely ‘for show.’”⁴⁵ And improvements in financial performance come primarily through efficiency of scale as market share increases.

Currently, Malaysia is the only country to establish government legislation and regulation for halal products. Malaysian standards are set by a national governing body

⁴³ Lodhi, A. (2009). U. H. Understanding Halal Food Supply Chain. London: HFRC UK Ltd.

⁴⁴ FAO & WHO. (2003). Assuring food safety and quality: Guidelines for strengthening national food control systems. Rome.

⁴⁵ Ab Talib, M. S., Ai Chin, T., & Fischer, J. (2017). Linking Halal food certification and business performance. British Food Journal, 119(7), 1606–1618.

and upheld across numerous agencies at different levels of federal, state, and local governments.⁴⁶ This comprehensive system includes the inspection of halal food and systems of control, laboratory testing for purity and labeling compliance, and regulation enforcement. While the Malaysian system for halal food control is well developed relative to the rest of the world, issues and challenges with this system remain and are common challenges across the halal food industry in general.⁴⁷

Supply chain challenges identified in the body of literature on the halal food system include:⁴⁸

- Fraud and contamination
- Lack of uniform standards and standards enforcement
- Poor coordination across supply chain players
- Consumer distrust
- Inconsistency of agreement on the definition of halal with regards to practices of animal slaughtering
- Increase in variety of certifications and logos released by individual firms
- Use of Islamic-signaled or Arabic-sounding brand names
- Use of Quran verses to informally signal products and establishments as halal, and the lack of enforcement for halal logo misuse

Lack of a uniform halal certification, poor standardization of supply chain controls, and the inadequacy of standards enforcement pose challenges for all countries attempting to supply halal meat, yet these challenges increase when supply chains cross national borders. Policing food fraud is particularly difficult in cases of food trade across national boundaries because standards and enforcement authorities are constrained by national borders.⁴⁹

Certification Bodies

In the United States, each certifying body has a different set of criteria that must be met for the halal label. A study of seven of the largest halal certifying bodies identified 44 different criteria points for halal practices, with certification bodies each requiring between 12 to 35 of those criteria.⁵⁰ While the specific process for certification is unique to each labelling agency, the general process includes an application, consultation, assessment, and contract. The certification process typically involves a site visit and inspection of the facility by a religious authority. Each certification body

⁴⁶ FAO, (2006). Strengthening national food control systems: guidelines to assess capacity building needs. Rome: Food and Agriculture Organization of the United Nations.

⁴⁷ Ahmad, A. N., Abidin, U. F. U. Z., Othman, M., & Rahman, R. A. (2018). Overview of the halal food control system in Malaysia. *Food control*, 90, 352-363. Ismail, I., Abdullah, N. A. N., Ahmad, Z., & Sidek, N. L. (2018). Halal principles and halal purchase intention among Muslim consumers. In *Proceedings of the 3rd International Halal Conference (INHAC 2016)* (pp. 131-138). Springer, Singapore.

⁴⁸Shafie, S., & Othman, M. N. (2006, September). Halal certification: an international marketing issues and challenges. In *Proceeding at the International IFSAM VIIIth World Congress* (pp. 28-30).

⁴⁹ Halal Certification: an international marketing issues and challenges by. Shahidan Shafie. 1. Prof. Dr. Md Nor Othman. 2. Faculty of Business & Accountancy.

⁵⁰ Latif, I., Mohamed, Z., Sharifuddin, J., Abdullah, A., & Ismail, M. (2014). A Comparative Analysis of Global Halal Certification Requirements. *Journal of Food Products Marketing*, 20(Sup1), 85-101.

is slightly different and will garner varying levels of consumer trust within different markets. It is important to research the certifying party as well as the market conditions for that label before embarking on a certification process.

Halal certification serves as a sign of quality and assures customers that a certain set of halal requirements were met. Halal certification is more important in Western-type food environments that offer a wide variety of food options and where consumers are dependent on the visual representation of halal logos on food packages. Halal logos become less important in small, ethnic food environments where consumers have established a trusting relationship with a local halal meat supplier. In some cases halal labels may also be used by non-Muslim consumers as a quality control standard with an expectation of cleanliness, animal health, and welfare.⁵¹

Many third-party halal certifiers participate in the market. Meanwhile, some companies use the word “halal” without the verification of a certifying agency. Trust and word-of-mouth are key to this sector, though third-party certification is expanding. For a beginning halal producer in a local market, the word of a local community leader or imam may be enough to begin selling into local stores.⁵² However, because of varying definitions, standards, and interpretations of halal rules, the best course of action for a new market participant is to find a certification organization and work through the specific expectations, rules, and parameters.



Islamic Food and Nutrition Council of America (IFANCA)

The largest halal certifier in North America is the Chicago-based Islamic Food and Nutrition Council of America (IFANCA). IFANCA-certified products are recognized by Indonesia, Malaysia, Singapore, and UAE (these countries all have import regulations that require halal certifications). IFANCA certifies meat products with a “Five Star Halal Identification System” which gives consumers information about what specific practices were used in the preparation of the meat. Each star below the logo corresponds with a criteria:

- “If the animal was slaughtered by a Muslim, following IFANCA’s standard slaughter procedure;
- If the animal was slaughtered by a traditional horizontal cut across the neck;
- If the animals were fed an all-natural diet of plant origin;
- If the plant/slaughterhouse met animal welfare guidelines;
- If the animal was not stunned prior to or after the cut on the neck for bleeding purposes.”

⁵¹ Abd Latif et al., 2014

⁵² Personal interview, 7.17.19



Halal Food Council USA

Halal Food Council USA is headquartered in Maryland, with a regional office in Illinois. This label is recognized in Singapore and Indonesia, and covers poultry products only.



HalalCo

HalalCo is based in Atlanta, Georgia, and certifies poultry only. This certifier has expertise in supply chains.

Figure C. Examples of halal logos

HALAL RETAILERS

Halal markets and restaurants can be found throughout Minnesota, with the highest density in the Twin Cities metro area. The website Zabihah.com is the “original & world’s largest guide to halal restaurants and markets” and acts as a central hub for halal consumers. The website includes reviews of halal restaurants and grocery stores and gives information about the type of cuisine (for example, Mediterranean, Pakistani, Somali). This is certainly an underestimate, as certain halal grocery stores were identified by the research team that have no online presence. Still, the estimate is useful in understanding the scale of the market and the various entry points for suppliers and consumers.

Type of Minnesota Retailer	Number Identified ⁵³
Halal Markets/Grocery Stores	83
Halal Restaurants	91

For this report, the research team visited grocery stores selling halal meats and recorded prices per pound during the research period. The table below shows the differences in prices between halal and kosher meat products. From this data collection, and using the USDA Meat Price Spread data from July 2019, the price premium for halal meat is on average \$0.96 per pound, while the price premium for kosher meat is \$6.20 per pound. A rough average of prices across a variety of retail outlets and product types indicates a price differential between halal and kosher of \$5.63 per pound.

⁵³ These numbers were found using Zabihah.com and additional online search tools

Researchers visited six halal grocers in the Fargo/Moorhead area and collected qualitative data. All six indicated an interest in fresh and local meat currently not offered in their product line. They also indicated that any meat for their customers needed to be lean and that there had to be trust in the halal practices. Researchers visited twelve stores in St. Cloud, and store owners shared the same interest in fresh, lean, and affordable meats

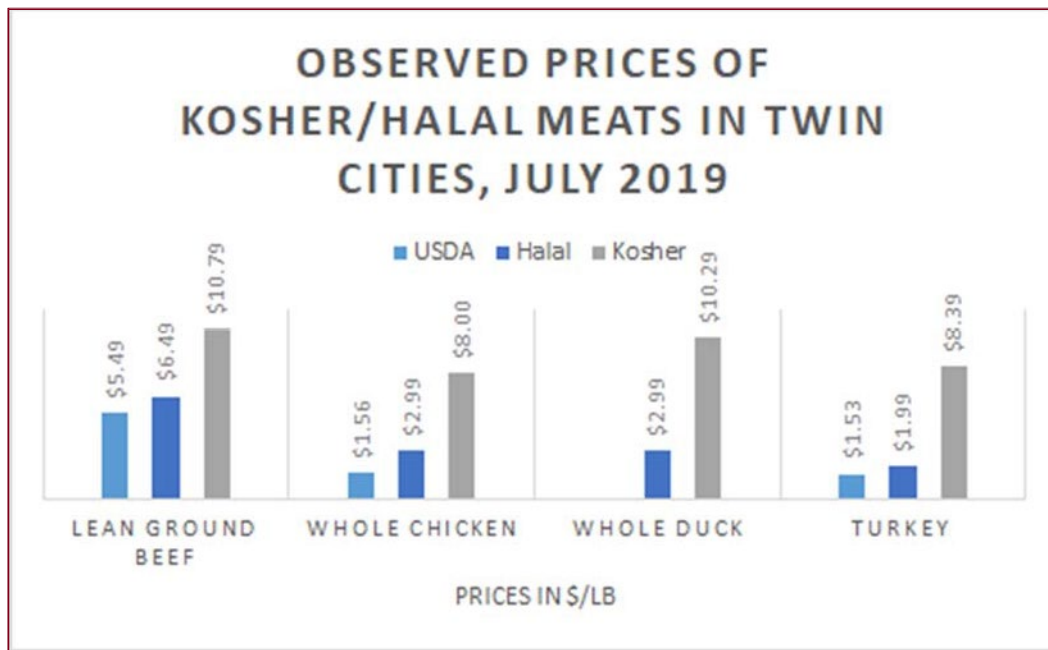


Figure D. Observed prices of kosher, halal, and USDA meats in five retail locations in the Twin Cities from July 2019, compiled by research team.

