

Farm-to-institution in the Southwest: An evaluation of the New Mexico Grown Meat Pilot Program

Kathryn E. Coakley,^{a*} Acadia W. Buro,^b Caitlyn Sandoval^c
University of New Mexico

Bryan Crawford-Garrett^d
New Mexico Farmers' Marketing Association

Francisco Soto Mas^e
University of New Mexico

Submitted April 23, 2025 / Revised June 25 and July 16, 2025 / Accepted July 22, 2025 /
Published online September 25, 2025

Citation: Coakley, K. E., Buro, A. W., Sandoval, C., Crawford-Garrett, B., & Soto Mas, F. (2025).
Farm-to-institution in the Southwest: An evaluation of the New Mexico Grown Meat Pilot
Program. *Journal of Agriculture, Food Systems, and Community Development*, 14(4), 93–117.
<https://doi.org/10.5304/jafscd.2025.144.015>

Copyright © 2025 by the Authors. Published by the Lyson Center for Civic Agriculture and Food Systems. Open access under CC BY license.

Abstract

The 2022 New Mexico legislative session introduced meat products (beef, bison, pork, and lamb/mutton) to New Mexico (NM) Grown, the state local food procurement program, and led to the development of the Meat Pilot Program (MPP).

Implemented in fiscal year (FY) 2023, the MPP allowed 148 NM Grown buyers (primary and secondary [K–12] schools, early childhood and

^{a*} *Corresponding author:* Kathryn E. Coakley, PhD, MS, RDN, Assistant Professor, University of New Mexico Health Sciences Center, College of Population Health; UNM College of Population Health, Family Medicine Center; 2400 Tucker Avenue NE, MSC09 5070; Albuquerque, NM 87131 USA; +1-270-312-6086; kccoakley@salud.unm.edu;
 <https://orcid.org/0000-0002-2887-3546>

^d Bryan Crawford-Garrett, BA, MPA, Food Systems Initiatives Director, New Mexico Farmers' Marketing Association, Santa Fe, NM USA; bryan@farmersmarketsnm.org;
 <https://orcid.org/0009-0008-4457-3069>

^b Acadia W. Buro, PhD, Assistant Professor, University of New Mexico Health Sciences Center, College of Population Health; UNM College of Population Health, Family Medicine Center, Albuquerque, NM USA; ABuro@salud.unm.edu;
 <https://orcid.org/0000-0001-9639-4240>

^e Francisco Soto Mas, MD, PhD, MPH, Professor, University of New Mexico Health Sciences Center, College of Population Health; UNM College of Population Health, Family Medicine Center, Albuquerque, NM USA; FSotoMas@salud.unm.edu;
 <https://orcid.org/0000-0001-9621-2283>

Funding Disclosure

This work was funded by the New Mexico Farmers' Marketing Association (NMFMA) through funding received from the New Mexico Department of Agriculture (NMDA), which originated from two sources: the U.S. Department of Agriculture's Local Food Purchase Assistance Cooperative Agreement Program, and the State of New Mexico.

^c Caitlyn Sandoval, BS, MPP, Research Assistant, University of New Mexico Health Sciences Center, College of Population Health; UNM College of Population Health, Family Medicine Center, Albuquerque, NM USA; caityndsandoval@gmail.com

Disclosures

All authors attest that they have no relevant financial or other conflicts of interest.

senior centers, and food banks) to purchase local meat products from 28 New Mexico-based suppliers (producers, processors, food hubs, and distributors) to provide to priority populations. Given the lack of research on meat-to-institution programs, a cross-sectional exploratory study was conducted to examine MPP participation, successes and barriers, and perceived impacts from the perspectives of buyers, suppliers, and stakeholders. Twenty-eight individuals representing 39 buyers (26%) and 14 meat suppliers (50%) completed a survey; 11 buyers, suppliers, and stakeholders participated in an interview or focus group. Most suppliers and buyers were satisfied with the MPP (92% and 85%, respectively) and 100% indicated they would participate again. Most buyers agreed the MPP gave ranchers and suppliers an important economic opportunity (100%) and improved recipients' diet and meal quality (89%). Qualitative data further indicated satisfaction with culturally relevant meats and yielded suggestions such as providing more supplier information to buyers, expanding marketing and outreach to engage eligible suppliers that did not participate, and organizing meetings and networking events to connect participating organizations and build community and trust. The MPP provided an important economic opportunity for New Mexico meat operations such as small-scale family farms and ranches, producer cooperatives, local food hubs, and small and midsize processors to access new local markets. The MPP was also well received by NM Grown buyers. Additional research on meat-to-institution initiatives is needed to fully understand the impacts of connecting suppliers providing culturally relevant sources of high-quality protein to priority populations.

Keywords

farm to institution, meat supply chain, meat value chain, food systems, local food, food industry, diet quality, food security, agriculture, institutional food procurement, New Mexico

Introduction

As the prevalence of food insecurity rises across the U.S., disproportionately affecting underserved population groups (Rabbitt et al., 2023; Rabbitt et al., 2024), local food systems are becoming increas-

ingly important (Garrity et al., 2024). Integrating local food and food products into institutional foodservice, referred to as “farm-to-institution,” is an important component of what is referred to as values-based procurement (Campbell, 2023; Harris et al., 2012), particularly in rural states like New Mexico, located in the Southwest region of the U.S. Local institutional procurement can potentially address population-level food and nutrition insecurity while also supporting local food producers and thus benefiting the economy (Becot et al., 2017; Harris et al., 2012). These benefits may include creating markets for small and midsize operations, shortening food supply chains, and promoting fairer prices (Jia et al., 2024).

As of 2025, all U.S. states have signed with the U.S. Department of Agriculture (USDA) Local Food Purchase Assistance Cooperative Agreements (LFPA) for food bank purchasing, and 42 states have signed Local Food for Schools Cooperative Agreements (LFS) for school purchasing (USDA Agricultural Marketing Service [USDA AMS], n.d.-a, n.d.-b). These agreements allow procurement and distribution of local foods and beverages to food banks and schools. Nationally, pre-schools, senior-serving institutions, food banks, and healthcare organizations also participate in farm-to-institution initiatives. This study reviews the farm-to-institution literature, focusing on “meat-to-institution,” and describes New Mexico's farm-to-institution program, New Mexico Grown (NM Grown), and the results of an exploratory study of a new NM Grown meat-to-institution initiative, the Meat Pilot Program (MPP).

Literature Review

This literature review summarizes research on farm-to-institution programs in various settings in the U.S. and emphasizes the significant gap in evidence on meat-to-institution initiatives.

Farm-to-School

Research on farm-to-institution programs in the U.S. largely focuses on K–12 schools (Auwadiah & Kropp, 2022; Bontrager Yoder et al., 2014; Galloway et al., 2023; Garrity et al., 2024; Harris et al., 2012; Joshi et al., 2008; Long et al., 2021; Mishra et al., 2022; Prescott et al., 2020; Thomson

et al., 2024). A 2022 literature review found farm-to-school programs support nutrition education for children and also economically and socially benefit local communities (Mishra et al., 2022). According to the 2023 Farm to School Census, 81% of U.S. schools in the 2022–2023 school year participated in at least one farm-to-school activity, which include local food procurement, school gardens, field trips, farm tours, and cooking classes (Machata et al., 2024). Of these schools, 63% served local foods to students, spending \$1.8 billion¹ on local purchasing, about 16% of total food spending. Most schools participating in farm-to-school activities report an increase in fruit and vegetable consumption in school meals (61%) and better access to higher quality foods (57%) (Machata et al., 2024). Peer-reviewed studies also suggest that farm-to-school programs increase students' food and nutrition-related knowledge and willingness to try fruits and vegetables; however, impacts on fruit and vegetable consumption, number of meals served, and student participation in meal programs are less clear (Avuwadah & Kropp, 2022; Bontrager Yoder et al., 2014; Prescott et al., 2020).

Importantly, key farm-to-school stakeholders are interested in participating in farm-to-school and note benefits, including stakeholders such as school foodservice authorities (SFA), foodservice directors and staff (Izumi, Alaimo et al., 2010; Pinard et al., 2013; Smith et al., 2013; Thomson et al., 2024), and producers (Izumi, Wynne Wright et al., 2010; Pinard et al., 2013; Thomson et al., 2022). School foodservice staff are motivated to participate by student preferences, good prices, and supporting local farmers (Izumi, Alaimo et al., 2010). Staff are also receptive to receiving training on preparing and serving local foods as part of farm-to-school programs (Smith et al., 2013). Differences in perceived benefits may vary by school size, with larger schools in the Midwest being more likely to indicate the “ability to know product sources” as a benefit than smaller schools (Smith et al., 2013, p. 154). Producers are also motivated to participate in farm-to-school, with fruit and vegetable farmers in the Mid-Atlantic region noting positive social and economic impacts and opportunities (Lehnerd et

al., 2018) and farmers from the Midwest and Northeast reporting market diversification and contributing to social benefits through direct action as primary motivators (Izumi, Wynne Wright et al., 2010).

As well as benefits, however, farm-to-school can present barriers for schools and producers alike. The 2023 Farm-to-School Census found SFAs participating in farm-to-school activities report unavailability and cost of local foods as barriers (Machata et al., 2024). Throughout the literature, schools further note lack of relationships with farmers, food safety regulations, cost of labor, and storage and equipment as barriers (Pinard et al., 2013; Roche & Kolodinsky, 2011; Thomson et al., 2024), which may be more pronounced for smaller schools (Pinard et al., 2013). Producers also report as primary farm-to-school barriers lack of relationships with schools and difficulties providing product during the entire school year, providing adequate volume of products, and providing the most competitive price (Pinard et al., 2013; Thomson et al., 2022). Differences in producer and buyer approaches to food production and handling may underlie many barriers (Janssen, 2014).

Farm-to-Other Institutions

There is less research on farm-to-institution programs in non-K–12 settings. A 2012 national survey found that farm-to-preschool programs operate in at least 39 states and that the most common farm-to-preschool activities are education about locally grown foods and serving meals and snacks with local food (Hoffman et al., 2017). Less than half of the 502 preschools represented in the survey were supported through external funds, which could account for lower participation in farm-to-institution activities among early childhood centers compared to K–12 schools (Colasanti & Matts, 2013). Indeed, another study found that just over one-third (37%) of early care and education providers in Colorado participate in local food procurement (McCloskey et al., 2020).

Sociodemographic factors may play a role in farm-to-institution participation rates. A 2015 national survey of early care and education

¹ All amounts in this article are in U.S. dollars.

providers found sites serving a high proportion of low-income children were less likely to participate in farm-to-institution programs compared to those serving a low proportion, despite similar motivators and barriers (Stephens & Oberholtzer, 2020); however, low-income-serving sites spent a higher percentage of total food budgets on local foods. A report by the City University of New York (CUNY) Urban Food Policy Institute presents barriers and facilitators to local and regional food procurement at senior centers, early childhood centers, and food banks in Central Brooklyn and provides recommendations on funding, outreach, training, and evaluation (Ames et al., 2019). Otherwise, there is a lack of published research on farm-to-preschool and senior-serving institutions.

Research is similarly sparse for food bank and pantry settings. A 2011 national survey of 115 food banks and similar organizations found produce obtained directly from local farmers and gardens accounts for a small proportion of total food distributed (Vitiello et al., 2015). Despite the small contribution, food bank staff are motivated to implement local agriculture programs due to perceived increases in local poverty and food insecurity and desire to provide healthier options to clients. Farmers are also motivated to participate in farm-to-food bank, citing social responsibility and financial and marketing benefits (Haynes Stein & Brinkley, 2023).