HALAL CONSUMERS

While the largest group of Muslims in Minnesota are of Somali heritage, there are also other large Muslim populations including those of Middle-Eastern, North African, South Asian, Southeast Asian, and American descent. These communities each have specific preferences and dietary habits, but halal meat is important to all to varying degrees, depending on the level of religious observance. There is a growing trend, particularly on the East Coast (for example, New York City and Boston) of non-Muslim consumers buying halal meats and products with the intention of buying healthy and fresh meat, and few non-Muslim consumers would reject halal meat based on its label.

Somali consumers interviewed suggested that they would prefer to buy their halal meat from another Somali, even if there were cheaper or fresher meat being sold by another Muslim. The trust networks within the Somali community are different than within other groups, and additional time should be spent developing those networks for any new business. In one conversation between four Somali halal consumers, the

expectations of halal meats were very different, but the conclusion was that if the meat was said to be halal by another Somali, that would be good enough for another Somali.

Some Somali consumers also noted that they would likely not trust halal meat being sold at supermarkets like Cub or Walmart, and that they prefer to buy their meat at smaller grocery stores owned by Somalis where they feel certain the meat is halal. These customers were generally older, and their choices were different when compared to those of younger Somalis. One younger interviewee said that with a strong certification system there might be interest in buying packaged halal meats at supermarkets. Generational differences were seen in the interviewees, with younger respondents being generally less restrictive about where they buy their meat. Although a younger interviewee expressed she faced high pressure to follow cultural norms and only eat halal meat, she did not seem concerned about how her choices were perceived by others. Another younger Somali woman noted that she would eat chicken from fast food restaurants even though it is not halal.

Many non-Somali Muslims interviewed noted the need for halal meats in every type of cuisine, as well as value-added products like sausage, pre-made pizzas, Chinese food, burritos, and the like. Many noted that their children, having grown up in Minnesota, would like to eat more “American-style” foods but that there are not many available made with halal meats.

Every halal consumer interviewed shared a preference for fresh, higher quality, local meats. Of the 27 halal-focused interviews, nearly all saw an opportunity to provide locally-produced halal meats to the community, and noted that the lack of fresh, local halal meat is a frequent conversation within those consuming this product. One interviewee in Greater Minnesota stated, “Finding halal meat locally is difficult to



impossible. We typically order frozen meat online but would much prefer being able to find fresh meat nearby.”

HALAL TRADE

Halal Exports

While this report is primarily focused on consumers and producers within Minnesota, the opportunity for export should not be overlooked by interested parties. With growing incomes in majority Muslim countries, demand will grow for premium halal-certified meat. Some Muslim-majority countries like Malaysia have import requirements that meats must meet halal standards set by certification agencies.

Imports of Goat Meat in the United States

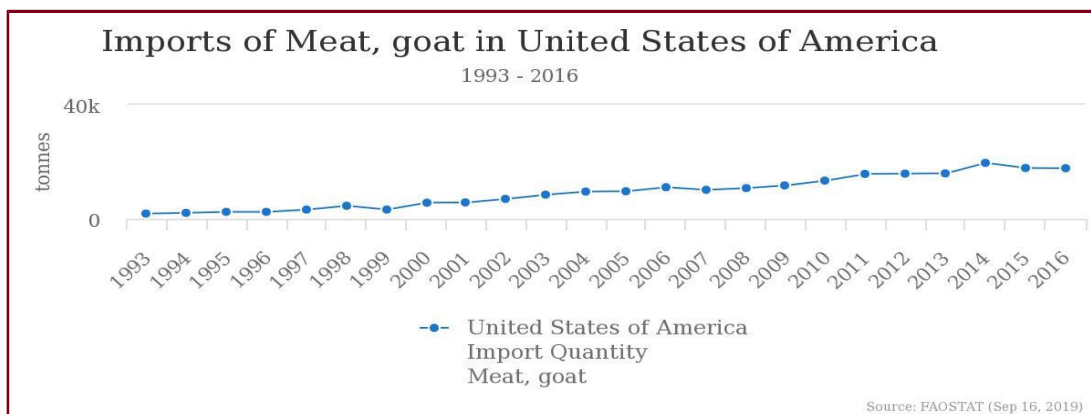


Figure F. Imports of goat meat in the United States of America. This figure shows the rise of imports of goat meat to the United States from 1993 through 2016. A significant portion of imported goat meat is halal, though not all. The average American’s consumption of goat meat is less than 0.5lb/year, but tends to be much higher among Muslim Americans.

The majority of halal meat consumed in the United States is imported, primarily from Australia and some from New Zealand.⁵⁴ Import-dependent markets face many risks, including currency fluctuations, demand from other export partners, and trade agreements affecting the flow of goods. These risks should be incorporated into business planning for importers, wholesalers, and retailers.

Australia is the largest exporter of halal goat meat in the world, exporting most of their total production (up to 85 percent). Over 90 percent of Australian goats are feral or rangeland goats, where ownership is transient and tied to where the goat is found at the time.⁵⁵ According to the Catemnt Management Authority of New South Wales, “commercial harvesting will not result in feral goat eradication as the per capita cost of capture increases as goat densities decrease.”⁵⁶ The population of goats is currently seen as an inexhaustible resource, though examples of natural resource depletion are

⁵⁴ Personal interviews

⁵⁵ The Feral Goat industry and implications for ground cover report, 2011

⁵⁶ The Feral Goat industry and implications for ground cover report, 2011

common (for example, New England cod and North American buffalo). In fact, until recently Australia's rangeland goats were seen as a pest and a nuisance with little to no market value.

These feral goats require zero to very low inputs prior to capture, and only a small percentage are penned and fed to achieve market weight. Due to current high demand around the world, prices for goat meat continue to rise, and Australian farmers and ranchers are investing more time in providing for this market.⁵⁷ Prices of Australian goats are increasing on the consumer side in Minnesota as well, with a number of interviewees commenting that prices have gone up in recent years. Australian frozen whole goat meat retails for about \$1.00 to \$1.50 less per pound than domestically-produced fresh goat. Increased prices for Australian goat could make the domestic market viable for Minnesota's price-sensitive consumer.

Australia has a government program, Australian Government Authorized Halal Program that oversees all of the halal slaughterhouses and certifies the meats as halal in conjunction with the halal certification bodies.



New Zealand is another large exporter of halal meats, with nearly all facilities authorized to conduct halal slaughter.⁵⁸ Halal exports from New Zealand began increasing in the 1970s and have continued to make up a major market for New Zealand producers. New Zealand's Ministry for Primary Industries oversees food safety and regulates the meat processing sector, providing requirements for halal auditing and certification agencies (approved halal organizations, slaughterers, and systems at processing plants). In New Zealand, all animals must be stunned before slaughter, with no regulatory exemption for religious practices. The use of electric stunning is explained by the New Zealand authorities by saying that the animal is still alive at the point of slaughter, though unconscious.

ANALYSIS: SOMALI MARKET POTENTIAL ESTIMATES FOR HALAL GOAT MEAT

The halal market in Minnesota certainly includes many ethnic groups, but the Somali population, as Minnesota's largest Muslim population, comprises a significant portion of the total halal market. As such, the project team for this report conducted focus groups and interviews with Somali families in the St. Cloud and Pelican Rapids areas to

⁵⁷ Wagstaff, J. (2017, August 8). Australian goat industry: High demand pushes prices up in 2017. Retrieved November 7, 2019, from The Weekly Times website: <https://www.weeklytimesnow.com.au/agribusiness/decisionag/australian-goat-industry-high-demand-pushes-prices-up-in-2017/news-story/b98609f27a44a9dc5a04d399a6bdf656>

⁵⁸ Halal. (n.d.). Retrieved November 7, 2019, from Meat Industry Association website: <https://www.mia.co.nz/what-we-do/trade/halal/>

learn about household preferences for halal meat, including quantity of meat purchased each month and meat preferences.

Meat Consumption

Based on these interviews, the project team learned that Somali families consume a significant amount of halal meat, goat meat in particular. Those who participated in

HOUSEHOLD SIZE	NUMBER OF HOUSEHOLDS	PERCENT OF TOTAL
1-person	3,800	28 percent
2-3 person	4,200	31 percent
4+ person	5,500	41 percent
Total	13,500	100 percent

Table 4. Distribution of Somali households by size according to the Minnesota Demographic Center.

the focus groups or interviews consistently estimated their meat consumption at \$300-\$500 per month for their family, of which approximately 75 percent was spent on goat meat. The second most popular meat was chicken, as much of the remaining 25 percent of spending was chicken. Those who shared information on family size all purchased for a family of four or more.