Meat-to-Institution

Across settings, farm-to-institution research focuses almost exclusively on produce and grains, leaving a significant gap in the evidence on meat products. Our literature review identified just one study, of an Alaskan “fish to school” program that significantly increased fish intake and diet quality among middle and high school students (Bersamin et al., 2019). Other meat-to-institution evidence is limited to national and state reports, which mainly present participation rates and protein purchasing data. The 2019 Farm to School Census, for example, found 24% of participating schools purchased some form of locally raised protein (meat, poultry, fish, eggs, nuts) (Bobronnikov, 2021). As of 2023, beef and poultry rank third and fourth among local

items that SFAs spend the most on (Machata et al., 2024).

Two case studies on beef-to-school programs in South Dakota and Montana round out the meat-to-institution evidence base. About one-third (34%) of SFAs in South Dakota participated in a Beef to School program, spending an average of \$9,577 per SFA in the 2023–2024 school year (Dunn et al., 2024). Schools that did not participate were larger operations with more locations. In Montana, of the 40% of schools participating in farm-to-school, 47% source local meat products (Byker Shanks et al., 2019). The Montana case study emphasizes the importance of starting small, addressing cost barriers, building processing facility capacity, and engaging community partnerships in meat-to-institution efforts. In summary, preliminary meat-to-institution evidence does suggest institutions, at least K–12 schools, appear to be interested in purchasing local meat, warranting additional research.

Farm-to-Institution in New Mexico

NM Grown was introduced through the New Mexico Grown Fresh Fruits and Vegetables for School Meals legislation in 2014, connecting New Mexico food producers to K–12 schools. The program has since expanded to include senior centers in 2018, early childhood education centers in 2021, and food banks in 2023. NM Grown is now the state’s largest local food procurement program and has been an integral component of the governor’s Food Initiative since 2022 (Office of the Governor Michelle Lujan Grisham, 2023).

NM Grown provides resources to state agencies and food banks to purchase locally produced food from New Mexican farmers and ranchers, food producers, food hubs, and distributors that meet Approved Supplier requirements (New Mexico Grown, 2024). The New Mexico Farmers’ Marketing Association (NMFMA) administers the Approved Supplier program. The NMFMA also maintains a publicly available list of all Approved Suppliers and Buyers, and hosts events to connect NM Grown participants. Food purchased through NM Grown serves children in early childhood education centers, students in K–12 schools, elders at senior centers, and clients at food banks. Program

marketing materials state that “Suppliers can expect competitive prices” and “You set the price; buyers will do their best to meet your needs.” NM Grown therefore rewards New Mexico farmers, ranchers, and other food producers with fair prices for products supplied. NM Grown funding has historically been provided through the state and a LFPA cooperative agreement program, the Regional Farm to Food Bank.

New Mexico’s investment in local food procurement emphasizes the overall importance of agriculture and the state’s traditional agriculture economy which is rooted in local and indigenous knowledge and practices, strong connection with the land, and support of ecological balance. The food and agriculture sector represented 253,529 jobs and generated \$12.92 billion in total wages in 2023 (Feeding the Economy, 2025). Livestock is a large piece of the food and agriculture sector; the value of livestock production alone was \$3.09 billion in 2023, a slight increase from previous years (Whitcotton et al., 2024). Small-scale livestock operations are crucial, as almost 60% of agricultural operations in New Mexico are less than 100 acres and 95% of the state’s 24,700 farms and ranches are family-owned (New, 2023; USDA National Agricultural Statistics Service, 2022).

New Mexico Grown Meat Pilot Program

During the 2022 legislative session, New Mexico-based meat products were added to NM Grown,

including beef, pork, bison, and lamb/mutton. The NMFMA collaborated with the New Mexico Department of Agriculture (NMDA) and other key stakeholders to develop and implement the FY23 Meat Pilot Program (MPP), which ran July 1, 2022–June 30, 2023, to officially introduce meat products to NM Grown. The MPP goal was to provide an opportunity for interested New Mexico-based meat suppliers to sell locally produced meat products to NM Grown buyers to provide locally raised sources of high-quality protein to priority recipient populations.

Meat Pilot Program approved suppliers

To recruit suppliers, the NMFMA directly emailed approximately 50 New Mexico-based producers, processors, ranchers, and food hubs; posted general MPP information to their distribution list of 1,140 recipients; and distributed information via industry groups and non-profit organizations that work with livestock producers (New Mexico Acequia Association, New Mexico Beef Council, Southwest Grassfed Livestock Alliance) and the Regional Farm to Food Bank pilot program. Interested suppliers submitted applications on a rolling basis throughout the pilot year to become Approved Suppliers of NM Grown meat products.

Twenty-eight meat suppliers met Approved Supplier requirements, outlined in Appendix A, and participated in the MPP (Table 1). Over half of participating suppliers (54%) were located in rural

Table 1. Characteristics of Approved Suppliers that Participated in the FY23 Meat Pilot Program (MPP) (N = 28)

	<i>n</i> (%) ^a	Offered beef <i>n</i> (%)	Offered lamb/ mutton <i>n</i> (%)	Offered pork <i>n</i> (%)	Offered bison <i>n</i> (%)	Disadvan- tagged ^b <i>n</i> (%)	Rural <i>n</i> (%)
All Suppliers	28 (100)	26 (93)	11 (39)	5 (18)	4 (14)	11 (39)	15 (54)
Producers	14 (50)	13 (93)	3 (21)	2 (14)	0 (0)	7 (50)	8 (57)
Producer collectives	2 (7)	2 (100)	0 (0)	0 (0)	0 (0)	1 (50)	1 (50)
Processors	6 (21)	5 (83)	4 (67)	1 (17)	2 (33)	3 (50)	5 (83)
Food hubs ^c	5 (18)	5 (100)	2 (40)	1 (20)	0 (0)	1 (20)	2 (40)
Distributors	3 (11)	2 (67)	3 (100)	1 (33)	2 (67)	1 (33)	1 (33)

^aSuppliers could choose more than one option when indicating operation type.

^bSelf-identified as Socially Disadvantaged in Approved Supplier application.

^cA food hub was defined as a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distributions, and/or marketing of locally/regionally produced food products.

counties and 39% self-identified as socially disadvantaged, defined by the USDA as

a farmer or rancher who is a member of a socially disadvantaged group. A ‘Socially Disadvantaged Group’ is a group whose members have been subject to discrimination on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual’s income is derived from any public assistance program. (Code of Federal Regulations Title 7, 2024, bullet [I])

In terms of product availability, most suppliers applied to sell beef (93%) while fewer applied to sell lamb/mutton (39%), pork (18%), and/or bison (14%).

Table 2 shows the geographic location of MPP Approved Suppliers. Most were in Northern (43%) or Central New Mexico (36%). No meat suppliers

were in Southern New Mexico and just two were in Northwestern New Mexico.

Meat Pilot Program buyers

There were 148 NM Grown buyers in FY23 (Table 3). Most were in Central (32%) or Northern New Mexico (26%). Nearly half (46%) of buyers were in rural counties. Twenty-eight buyers were in Southern New Mexico, although there were no meat suppliers in this region of the state.

In FY23, \$1.62 million was allocated for NM Grown local food purchases across three state administering agencies (K–12, early childhood, senior affairs) and one central food bank. Administering agencies distributed NM Grown funding to individual schools, early childhood education, and senior centers that could spend up to approximately 40% on meat purchases. Food banks did not have a limit on the amount eligible for meat purchases. According to data provided to the research team, senior centers spent \$234,840 and food banks spent \$166,528 on meat during the MPP. Meat purchasing data for K–12 schools and early childhood centers were unavailable, but an estimated amount spent by these buyers is

Table 2. Geographic Location of Approved Suppliers that Participated in the MPP (N = 28)

	n (%)	Central NM	Northern NM	Northwest NM	Eastern NM	Southern NM	AZ ^a
All Suppliers	28 (100)	10 (36)	12 (43)	2 (7)	3 (11)	0 (0)	1 (4)
Producers	14 (50)	4 (29)	7 (50)	1 (7)	2 (14)	0 (0)	0 (0)
Producer collectives	2 (7)	1 (50)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)
Processors	6 (21)	1 (17)	4 (67)	0 (0)	1 (17)	0 (0)	0 (0)
Food hubs	5 (18)	2 (40)	1 (20)	1 (20)	0 (0)	0 (0)	1 (20)
Distributors	3 (11)	2 (67)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)

^a One Arizona (AZ)-based food hub met NM Grown Approved Supplier criteria and participated in the MPP

Table 3. Type and Geographic Location of FY23 NM Grown Buyers (N = 148)

	n (%)	Central	Northern	Northwest	Eastern	Southern	Multiple
All Buyers	148 (100)	47 (32)	39 (26)	18 (12)	14 (9)	28 (19)	2 (1)
K–12 schools	58 (39)	16 (28)	18 (31)	8 (14)	7 (12)	9 (16)	0 (0)
Early childhood centers	33 (22)	17 (52)	6 (18)	3 (9)	3 (9)	3 (9)	1 (3)
Senior centers	56 (38)	14 (25)	15 (27)	7 (13)	4 (7)	16 (29)	0 (0)
Food banks ^a	1 (0.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)

^a One food bank makes NM Grown purchases and distributes to five regional food banks.

\$320,000–\$380,000. Based on outreach to individual buyers, approximately 72% of NM Grown buyers purchased meat products during the MPP.

New Mexico Grown FY23 Meat Pilot Program Evaluation

Because of the gaps in knowledge of farm-to-institution programs, particularly meat-to-institution, and the motive to expand the MPP, the NMFMA and a team of researchers partnered to evaluate the FY23 MPP. This exploratory study aimed to 1) evaluate the MPP to understand successes, barriers, and impacts on recipients from the perspective of meat suppliers, buyers, and other stakeholders, and 2) contribute to the emerging meat-to-institution literature.

Applied Research Methods

An exploratory cross-sectional study was conducted in New Mexico in fall 2023, consisting of surveys, one-on-one interviews, and focus groups. The research team and the NMFMA co-designed the research and evaluation framework, data collection methods, and data collection instruments. The University of New Mexico Health Sciences Center Human Research Review Committee reviewed and approved this study as exempt research (HRRC# 23-387).

Study Participants and Recruitment

Survey participants included MPP Buyers and Approved Suppliers. Interviews and focus groups included MPP Buyers, Approved Suppliers, and stakeholders at administering and other agencies.

Survey Participants: Buyers and Suppliers

Buyers and Approved Suppliers that sold any meat products during the MPP were eligible to participate in the study survey. Individual eligibility criteria included being at least 18 years of age and involvement in their organization or operation's participation in the MPP for at least six months during FY23 (July 2022–June 2023).

The NMFMA provided information for 151 individuals representing 148 buyers and 28 suppliers for recruitment. Some individuals represented multiple buyers, primarily senior centers. Study surveys were administered through REDCap, an

online survey platform approved for research. All suppliers and buyers received individual survey links and reminders via email October 23–November 17, 2023. If emails bounced back, the NMFMA provided alternative or updated contacts or contacted organizations directly. Participants first read a consent form and provided consent to participate by starting the survey. After assessing eligibility criteria, ineligible participants were redirected, and eligible participants completed the survey on behalf of their organization or operation. Participants could provide an email address at the end of the survey to enter to win one of two \$50 merchandise cards.

Interview and Focus Group Participants: Buyers, Suppliers, and Key Stakeholders

The NMFMA identified 11 individuals directly involved in NM Grown at administering and other agencies to recruit for interviews and focus groups. Fourteen buyers and suppliers also expressed interest in interview or focus group participation while completing the survey. These 25 individuals were contacted by email and phone and could choose to participate in an individual interview or a focus group.

Data Collection Methods

Data were collected through surveys, one-on-one interviews, and focus groups, described here.