Assuming a conservative \$300 per month spent on halal meat for a family of 4+, this equates to participants reporting purchasing approximately 10 pounds of goat meat per person per month, assuming goat makes up 75 percent of their meat purchases at a price of \$5.50 per pound (based on findings of store pricing for frozen goat). Applying this consumption pattern to the distribution of Somali households by size according to the Minnesota Demographic Center (Table 4), the amount of halal goat consumed by Somali residents per year is estimated at 3.8 million pounds. The Minnesota Demographic Center estimates the total Somali population at 46,300, equating to approximately 81 pounds for each Somali resident annually. This figure would seem implausible, considering that the average per capita consumption of goat in the United States is 0.25 pounds per person according to research from Cornell.⁵⁹ However, taking our interviewees at face value that 75% of their meat purchases are goat, the number seems reasonable considering that US meat consumption per capita stands at near 220 pounds per person.⁶⁰

In order to get a clearer picture of the Somali goat market by dollar and number of goats needed for supply, the project team broke apart the total market into three components: special occasions, fresh, and frozen. We heard from Somali families that the vast majority of their goat meat purchases are frozen meat, typically averaging \$5.50 per pound. At times when they purchase fresh goat meat, they report they pay approximately \$6.50 per pound. The team estimated that a modest 5 percent of total consumption may be a reasonable estimate of market potential for fresh goat meat at

⁵⁹ Kendrick, J. (2018, October 10). This meat could save us, but we're too afraid to eat it. Retrieved November 14, 2019, from HuffPost website: https://www.huffpost.com/entry/goat-meat_n_5bb64c71e4b028e1fe3bcfa2

⁶⁰ Agricultural output—Meat consumption—OECD data. (n.d.). Retrieved November 14, 2019, from The OECD website: <http://data.oecd.org/agroutput/meat-consumption.htm>

this price. This level of production translates into \$1.2 million in retail sales and would require approximately 5,400 goats (Table 5).

	POUNDS (LBS)	DOLLARS (\$)	NUMBER OF GOATS	PERCENT OF TOTAL SALES (\$)
Special Occasion (whole carcass)	119,875	\$513,750	3,425	2.5 percent
Fresh	188,100	\$1,222,650	5,374	5.9 percent
Frozen	3,454,025	\$18,997,138	98,989.43	91.6 percent
Total	3,762,000	\$20,733,538	107,486	100.0 percent

Table 5: Market Potential Estimates for Somali Halal Goat Meat in Minnesota (estimates by Ryan Pesch, U of MN Extension)

Moreover, Somali participants in focus groups and interviews shared that some families have purchased whole animals directly from farm operators for special occasions, particularly for *Eid al Adha* and to celebrate the naming of a child. Participants who did this shared that they had done so up until about three years ago, when the price of goats increased enough to make the travel for on-farm slaughter not feasible. To estimate the size of the special occasion market, the study team assumed a quarter of an animal would be consumed per Somali household annually. At an average of \$150 per goat and a total finished yield of 35 pounds per animal, operators would need to raise 3,400 goats to meet this demand (Table 5).

HALAL LENDING

An additional consideration for doing business in the market for halal meat is halal lending, or lending and borrowing practices that are considered permissible according to Islamic/Sharia law. The practice of accepting or paying interest on loans is forbidden according to the Quran, though not all Muslims observe this rule. This can make business lending difficult in non-Muslim majority countries, where interest on loans is an integral part of banking and economic development. Some banks offer “halal loans,” structured in a way that avoids interest while still allowing the lender to recoup the value of the financing. There are many different methods of offering halal financial tools, and a thorough exploration of them goes beyond the scope of this report. However, this context is included because those hoping to enter into business in the halal market should be aware of this significant difference in financial approaches. Learn more about halal lending at devonbank.com/faith-based-financing/

CASE STUDY: HALAL MEAT MARKET IN ST. CLOUD



St. Cloud is among the largest cities in Greater Minnesota, and has a significant Muslim population. Due to demographic changes in recent years, including the arrival of many new Muslim residents, the demand for halal meat in the St. Cloud area has increased significantly. Many Somali immigrants have already taken advantage of this new market opportunity and opened small grocery stores offering frozen halal goat meat in response to demand. Currently about 15 Somali-owned grocery stores operate in St. Cloud and adjacent Waite Park. Most stores also have a commercial kitchen and a dining room attached to the store. In addition, all stores are equipped with meat processing machines (see Figure G).

All 15 Somali-owned stores indicated in interviews and surveys that they buy frozen goat meat from different wholesale food suppliers in the Twin Cities. This frozen halal meat is imported from Australia and New Zealand, and usually comes to the store owner in primal cuts, packaged in cardboard boxes with halal logos of a certifying body (see the halal certification bodies section of this report for more information). A store owner or staff member breaks down primal cuts of meat into smaller pieces and packages them in plastic bags, each about 1.85 - 2.00 pounds.

“The quality of the imported frozen meat is not good but we have no other choices,” said a woman during a focus group discussion held in September 2019. “In Somalia, we eat only fresh but here we do not have fresh. I do not like frozen, you need to cook it for hours and it tastes bad,” she continued.

The majority of the store owners indicated that they sell about 15-25 boxes of meat per week. One store owner said that he could sell even more, but has little refrigeration space for storage. He also said that the demand for goat meat is very high, especially during the Muslim celebrations (see Seasonality section of this report).

Currently there is only one store in St. Cloud that sells fresh goat meat. According to the store owner, his customers prefer fresh goat meat but are not ready to pay a premium price for it. Goat meat is a staple food for Somalis: “We eat goat meat every day; therefore it should be affordable for us,” said a store customer. During the period of this study (summer into fall 2019), the retail price for frozen goat meat was \$5.45 per pound and fresh goat meat was sold at \$6.50 per pound. The majority of the stores sold goat meat in plastic bags priced at \$10, \$15, or \$20 per bag. Most customers do not know how many pounds of meat they buy in a bag. “This model is convenient for our customers,” said one store owner. “They are not accustomed to buy meat per pound — it confuses them.”

Access to goat meat is important for the Somali population of St. Cloud. Goat meat is a traditional Somali food and an important part of the daily diet. It is also a way for many to cope with challenges in a new home. “I miss Somalia a lot and eating goat meat makes me feel like home,” said a focus group participant. “We need goat meat, when we have guests we always serve goat meat,” said another woman.

Access to halal goat meat is also an issue of food sovereignty and allows for the practice of their cultures and traditions. “We want our expectations and wishes to be heard. When farmers know what we want, I believe they can raise goats for us,” said Jama Alimad, a Somali community leader.

Currently, a group of community stakeholders, in partnership with University of Minnesota Extension, are working together to explore the idea of a Somali or community-owned halal meat processing center in St. Cloud. Building connections and economic partnerships can help to break cultural barriers and will enhance viability for farmers, store owners, and meat processing businesses.



Figure G. (top to bottom) examples of meat processing machine, frozen international meats). Pictures by research team member Serdar Mamedov, U of MN Extension.

HALAL SUPPLY CHAIN

Halal Supply Chain Coordination

Coordination and collaboration among supply chain partners is an important success factor in halal meat supply chains. Recently attention has shifted from a focus on the product, in which slaughtering is the main concern, to a focus on the whole supply chain, including multiple points from the farm to the end product.⁶¹ A low level of collaboration among businesses within this supply chain may make it difficult to assure the integrity of halal products. Strong collaboration among businesses in the halal supply chain, on the other hand, improves decision-making and increases the ability of consumers to trust halal products, which may decrease variability in market demand.^{62 63}

In Malaysia, a survey of certified halal manufacturers found that the type of information shared among businesses in the halal supply chain was mostly operational data. This includes materials requirements, delivery schedules, and product sales forecasting. Further, more information was shared between manufacturers and distributors than between suppliers and manufacturers. Even in long-term collaborations built on trust, suppliers were reluctant to share the details of their specialized processes or ingredients with their trading partners. This lack of transparency can result in mistrust between suppliers and other businesses in the supply chain, which can grow worse because businesses farther down the supply chain must depend on their partners' assurances of halal integrity.

In recent years, technologies such as radio frequency identification (RFID) and blockchain have been implemented in management of halal supply chains. These technologies assist in effectively tracking, monitoring, and assuring the legitimacy of product transactions. Previously a centralized database system using RFID technology was seen as the best way to share information between supply chain partners. However, the retrieval and storage of information in a central database created opportunities for falsification of information. Because it is not always possible to verify trustworthiness of participants, an RFID system may be seen as inadequate for assuring halal integrity.⁶⁴

Blockchain, on the other hand, is a distributed and decentralized system. Blockchain technology is a ledger of transactions that “ensures the storage of all information related to the food products in a shared, visible and transparent system for all the members along the supply chain.”⁶⁵ In order for blockchain to be used for halal meat,

⁶¹ Haleem, A., & Khan, M. I. (2017). Towards successful adoption of halal logistics and its implications for the stakeholders. *British Food Journal*, 119(7), 1592-1605.

⁶² Rejeb, A. (2018). Halal Meat Supply Chain Traceability Based on HACCP, Blockchain and Internet of Things. *Acta Technica Jaurinensis*, 11(1).

⁶³ Masrom, N. R., Rasi, R.Z., & Daut, B.A.T. (2017). Issue in information sharing of Halal food supply chain. *MATEC Web of Conferences*, 135, 00057. EDP Sciences.