Buyer and Supplier Surveys

Two original surveys were developed through an iterative process to collect data from MPP suppliers and NM Grown buyers. The NMFMA provided 22 documents (e.g., NM Grown and MPP background and recruitment information, supplier applications, reports) to guide survey development; drafts were discussed extensively in team meetings. Buyer and supplier surveys included closed- and open-ended questions and took approximately 20 minutes to complete. Survey questions assessed buyers' and suppliers' type and location, meat products purchased or sold during the MPP, satisfaction with MPP components, agreement with program impacts, and interest in future participation (see Appendix B). Respondents were not required to answer all

questions in order to promote participation and limit burden.

Interviews and Focus Groups

Three members of the research team conducted five virtual 30-minute semi-structured interviews and two virtual 60-minute focus groups in October and November 2023. All interviews and focus groups were conducted in English and audio recorded. The research team and the NMFMA co-developed interview and focus group guides focusing on participants' roles and satisfaction with the MPP and perceptions of outreach and recruitment; technical assistance and support; and overall effectiveness, successes, outcomes, and barriers. Interviewers took notes during interviews. Interviewees received a \$30 merchandise card and focus group participants received a \$50 merchandise card.

Data Management and Analysis

At the end of the data collection period, survey data were downloaded, cleaned, and analyzed using Statistical Analysis Software (SAS) Version 9.4. Not all survey questions were required, and incomplete responses are included in this analysis. For Likert scale questions, Strongly Agree and Agree were combined to Agree and Strongly Disagree and Disagree were combined to Disagree. Similarly, Very Satisfied and Satisfied were combined to Satisfied and Very Dissatisfied and Dissatisfied were combined to "Dissatisfied." Descriptive statistics—mean (*M*) and standard deviation (*SD*) for continuous variables, frequency (*n*) and percentage (%) for categorical variables—were calculated for survey responses and examined by supplier type (producer, processor, or "other," which included food hubs, producer collectives, and distributors) and buyer type (K–12, early childhood, senior center, food bank).

Stakeholder Interviews and Focus Groups

Individual interviews and focus groups were transcribed verbatim using Trint software. The research team first reviewed transcripts to familiarize themselves with the data. Inductive content analysis was performed to identify themes and concepts for each question. A codebook was created after initial data familiarization and was revised in

an iterative process throughout coding. Using NVivo, a primary coder coded all interviews and focus groups and a secondary coder coded approximately 20% of the data; coder agreement was assessed by Cohen's kappa (≥ 0.80 , indicating reliable coding).

Results

Of the 151 individuals representing 148 buyers and 28 suppliers contacted, 66 (44%) consented to participate in the survey. Twenty-four (36%) were not eligible based on screening questions, largely due to not being involved in their organization's or operation's MPP participation for at least six months. After completing screening questions, 42 complete or partial responses were received from 28 individuals representing 39 buyers and 14 suppliers, yielding response rates of 26% and 50%, respectively.

Of the 25 potential stakeholders, five participated in an interview and six participated in one of two focus groups (response rate = 44%). Interview and focus group participants represented suppliers, buyers, and other key stakeholders. Fourteen did not respond to recruitment attempts.

Supplier Results

Fourteen (50%) of the 28 Approved Supplier meat vendors participating in the MPP completed a survey. Most were producers ($n = 9$, 64%), processors ($n = 5$, 36%), or food hubs ($n = 5$, 36%). Four distributors and two producer collectives also participated. Six of the nine producers (67%) identified as socially disadvantaged.

Figure 1 shows the types of meat products sold by MPP suppliers that completed a survey. All suppliers sold beef and frozen meat products (100%) and most sold grass-fed or grass-finished (64%) and hormone-free meat products (57%) during the MPP. No suppliers that responded to the survey sold bison or USDA-certified organic meat products.

Figure 2 shows meat suppliers' satisfaction with components of the MPP. More than half were satisfied with all components evaluated. All that responded to these questions ($n = 13$, 100%) were satisfied with their knowledge of expectations and requirements for participating in the MPP and the Approved Supplier application process. Some sup-

pliers were dissatisfied with the amount of product sold (23%), ability to find interested buyers (15%), and ease of doing business with meat buyers (15%).

Twelve suppliers rated their ability to respond to buyer requests during the MPP (data not shown). Most reported that requests for packaging of meat products (75%) and volume of meat products (67%) were easy or very easy to respond to. Most were neutral on their ability to respond to the volume of products buyers actually purchased (58%). Importantly, 92% of suppliers were satisfied with their overall experience participating in the MPP and 100% indicated they would participate in the future.

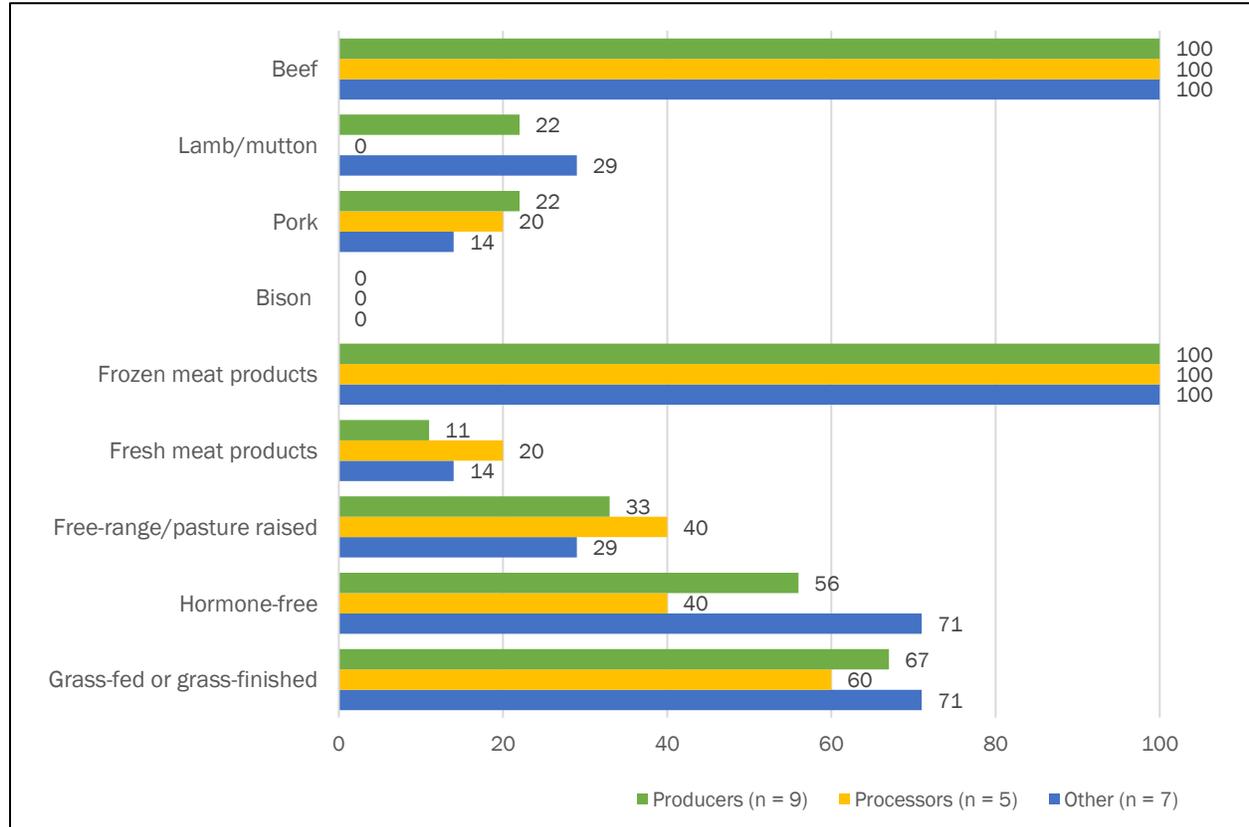
Three MPP suppliers participated in an interview or focus group. Suppliers discussed successes related to opportunities for expanding local markets and connecting with buyers, and for potential impact on local food security and the economy.

Suppliers noted that the MPP offered an opportunity for a special group of New Mexico ranchers to sell clean, healthy, thoughtfully grown beef and other meat products to new, local markets. Suppliers reported the MPP has the potential to impact the local economy by expanding the local market through sustainable and responsible practices, illustrated by the following remark:

The concept of the Program is something we heavily believe in and support. [Redacted] is made up of small New Mexico ranches that produce beef in the most environmentally friendly, humane, and clean manner possible. We would like to see this Program continue and grow on a long-term basis.

Suppliers also explained that the MPP offered an opportunity to improve food security in their communities, which was a motivating factor to participate. As one supplier said, “Our operation as a

Figure 1. Percent (%) of MPP-Approved Supplier Survey Respondents (n = 14) that Reported Selling Each Meat Product Type



[redacted] facility is to expand market opportunities for local ranchers and provide locally produced food to the food insecure residents in the communities we serve.”

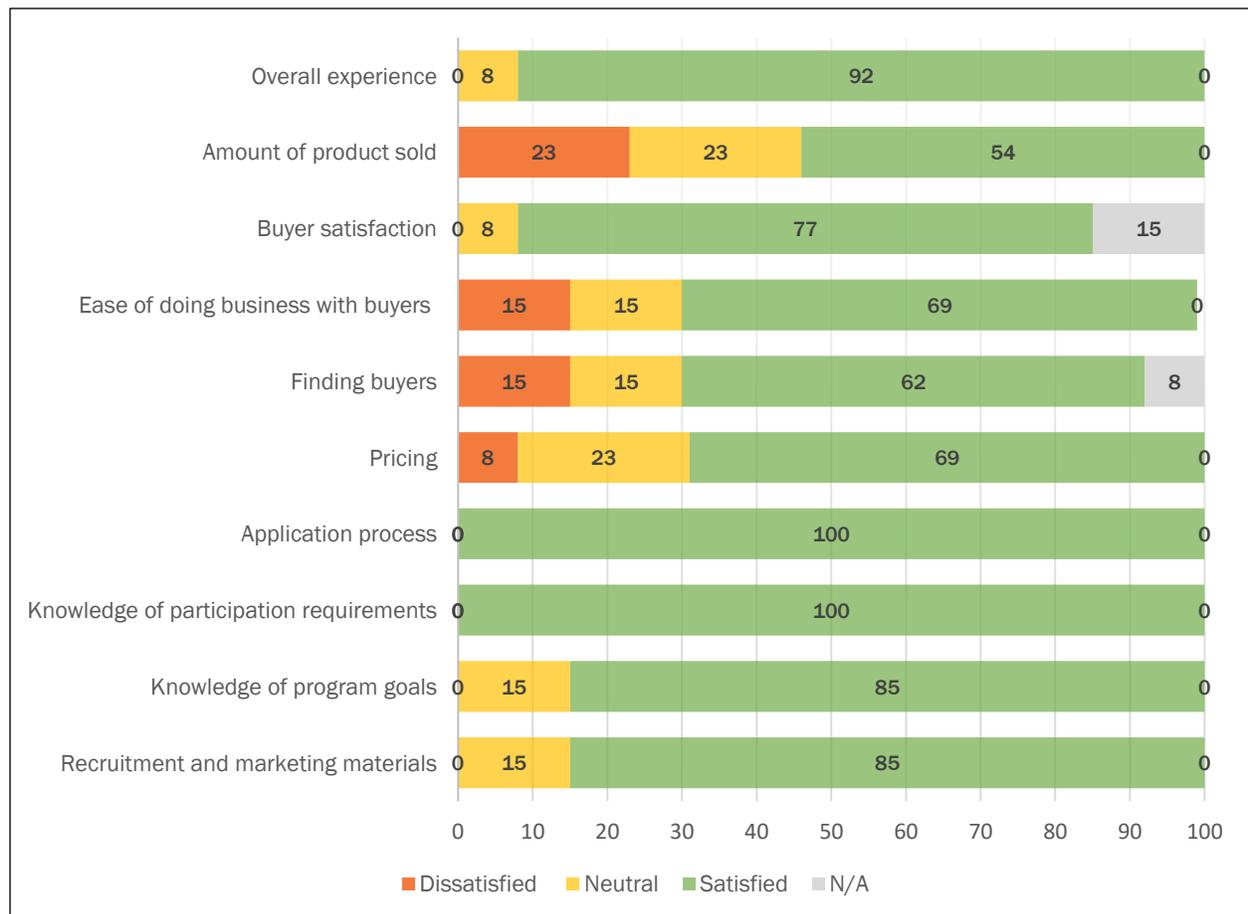
Suppliers discussed barriers related to order fulfillment logistics and buyer demand. For example, individual suppliers may not be equipped to meet buyer requests for significant amounts of product (e.g., 5,000–10,000 pounds). One supplier stated that “people requesting fresh meat products and not understanding liability/transportation/storage issues with fresh products for small producers [was challenging].” Suppliers also explained that buyer requests for large volumes of specific cuts (e.g., steaks, roasts) were difficult to fulfill compared to selling a whole or half animal. Suggestions for improvement were related to expanding the pool of buyers and providing them with more complete information about supplier capacity.