⁶⁴ Feng Tian. (2017). A supply chain traceability system for food safety based on HACCP, Blockchain & Internet of Things, 2017 Int. Conf. Serv. Syst. Serv. Manag., 2017. Doi:10.1109/ICSSM.2017.7996119

⁶⁵ Rejeb, A. (2018). Halal Meat Supply Chain Traceability Based on HACCP, Blockchain and Internet of Things. *Acta Technica Jaurinensis*, 11(1).

all of the participants in the halal supply chain must register into the network, which can be accessed at any time from any location, by all participants in the supply chain network.⁶⁶

While blockchain is a promising technology to assure the integrity of halal products, it has some drawbacks. Implementing blockchain requires each participant to have the financial and technical capability to participate in the networked system. This may limit the participation of small farmers, processors, and retailers. In addition, blockchain and other technological means of verifying supply chain integrity add cost to the end product. While some studies have shown that some consumers are willing to pay a premium for trusted halal products, other studies have noted that higher prices may limit access to halal products among lower-income consumers.^{67 68}

FRAUD AND CONTAMINATION

Because halal meats can be sold at a premium compared with non-halal meats, fraud in the halal market is common worldwide. Another reason for fraud is that halal products are difficult to distinguish from non-halal products. Fraud in the halal supply chain can take many forms. The most common offenses include selling meat that is not slaughtered in licensed facilities; selling meat that is not slaughtered according to Islamic tradition; intentionally mislabeling non-halal meats as halal; and including non-halal products with halal products.⁶⁹

Midamar Corporation of Cedar Rapids, Iowa, was charged in 2013 for selling beef to Malaysia, United Arab Emirates, and elsewhere that had been purchased from a Windom, Minnesota slaughter facility. The Windom meat packing plant used penetrative captive bolt stunning, a practice strictly forbidden in halal certification. Midamar staff used acetone and other means to remove sourcing information from their labels.⁷⁰

In another instance of fraud, several cases of mislabeled chicken were identified in the United Kingdom. The water that had been added to plump the chicken was found to contain substances to aid water retention which originated from porcine and non-halal bovine sources.⁷¹ In fact, in Malaysia a test of 143 processed halal beef and poultry products found that 78 percent of the products were mislabeled and contained proteins from prohibited animals.⁷²

⁶⁶ Mougayar, W. (2016). *The Business Blockchain*, New York, New York: Wiley.

⁶⁷ Tieman, M., Ghazali, M.C., & Van Der Vorst, J.G. (2013). Consumer perceptions on halal meat logistics. *British Food Journal*.

⁶⁸ Kurth, L., & Glasbergen, P. (2017). Serving a heterogeneous Muslim identity? Private governance arrangements of halal food in the Netherlands. *Agriculture and Human Values*, 34(1), 103-118.

⁶⁹ Fuseini, Awal & Wotton, Stephen & Knowles, TG & Hadley, Phil. (2017). Halal Meat Fraud and Safety Issues in the UK: a Review in the Context of the European Union. *Food Ethics*. 10.1007/s41055-017-0009-1.

⁷⁰ <https://www.nytimes.com/2014/12/16/us/iowa-halal-beef-supplier-is-charged-with-fraud.html>

⁷¹ Food Standards Agency UK (FSA). 2001. Water added to restaurant and take-away chicken, survey finds.

<http://tna.europarchive.org/20110116113217/http://www.food.gov.uk/news/newsarchive/2001/dec/chickwater?view=printerfriendly>. Accessed 27 June 2001.

⁷² Chuah, L., X. Bin He, M.E. Effarizah, Z.A. Syahariza, A.K. Shamila-Syuhada, and G. Rusul. 2016. Mislabelling of beef and poultry products sold in Malaysia. *Food Control* 62: 157–164.

While there are many documented cases of fraud through intentional mislabeling, documented cases of fraud and contamination represent only a small percentage of the total cases of fraud. Most instances remain undetected or unreported because they do not have food safety implications and because generally halal meat is indistinguishable from non-halal meat without the use of laboratory tests. In addition, cases of unintentional contamination are likely to be more common than fraud. The complexity of the halal supply chain provides numerous opportunities for unintentional contamination during slaughter, processing, packaging, storage, transit, and retail.

Cross-contamination can easily occur if unpackaged halal meat is not properly segregated from other products during storage or transit, or if the same containers are used for halal and non-halal products without proper sanitation between uses. Proper packaging of halal meat is essential to prevent cross-contamination and maintain halal integrity. The origin of packaging materials is important because packaging itself can be a source of contamination. The use of plastic that contains gelatins with animal origins or cans lined with animal-sourced oils or lubricants -- while common in the meat industry -- must be avoided until the verification of halal status of each ingredient. While manufacturers and suppliers could reduce risk of contamination by dedicating an entire logistics and transportation system exclusively to halal products, it is more common for food producers to outsource these functions to third party logistics providers. Third party providers are reluctant to dedicate infrastructure and specially trained staff for halal product assurance due to high costs.

These costs are particularly important in non-Muslim countries where sales volume may not be high enough to justify additional expenses.⁷³

HALAL SUPPLY CHAIN BUSINESS DEVELOPMENT

Several other challenges influence the development of halal supply chains. These include high fixed costs for infrastructure, additional needs for system controls, and high labor costs. Many of the critical requirements for halal food standards lie within slaughter and processing, highlighting the key importance of this component of the supply chain.⁷⁴ Yet financial burden and risk are also highest within slaughter and processing, particularly in non-Muslim-majority countries.⁷⁵ This cost burden is likely to be reflected in higher retail prices passed on to consumers. In turn, this relatively higher retail cost can reduce access to halal products for low-income consumers.

⁷³ Tieman, M., Ghazali, M.C., & Van Der Vorst, J.G. (2013). Consumer perceptions on halal meat logistics. *British Food Journal*.

⁷⁴ Anis Najiha Ahmad, Russly Abdul Rahman, Mohhidin Othman, Ungku Fatimah Ungku Zainal Abidin, Critical success factors affecting the implementation of halal food management systems: Perspective of halal executives, consultants and auditors, *Food Control*, Volume 74, 2017, Pages 70-78, ISSN 0956-7135, <https://doi.org/10.1016/j.foodcont.2016.11.031>.<https://doi.org/10.1016/j.foodcont.2016.11.031>

⁷⁵ Kurth, L., & Glasbergen, P. (2017). Serving a heterogeneous Muslim identity? Private governance arrangements of halal food in the Netherlands. *Agriculture and Human Values*, 34(1), 103-118.

Examples of increased costs and risks associated with halal business development include:

- Investment in additional or segregated refrigeration and frozen storage.
- Investment in dedicated processing and production lines.
- Additional staff training or hiring dedicated staff with higher levels of expertise on handling procedures. Additional safety training and procedures may be required due to the use of knives for slaughter versus automated systems.
- Maintaining halal certification through a third-party certification body.
- Systems controls, communication, and coordination in partnerships with third-party contractors.
- High opportunity cost when compared with non-halal meats, which have a higher demand overall and greater opportunities for efficiency in scale.
- Risk of loss of reputation associated with non-compliance
- Uncertainty due to lack of consumer-level data, including demand, price sensitivity, and consumer substitution behaviors (for example, responses to price changes by substituting beef for goat meat or frozen meat for fresh).

section 4

GOATS IN MINNESOTA

During the period of this study, the primary interest expressed in interviews within the Somali community was for fresh, locally-raised, halal goat meat. While the halal meat market includes other varieties of meats, a lack of supply of fresh halal goat meat appears to be nearly universal among Minnesota's Somali community. In response to this finding, this section of the report looks more closely at the market for meat goats, challenges of raising goats, and the environmental benefits of small ruminants on the landscape.

RAISING MEAT GOATS IN MINNESOTA

Goats were one of the earliest domesticated animals, with widespread evidence of goat domestication throughout the Middle East by 9,000 BCE. Today goats are raised around the world, though the majority of goat production occurs in tropical and subtropical countries. Goats are versatile animals, supplying meat, milk, cheese, and fiber (mohair).

During the past two decades interest in raising goats has grown in Minnesota and other regions of the country, in part because members of some new immigrant communities (especially of Latin American, Asian, and African descent) enjoy eating goat meat and do so on a regular basis. A desire to serve consumer needs, along with the potential to make a profit, has largely driven efforts to increase goat production. In addition, goats are popular because they are generally friendly, curious, and like to be around people. They can be kept as pets and are easily cared for by youth and hobbyists.

Like any domesticated animal, goats need proper care in order to thrive. They should be given:

- Access to fresh water.
- Proper nutrition according to their age and stage of life: Goats are ruminants, so they create protein and energy from fibrous feeds such as grasses and broadleaf plants. Unlike cattle and sheep, they are browsers rather than grazers, so they tend to eat higher off the ground than do cattle or sheep. They prefer nibbling brush and small trees if given the opportunity to do so. Dairy and some breeds of meat goats can benefit from eating grain or feed supplements, but overfeeding goats can cause them to accumulate fat on the carcass, a potential negative for consumers.
- Shelter from harsh weather: Goats and other warm-blooded animals have a thermal-neutral zone in which they are comfortable and therefore don't burn calories to keep

warm or to keep cool. Goats' thermal-neutral zone is between 12° C and 24° C (54° F to 76° F) in temperate regions. When it is colder than 12° C (54° F) and rainy, a shelter in which they can stay dry is essential. Trees or wooden shelters also offer protection against extreme heat, which can affect goats negatively. If kidding occurs during the winter months, newborns should be kept in a warm, draft-free environment for the first few days of life. Giving young goats a good start will help them grow rapidly and remain healthy.

Goats have a digestive system that is resistant to many plant toxins, which allows them to eat a variety of noxious weeds and plants that will sicken cattle or sheep or that they instinctively will avoid. Not only will goats eat grasses, weeds, tender branches, and buds of trees and shrubs, but they will also eat the bark of some trees, effectively killing them by girdling. Goats also preferentially consume seeding stems, thereby reducing the spread of weeds by seed. They will eat thistle, leafy spurge, buckthorn, multiflora rose, honeysuckle, and other invasive or noxious weeds and plants without hesitation.