Suppliers also discussed how their expectations for significantly expanding into new markets were not met. Recommendations for expansion included access to more buyers, with particular attention to overcoming barriers in rural locations. One participant suggested: “Understanding the challenges and needs of rural communities and locations. Identifying the suppliers that are willing to provide and distribute meat products to rural locations.” Educating buyers on suppliers’ capacity was also suggested (e.g., “communication with buyers of what we can provide”) to facilitate more realistic and fulfillable requests. Suppliers also suggested expanding the MPP but acknowledged practical challenges related to growth.

Buyer Results

Twenty-eight (28) individuals representing 39 FY23 NM Grown buyers completed a survey (response

Figure 2. Approved Supplier Survey Respondents’ (n = 13) Satisfaction (%) with Components of the MPP

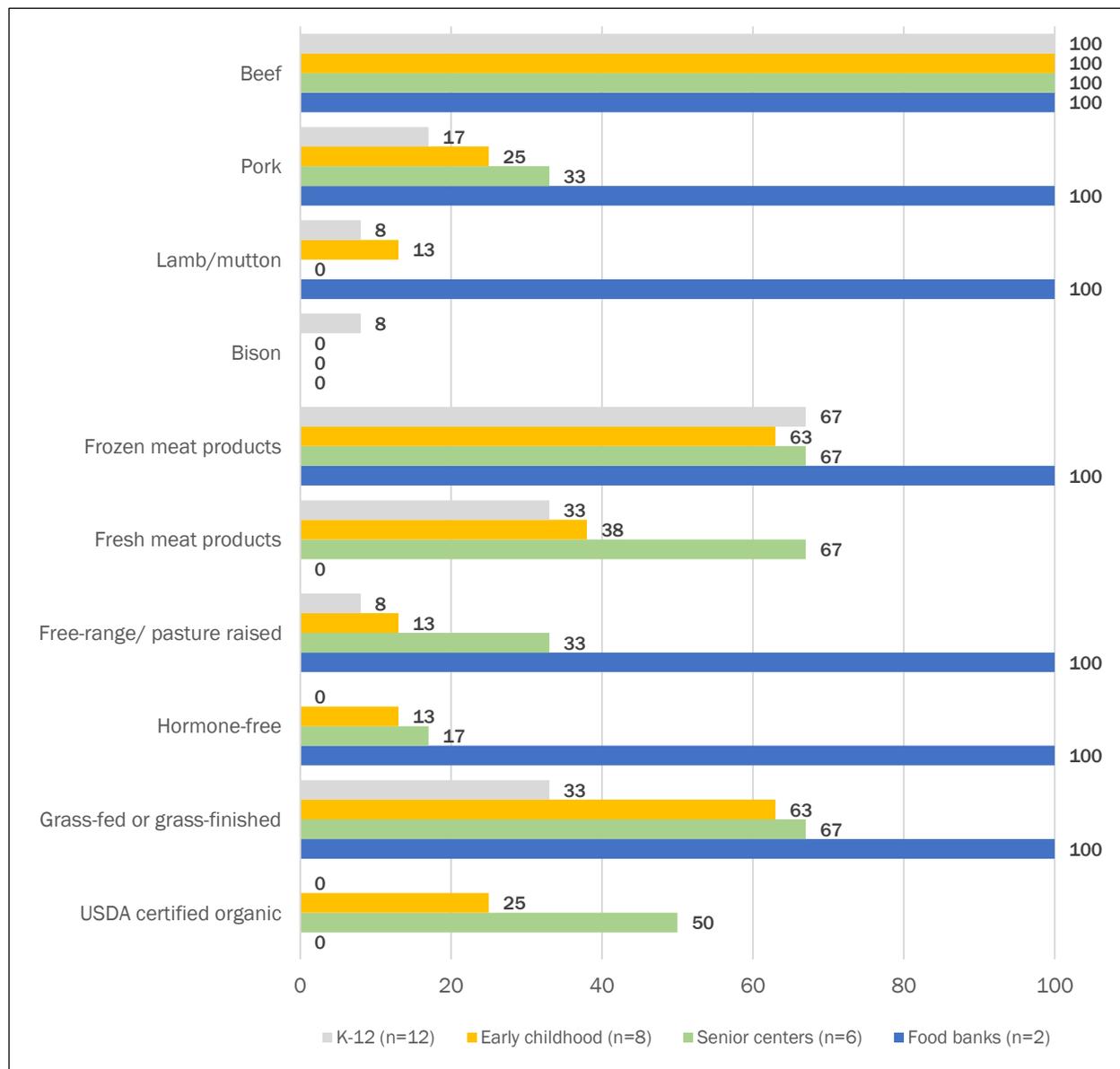


rate = 26%). Twelve K–12 schools (response rate = 21%), eight early childhood education centers (response rate = 24%), six individuals representing 17 senior centers (response rate = 30%), and two individuals representing one food bank (response rate = 100%) completed surveys. Most identified as individual buyers purchasing meat products to distribute directly to clients (79%), and fewer identified as collective buyers (21%), purchasing meat products to provide to other locations/centers to

distribute. On average, buyers spent more than one-third (34%) of their NM Grown grant allocation for local purchasing of meat products during the MPP. This amount varied greatly, ranging 0%–80%.