This ability has made goats a viable alternative to pesticides for controlling the growth and spread of noxious weeds and plants. As a result, small businesses are starting in Minnesota and around the country offering “goats for hire” as a service. Their use is recommended by the Natural Resources Conservation Service to clear areas of the landscape that might otherwise be harmed by the use of pesticides. More about this approach is discussed in the section below titled, “Pasture-Based Livestock Benefits and Implications on the Halal and Kosher Markets.”

MEAT GOAT MARKET IN MINNESOTA

There has been interest in developing the market for meat goats in Minnesota for many years. Raising meat goats in Minnesota, however, is challenging for a variety of reasons, including a lack of available veterinary services, cost of production and processing, and lack of accessible markets.

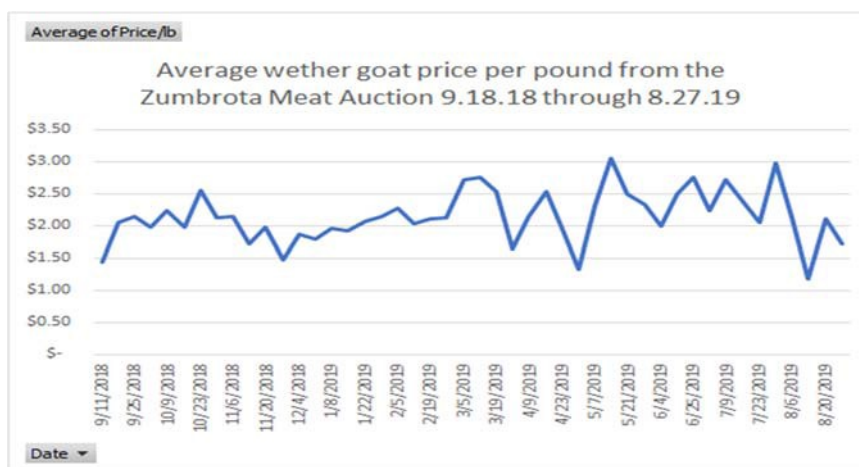


Figure H. Average wether goat price per pound at the Zumbrota Meat Auction, 9.18.18 – 8.27.19



The most recent census of agriculture reported 25,000 meat goats in Minnesota.⁷⁶ Many of these goats may be raised as show goats or for environmental reasons (for example, to clear invasive species). An AURI-funded study in 1999 titled “The Feasibility of Meat Goats in Minnesota” outlined the considerations for raising meat goats and concluded that the meat goat industry was “relatively new and unorganized.” The report continued, “[I]t appears that the meat goat production in the state of Minnesota would not be profitable as a stand-alone business.”⁷⁷ The study did acknowledge that “reasonable adjustments in assumptions, such as....increasing market prices by direct marketing, may allow for a profitable industry.”

The market for goats is illiquid, meaning that it is hard to sell goats due to a limited number of buyers and sellers in the market at the same time. The goat market also sees volatility in price throughout the year with prices ranging from under \$1 per pound to over \$3 per pound depending on the week. No clear pricing trend occurs (see pricing figure). Unlike a more liquid market, such as cattle or hogs, the main ways to sell goats are through auctions or direct-to-consumer sales, as opposed to a futures market or contract pricing. Direct-to-consumer sales give producers more ability to negotiate a price, but require more work to market the product and identify buyers. Smaller contracts may be developed individually with buyers, but overall goat producers end up being price takers, with the auction as the most reliable, if unpredictable, way to sell their livestock. This increases the financial risk to the producer, if they are unable to predict the sale price of their livestock.

Three main goat auctions can be found within Minnesota, located in Zumbrota, Jackson, and Pipestone. These livestock sales facilities hold weekly auctions for goats and sheep in addition to cattle and hogs. The auctions vary in attendance of both

⁷⁶ USDA/NASS 2018 State agriculture overview for Minnesota. (2018). Retrieved November 7, 2019, from https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=MINNESOTA

⁷⁷ Agricultural Utilization Research Institute. (1999). The feasibility of meat goats in Minnesota. Phase, II.

buyers and sellers, and also vary in quality and attributes of the animals (for example, distribution of fat and muscle, ratio of lean to fat).

For this study, the research team analyzed sale prices from the Zumbrota livestock auction from September 18, 2018, through August 27, 2019. The selected dataset of goat types includes *does* (females under 100 pounds), *wethers* (castrated males under 100 pounds), and *kids* (juveniles under 40 pounds). These categories were determined based on interviews to be the most desirable size and type of goat for the halal market.⁷⁸

The auctions sell goat by the head as opposed to the hundredweight (cwt). The average price per head for goat over the year studied at the Zumbrota Auction was \$129.07 for doe goat, \$163.61 for wether goat, and \$68.76 for kid goat. The price spread per pound ranged widely for all types, with kid goats seeing the largest spread between minimum and maximum prices per pound of live weight (\$0.63 to \$3.67). Wether goats were the most available, with 458 sold in the year (n=750 all goats sold in one year).

Table 6. Zumbrota Meat Auction, September 18, 2018, through August 27, 2019

Goat type	Number sold in the year	Annual average price per head	Average annual price per pound	Minimum price per pound in the year	Maximum price per pound in the year
Doe (under 100 pounds)	181	\$129.07	\$1.76	\$0.86 (Nov. 13, 2018)	\$3.33 (June 28, 2019)
Wether (under 100 pounds)	458	\$163.61	\$2.07	\$0.86 (Nov. 6 and Nov. 13, 2018)	\$3.49 (June 7, 2019)
Kid (under 40 pounds)	111	\$68.76	\$1.63	\$0.63 (Nov. 27, 2018)	\$3.67 (June 18, 2019)

PASTURE-BASED LIVESTOCK BENEFITS AND IMPLICATIONS

While the largest segment of halal and kosher meat available on the market use conventional livestock, there is a growing interest in organic and sustainably-raised livestock from consumers, in particular pasture-based practices. Magen Tzedek, Hebrew for “Justice Certification,” is an additional kosher label that ensures that considerations of labor rights, animal welfare, and environmental impact are included

⁷⁸ While young goat is the stated preference from most goat consumers, older goat can be purchased at a lower price point per pound and is the choice for some price sensitive consumers. Diversification in products and price points are good customer strategies for this market.

in a food item. Magen Tzedek has a set of certification standards, available on its website,⁷⁹ but adoption of the certification has not been widespread.

For halal consumers there is a growing interest in *tayyib* halal, or wholesome halal, which adds additional qualifications related to animal welfare, environmental concerns, and the overall wholesomeness of the product. One expert consulted for this report stated:

“For the Muslim community, halal food should also be ethical along the entire chain of growing, processing, and retailing...So, one key aspect for the Muslim community is that the food should not be merely permissible in the strictest sense of the word, but it should also include principles of organic agricultural practice, sustainable, ethically/humanely raised, and also all persons employed in the process should make a fair wage under good conditions. Ideally, the food should also be local.”

Interest in Magen Tzedek and *tayyib* halal have growth potential, as consumer interest in supporting regenerative agricultural production practices also grows in the wider market. Farmers interested in raising animals that fit these additional standards could benefit from price premiums and niche market channels.

Pasture-based livestock is one method to address consumer preference for sustainably produced meat due to ecosystem benefits. Through a better understanding of native ecosystems and with technological innovations in fencing and watering systems, livestock can be an efficient driver for soil health. Evidence suggests that specific changes in common agricultural practices, including appropriate pasture management, can reverse soil degradation and restore impacted landscapes.⁸⁰ Proper pasture management has the potential to improve farm income, increase soil health, and protect water quality,⁸¹ while meeting halal and kosher consumer preferences.

Part science and part art, adaptive management grazing mimics natural systems by moving animals based on forage and stocking factors. Animals in a continuously-grazed system, even if technically not “overstocked,” will still overgraze the best plants, compact soil in their favorite areas, and distribute nutrients unevenly. Through adapted grazing techniques, livestock graze more consistently over a given area, nutrients are distributed more evenly, and faster plant re-growth allows for increased stocking rates.

⁷⁹ SAAS, & Magen Tzedek Commission. (2012). Certification standards for the Magen Tzedek Service Mark. Retrieved from http://www.magentzedek.org/wp-content/uploads/2012/02/MT_standards.pdf * goat photo from <https://pixabay.com/photos/goat-goats-flock-ruminant-pasture-4407533/>

⁸⁰ Gliessman, S., & Tittonell, P. (2015). Agroecology for Food Security and Nutrition. *Agroecology and Sustainable Food Systems*, 39(2), 131-133.

⁸¹ Soil health. (n.d.). Retrieved November 7, 2019, from United States Department of Agriculture. Natural Resources Conservation Service Soils website: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>

Efforts to utilize livestock to restore habitat are underway in Minnesota. A networking group of the Sustainable Farming Association (SFA) known as the Ecological Service Livestock Network (ESLN) seeks to develop business models, facilitate research, and pilot studies to advance the art and science of profitable, livestock-based, land management



sustainable
farming
association
OF MINNESOTA

businesses. ESLN's emphasis is on, though not limited to, urban, suburban and peri-urban landscapes. The group is tailored toward conservation professionals who promote service livestock as a way to combat invasive species, restore ecological functionality, reduce use of pesticides and fossil fuels, and start rewarding livestock-based small businesses. Small ruminants (sheep and goats), attractive to the halal markets, are a particularly good fit for these enterprises within suburban or urban landscapes.

The implications of livestock management strategies on the halal and kosher meat markets are unclear. Discussions with members of the East African community indicate free range or grass-fed meat is preferred, and fatty meat, which is associated with grain-fed ruminants, is greatly disliked. Also, opportunities to cultivate new and emerging farmers should be further explored, as many consumers of halal meat come from agrarian backgrounds. Relatively low start-up costs for pasture-based production, along with the potential to enter this arena incrementally, create an attractive option for new producers. In addition, multiple income streams are possible under this livestock-based business model.

Overall, goats and sheep can be a part of an ecologically regenerative agricultural landscape and can provide high-quality and nutritious meat for the halal-consuming community. The opportunity to expand the pasture-based meat goat market in Minnesota should be explored from a social, economic, and environmental perspective.

EMERGING MODELS FOR HALAL & KOSHER

A number of business models could be considered for developing Minnesota-based halal or kosher meat markets. The following examples provide possible structures that could be implemented to create consumer connections with local producers.

Niman Ranch

While Niman Ranch is not a halal or kosher meat provider, the business model can offer insights into how a value-attributed product can build a successful market in fresh and frozen meats. Niman Ranch began in California and has grown to include over 700 independent farmers and ranchers across the United States.

The business has strict standards related to animal welfare and environmental sustainability. These standards are audited by field agents employed by the company, who inspect farms prior to accepting their livestock into the program and continue to inspect the farm on a routine basis. Niman Ranch also contracts with slaughterhouses and oversees slaughter practices to ensure humane treatment of animals throughout the process. These clear criteria allow farmers to adjust their practices to access the market. In addition, protocols are available online for the public to read and understand. This level of transparency adds to the credibility of the business in the minds of consumers.

Niman Ranch also co-signs loans for beginning farmers, and offers contracts for producers that include price premiums and a price floor. This helps reduce risk for farmers and ranchers and ensures financial stability by reducing price fluctuation over time. The meat, which includes beef, pork, and lamb, is all sold under a single label, “Niman Ranch: Raised with Care.” By selling meats from hundreds of farms under one label, the business is able to create market space in a crowded field and also foster customer trust and loyalty.

Abe’s Eats

Abe’s Eats is a social enterprise based on fostering interfaith unity by providing 2-in-1 halal and kosher interfaith meat. Based in New York City, this start-up is using food as a community development tool. The founder is a TED Fellow and has given many talks about the idea of “interfaith meat.” Beyond the social value, Abe’s Eats argues that interfaith meat can simplify purchasing decisions made by institutional buyers looking for halal and kosher options, including airlines, military food service, and hospitals. The model is still being developed, and the protocols for processing interfaith meat are not described by the website. However, this innovative approach holds potential for market impact as more food service providers search for products that can serve a diverse client base.



Grow and Behold & KOL

Grow and Behold and KOL are two separate businesses operating with similar models. Both are online retailers for kosher meats with additional environmental and animal welfare attributes, and both ship products nationally. Similar to Niman Ranch, both businesses contract with many farms, in this case farms located in Pennsylvania, New Jersey, Maryland, Virginia, and West Virginia. The beef and lamb is processed in Baltimore, Maryland, and the poultry is processed in Scranton, Pennsylvania, and the Hudson River Valley, with strict environmental, Glatt kosher, animal welfare, and labor welfare criteria.⁸² KOL sells ground beef (85 percent lean and 15 percent fat) for \$12.49 per pound. Grow and Behold sells a comparable product for \$13.00 per pound.⁸³

Honest Chops

Honest Chops is a halal meat business that adds additional organic and animal welfare standards to the halal criteria. It offers online retail, local delivery, and a brick-and-mortar storefront in New York City. Honest Chops sources chickens from Pennsylvania, and beef and lamb from farms in Maryland, Virginia, New Jersey, and New York. The company's criteria include:

1. "The animal was hand-slaughtered following strict Islamic guidelines
2. The animal was humanely raised
3. We can trace the precise farm and practices of where and how the animal was raised
4. No steroids, no growth hormones and no antibiotics were ever used in the duration of the animal's life
5. The feed of the animal was strictly vegetarian, and for lambs and steers it must be grass-fed and pasture-raised
6. The animal must have spent his entire life on a traceable farm. We do not allow auction-purchased animals in our store."

⁸² Information taken from business websites and from personal correspondence with the businesses

⁸³ Data collected in August 2019

The beef and lamb are certified USDA organic. Ground beef (80 percent lean and 20 percent fat) retails for \$8.00 per pound online. They also offer sausage links and patties.

section 6

Recommendations

This report focused on the market opportunities and challenges for halal and kosher meats, specific to the state of Minnesota. No single barrier stands in the way to entrance for either of these markets; instead, low prices of imported halal meat, a lack of information about requirements, and a lack of relationships among farmers, brokers, processors, and retailers have kept these markets fragmented. The themes and lessons learned, which can also be applied to other value-based products, include the importance of community input, an appreciation for complexity and diversity, and challenges of navigating systems and regulations.

Readers interested in halal or kosher markets should continue to learn about the potential to serve both consumer groups and the rich diversity of other prospective buyers. While this report summarized the key aspects of both markets, there are many more perspectives and practices for both halal and kosher production.

Recommendations for further research and efforts to support these markets include clarifying standards, exploring supports for small- and mid-sized meat markets, and strengthening understanding of halal lending.

Clear Standards

While there is a diversity of opinion within the halal and kosher consumer populations, there is also a need for clear standards for producers and processors serving these markets. This is particularly true for the halal market, which has a number of smaller certification bodies in North America in contrast to the kosher certifiers, and which is mainly implemented through trust and word-of-mouth. If clear standards and practices are developed by the community, then producers, processors, and distributors will be better able to enter the market and create solid business plans to serve the community's halal meat demands. Clear standards would also help consumers to make decisions about their purchases based on the values that are most important to them, such as whether the animal was stunned before slaughter or whether the slaughterer was a practicing Muslim.

In addition, the use of the term "religious exemption" to describe ritual slaughter has been found to be unclear and misleading for external stakeholders. Many interviewees and community partners expressed concern about the animal welfare considerations of halal and kosher slaughter, and these concerns implied that these methods are exempt from humane handling practices. As stated in this report, the ritual slaughter methods used in halal and kosher slaughter are one of two protected forms of

slaughter outlined in the animal welfare laws of the United States. Replacing the word “exemption” on the MDA’s application form and in the vocabulary used to discuss these methods will clarify that although there is a difference between conventional and ritual slaughter, both are defined as humane under the law.

Processing and Small/Mid-Size Meat Market Development

One challenge of establishing a local supply of halal and kosher meat is part of the larger discussion about the lack of small- to mid-sized meat processors across the state. Consolidation and vertical integration has created a shortage of right sized processing capacity for small- to mid-size livestock producers. This issue, which has been discussed at many convenings and written about extensively by UMN and AURI, is a consequence of many other changes in the food system in Greater Minnesota, including consolidation in agricultural production, the disadvantage of smaller grocery and specialty stores competing against national retailers such as Dollar General and Walmart, and overall population declines in rural areas. These issues are outside of the scope of this report, but are intrinsically linked in any conversation about developing niche meat products. State and federal policies should be assessed for their support or opposition to small- to mid-sized meat market development. One example is the Processing Revival and Intrastate Meat Exemption Act (PRIME) Act introduced into the House of Representatives in 2019, which would allow for meat processed in a custom exempt facility to be sold directly to consumers and to restaurants, hotels, and grocery stores that interface directly with consumers. The authors of this report are not endorsing the PRIME act but rather noting that policy opportunities at state and federal levels can affect the success of these meat markets.

One common recommendation that came up during most of the interviews with halal consumers was a deep interest in a designated processing facility for halal meats in Minnesota. Many emphasized the desire for this facility to be Muslim-owned, though not all agreed that Muslim ownership was needed. Our team considered the potential benefits of a facility organized as a cooperative. Co-ownership models have been shown to help facilitate trust and information-sharing across stakeholders, although various models of ownership should be considered. Given the small scale of the Minnesota market, there may also be benefit in vertical integration of processing and distribution, which could create a more integrated supply chain and thus reduce the potential for contamination by third party logistics providers. This would also provide a more direct linkage between growers and retailers and allow processors to respond more quickly to fluctuations in market demand.

Value-Added

Competing with large-scale conventional meat products both domestically (kosher) and internationally (halal) will be challenge for Minnesota farmers and ranchers. However there is an interest in value-add halal and kosher products, both from a processing and an environmental and social welfare perspective. For example, many halal consumers expressed that their children would like to eat things like halal pizza and burritos, and

that they would prefer to eat organic or locally raised halal meats. The opportunity to add value to the halal or kosher label by focusing on further processing, or on the environmental and social welfare components of raising livestock, would be one way to compete with imported or conventional products that are currently on the market.

Financing

Another identified need is the discrepancy between the need for halal financing tools for agriculture and the availability of these financing tools from lenders. While outside the immediate scope of this report, the need for halal financing is something that lenders, including banks, farm credit institutions, philanthropic organizations, and government programs, should take time to understand more deeply. A number of organizations have developed halal-friendly financial tools, and these lessons can be incorporated into the existing lender landscape. By creating more access to capital for halal-observing Muslims, there is a greater possibility for consumer demands to be met through local businesses and supply chains.

Potential

This report and these recommendations serve as a launch for further research, outreach, and market development. Community members from the respective markets were involved in the formation of these recommendations, and it is highly recommended that community members continue to remain central to any future work in the halal and kosher market development. The markets for halal and kosher meat in Minnesota hold untapped potential for communities throughout the state. As discussed, working to clarify standards, exploring support for small- and mid-sized meat markets, and offering culturally competent financing may help further the development of the halal and kosher markets.

section 7
APPENDIX

Type of Sale	USDA-Inspected	MN Equal-to	Custom Exempt
Interstate Sales	Yes	No	No
Commercial Sales	Yes	Yes, within MN	No
Number in Minnesota	~150	55	230

Table 6. Number of total processing facilities by inspection in Minnesota. For more detailed information, please see:

- <https://minnesota.agclassroom.org/educator/fft/mapbw30.pdf>
- <https://www.nichemeatprocessing.org/wp-content/uploads/2014/09/Minnesota-USDA-Slaughter-and-Processing-Plants.pdf>
- <https://www.mda.state.mn.us/minnesota-state-equal-plants>
- <https://www.mda.state.mn.us/custom-exempt-meat-poultry-processing-plants-minnesota>

<p>.....</p> <p>MINNESOTA DEPARTMENT 625 Robert S.N., St. Paul, MN 55155-2538 OF AGRICULTURE www.mda.state.mn.us</p>
<p>Dairy and Food Inspection, Ph: 651-201-6627, Fx: 651-201-6116</p>

Application for Exemption to Utilize Ritual Slaughter

NAME OF ESTABLISHMENT	ESTABLISHMENT NO.
TYPF OF RITUAL SLAUGHTER TO BE PERFORMED (<i>halal, kosher, etc.</i>)	WHY WILL YOU BE PERFORMING THE SLAUGHTER?
DATE FOR WHICH THE EXEMPTION IS BEING REQUESTED (<i>check temporary exemption, list start and end date; or check ongoing exemption if this will be your normal slaughter operation.</i>)	
<input type="radio"/> TEMPORARY EXEMPTION FROM: _____ TO: _____ <input type="radio"/> ONGOING EXEMPTION	
TYPE OF OPERATION: <input type="radio"/> CUSTOM EXEMPT <input type="radio"/> STATE INSPECTED	
REASON FOR REQUESTING EXEMPTION:	
<p>Note: Attach a Feuer from the certifying agency (on their Feuerhead paper) confining the slaughterman to perform the ethnic slaughter is approved and trained under their authority</p>	

 PRINTED NAME of establishment owner/manager DATE _____

 SIGNATURE of establishment owner/manager

 SIGNATURE, Minnesota Dept. of Agriculture Representative DATE _____

A copy of this signed & approved application will be returned to the firm.
 This letter should remain on site and provided as requested by inspection personnel.

In accordance with the Americans with Disabilities Act, an alternative form of communication is available upon request
 TDD: 1-800-627-3529. MDA is an equal opportunity employer and provider.

AG-03087 01/12/07

SECTION III. TYPE OF OPERATIONS

19. MEAT, POULTRY, AND SILURIFORMES FISH INSPECTION ACTIVITIES (check all that apply)

19A. SLAUGHTER OPERATIONS	19B. PROCESSING OPERATIONS	19C. EXEMPTIONS (explain separation from inspected products on continuation sheet)	19D. JURISDICTION (explain separation from inspected products on continuation sheet)
<input type="checkbox"/> Calf <input type="checkbox"/> Cattle <input type="checkbox"/> Equine <input type="checkbox"/> Goat <input type="checkbox"/> Sheep <input type="checkbox"/> Swine <input type="checkbox"/> Chicken <input type="checkbox"/> Duck <input type="checkbox"/> Goose <input type="checkbox"/> Guinea <input type="checkbox"/> Ratite <input type="checkbox"/> Squab <input type="checkbox"/> Turkey <input type="checkbox"/> Siluriformes Fish	<input type="checkbox"/> a. Fully Cooked - Not Shelf Stable <input type="checkbox"/> b. Heat Treated Not Fully Cooked - Not Shelf Stable <input type="checkbox"/> c. Heat Treated - Shelf Stable <input type="checkbox"/> d. Not Heat Treated - Shelf Stable <input type="checkbox"/> e. Product with Secondary Inhibitors - Not Shelf Stable <input type="checkbox"/> f. Raw - Intact Products <input type="checkbox"/> g. Raw - Non Intact Products <input type="checkbox"/> h. Thermally Processed Commercially Sterile	<input type="checkbox"/> Custom Processing <input type="checkbox"/> Custom Slaughter <input type="checkbox"/> Retail Activities <u>Religious Exempt Poultry</u> <input type="checkbox"/> Buddhist eviscerated Poultry <input type="checkbox"/> Confucian Non-eviscerated Poultry <input type="checkbox"/> Islamic (Halal) Poultry <input type="checkbox"/> Kosher Non-eviscerated Poultry <u>Religious Exempt Livestock</u> <input type="checkbox"/> Halal <input type="checkbox"/> Kosher <input type="checkbox"/> Other (specify on continuation sheet)	<input type="checkbox"/> FSIS Inspection only <input type="checkbox"/> State Inspection <input type="checkbox"/> Talmadge-Aiken <u>Multiple Agencies</u> <input type="checkbox"/> N/A <input type="checkbox"/> Dual Jurisdiction Establishment with Food and Drug Administration (FDA) <input type="checkbox"/> USDA Agricultural Marketing Service (AMS) Grading/Quality Control <input type="checkbox"/> Establishment provides products for the National School Lunch Program

Figure I. FSIS Grant of Inspection Application

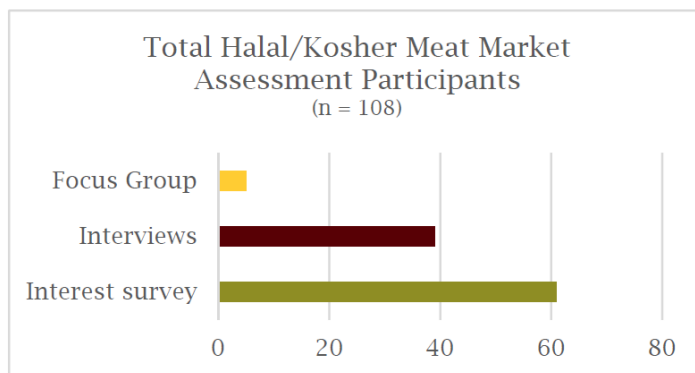
METHODS

Ethical Considerations

For this research project, ethical data collection was thoroughly considered prior to interviewing participants and administering the survey. The research team applied three guiding principles for ethical research: respect for persons, concern for welfare, and justice.⁸⁴ The University of Minnesota Institutional Review Board (IRB) approved the project. The focus of the study was on opinions and experiences of the halal and kosher markets, not sensitive personal information. The anonymity of the participants was protected, with the knowledge of original names held only by the research team. Signed consent forms that outlined the project and project intentions were collected for all participants in interviews and focus groups. The research team received training on data collection and ethical practices prior to data collection.

Methods and Procedures

This study used a mixed method approach to data collection (interviews, focus group, and literature review). For the interviews specifically, the team used a qualitative phenomenological approach to gain a better understanding of consumer, producer, and processor experiences within two central phenomena: the halal and kosher meat markets. This rigorous approach allowed the researchers to better describe experiences of participants within halal and kosher meat markets in Minnesota. This methods section provides a rationale for the specific study design, including the population, how the sample was recruited, data collection, trustworthiness, limitations, and analysis procedures.



The participants in this study were 108 people with interest and/or experience in halal and kosher meat markets in Minnesota, including consumers, farmers, processors, educators, community leaders, religious leaders, and retailers. The research team for this study involved 25 individuals, including Extension professionals, Minnesota

Department of Agriculture (MDA) staff, University of Minnesota (UMN) faculty members, community leaders, farmers, and members of the Muslim and Jewish religions. The research team solicited participants who met the criteria of being connected to the halal and/or kosher markets through the use of snowball methodology (starting with a known contact and soliciting recommendations for other people to interview). Many interviewees were involved in the supply chain in multiple ways. For example, one halal meat broker was also a slaughterman and a consumer.

⁸⁴ Creswell, J. W., & Poth, C. N. (2017). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (Fourth edition). Los Angeles: SAGE Publications, Inc.

The research team also implemented an internet-based survey for wider reach (see Figure J). The online survey was open from July 24, 2019, through August 25, 2019. It was distributed by email via the MISA listserv (with 1,379 subscribers at time of this report publication), the SFA bi-weekly electronic newsletter (with 4,500 subscribers),

the UMN Meat-goat listserv, and the Minnesota Grown goat, lamb, and beef producer listserv. The survey was also distributed via social media channels through the Regional Sustainable Development Partnership and MDA Facebook and Twitter accounts, and posts about the survey were then shared by other organizations.

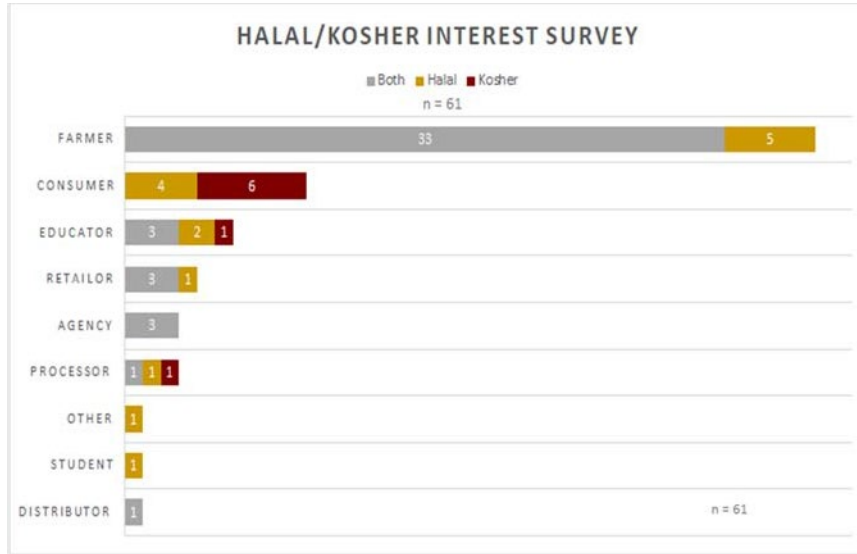
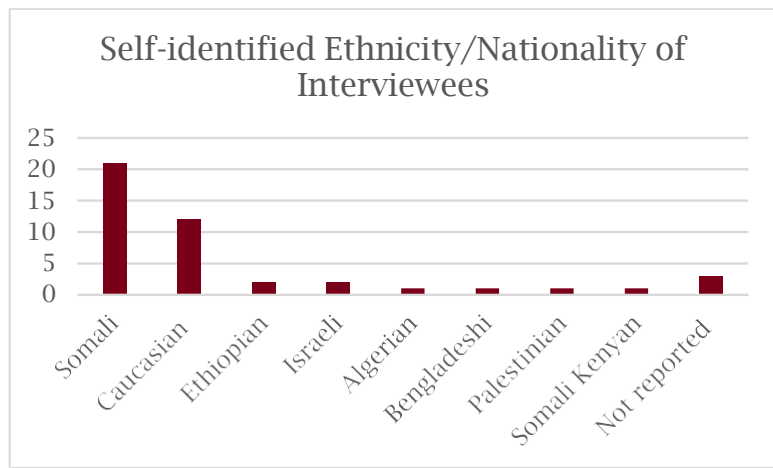
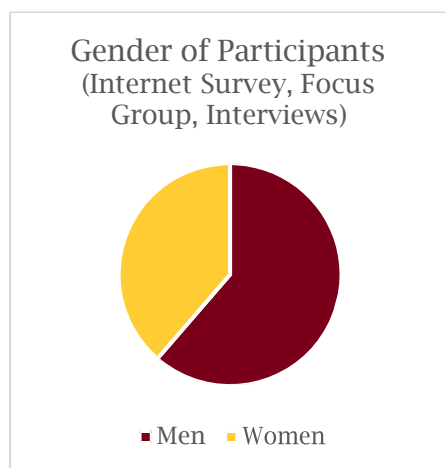


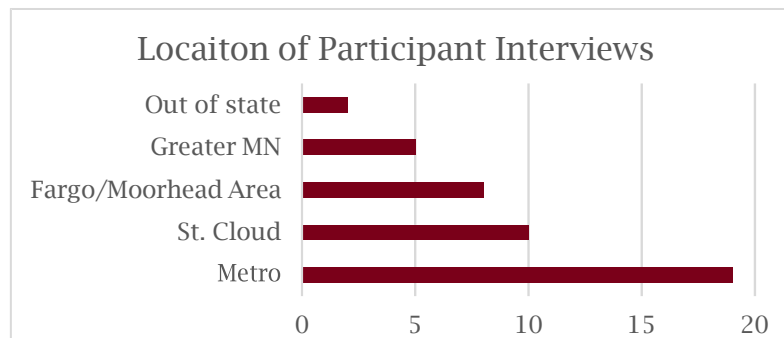
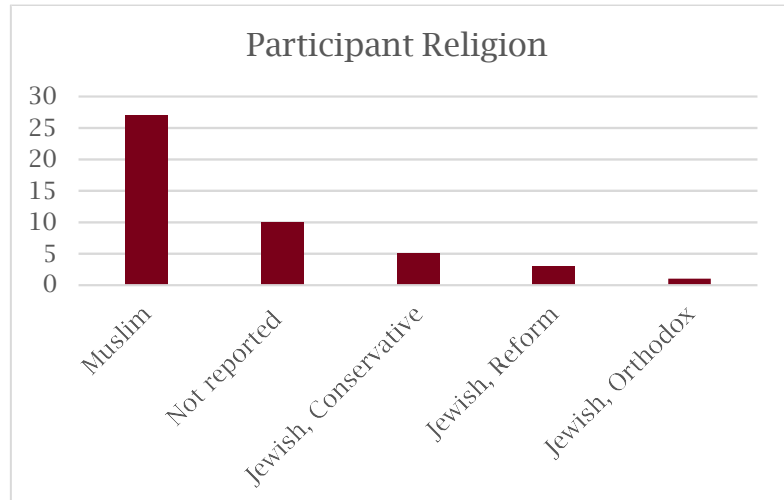
Figure J. Results from internet halal and kosher interest survey. August 2019.

Interviews were conducted primarily one-on-one in person or by phone. Interviews were recorded with an electronic recording device when possible, and all interviews were documented through written interviewer field notes. Audio-recorded interviews were transcribed verbatim using the software application Temi.com, then verified through a second listening to check the recording against the transcript, ensuring that no content was omitted.



Data Analysis

The research team followed a modified version of the “Data Analysis Spiral” process⁸⁵ for the qualitative interviews, which included: 1) becoming immersed in the data through data organizing; 2) developing a coding system and assigning codes by analyzing the data for significant statements surrounding the central phenomenon of halal and kosher meat; 3) revising the codes for the building of categories through the use of MindMap; 4) assessing interpretations and looking for deviant cases through re-reading the transcripts, codes, and categories to build subcategories; 5) developing the categories into emerging themes; 6) reassessing the themes through a final review of the data; 7) presenting themes to key community members for feedback; and 8) writing a final analysis with a discussion of findings.



Limitations

Methodological limitations of the study stem from the context-dependent nature of this research. This study is limited to its focus on "on the ground" insights from participants in the halal and kosher meat markets in Minnesota. Thus, while the study followed the scientific process of a mixed method and phenomenological qualitative research methodology, the study reflects only the opinions, situations, and experiences unique to the 42 interviewees, five focus group participants, and 61 survey respondents in Minnesota.

Further, it is essential to emphasize that halal and kosher practices can vary meaningfully depending on context. Differences among religious denominations and practices, geographic origins, and family customs all result in variations in how halal and kosher diets are practiced in daily life by Muslims and Jewish people respectively. This report attempts to summarize some of these differences, but an in-depth study of

⁸⁵ Creswell, J. W., & Poth, C. N. (2017). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (Fourth edition). Los Angeles: SAGE Publications, Inc.

such variations is outside the scope of this project. Therefore readers should be aware that individual understandings of halal and kosher practices will differ.

Readers are encouraged to use this report as a starting point and as a landscape view of halal and kosher meat markets. This report is not, however, able to provide a nuanced understanding of specific challenges and opportunities faced by individual businesses or supply chain participants. Readers are encouraged to explore such challenges, opportunities, and differences in more depth in their own local settings.

GLOSSARY OF TERMS AND ACRONYMS

Custom Exempt: State-inspected slaughterhouses that can be used by a livestock owner to process their own meat for their own personal consumption.

Does: Female adult goats.

Equal-to (E2): In Minnesota, the MN Department of Agriculture program that provides a continuous inspection service for meat products sold solely within the state.

FDA: Food and Drug Administration

FSA: Farm Service Agency (within USDA)

FSIS: Food Safety and Inspection Service (within USDA)

Grant of Inspection: The process to become USDA certified for livestock slaughter and processing.

Halakah: Jewish law derived in part from the Torah.

Halal: Anything that Muslims are allowed to use or engage in. In Islam, every food is halal unless it is specially designated as haram (not permissible) in the Quran or the Hadith (a collection of prophetic sayings).

Hallif: The name of the knife for kosher slaughter

Haram: Things that are not halal, meaning not permissible.

Kids: Juvenile goats.

Kosher: Refers to foods that meet the requirements for consumption under Jewish law, or the halakah. The term kosher can be applied to all food, not only meats, and refers to both the type of food and the preparation of the food.

MDA: Minnesota Department of Agriculture

MISA: Minnesota Institute for Sustainable Agriculture (within University of Minnesota)

MMPIP: Minnesota Meat and Poultry Inspection Program (within MDA)

Parve: A product that is neither dairy nor meat.

Rabbi: Jewish religious leader.

Ruminants: Animals that graze with stomachs that provide fermentation for digestion.

Shochet: As prescribed by Jewish law, or halakah, this term refers to a person trained to kill animals in a kosher way.

Torah: The Jewish scripture.

Treif: The Hebrew word for products that are not kosher.

USDA: United States Department of Agriculture

USDA-inspected: Continuous inspection by a US Department of Agriculture FSIS inspector at the facility allows for certification, permitting meat to be sold commercially across state lines or internationally.

Wethers: Castrated adult male goats.

Zabiha: Rules outlined in Islamic law for the process of slaughter.