All buyers that completed a survey purchased beef (100%); fewer purchased pork (29%), lamb/mutton (14%), and bison (4%) (Figure 3). The majority purchased frozen (68%) and grass-fed or grass-finished meat products (54%). Fewer pur-

Figure 3. Percent (%) of NM Grown Buyer Survey Respondents (n = 28) that Reported Purchasing Each Meat Product Type



chased USDA-certified organic (18%) or hormone-free products (14%).

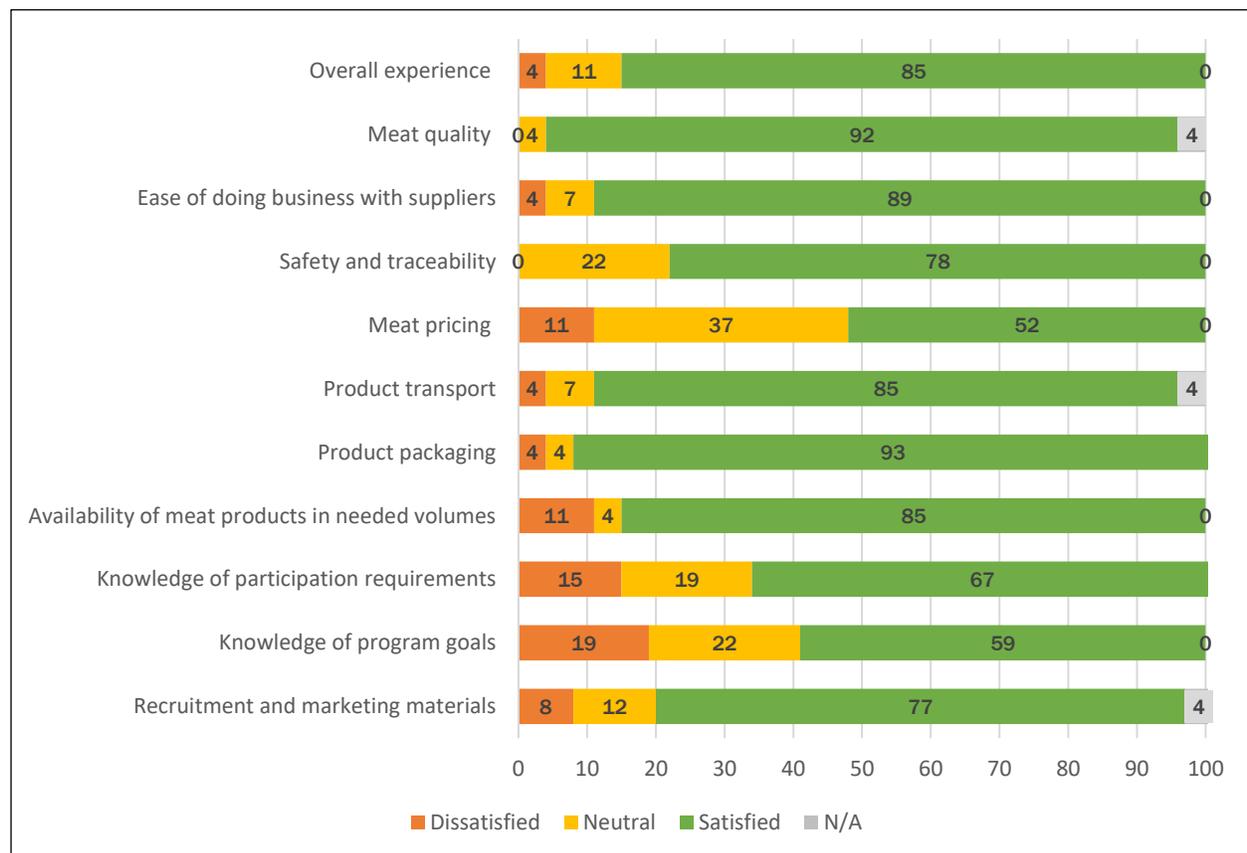
Figure 4 shows buyers' satisfaction with MPP components. At least 50% of buyers were satisfied with all components except technical assistance and support received from the NMFMA (44% satisfied) or the NMDA (30% satisfied) (data not shown). Satisfaction was highest for packaging of meat products (93%) and meat quality (92%) while dissatisfaction was highest for knowledge of MPP goals (19%) and knowledge of participation requirements (15%).

Buyers agreed that the MPP impacted recipients and local ranchers and meat suppliers. All who responded to this question ($n = 27$, 100%) agreed the MPP provided ranchers and other meat suppliers an important economic opportunity, 96% agreed recipients were satisfied with products, 89% agreed the MPP improved recipient diet and meal quality, and 78% agreed the MPP improved recipient food security status (data not shown). Overall,

100% of buyers who completed a survey indicated they would purchase meat products through NM Grown in the future.

Five NM Grown buyers participated in an interview or focus group. They reported successes related to the quality and types of meat provided to them, impacts on their meal programs, broader community-level impacts, and a positive experience working with suppliers. Overall, buyers remarked that the quantity and quality of beef available through the MPP was outstanding. Buyers described interest in continuing to purchase NM Grown meats due to the high quality of meat and due to the opportunity to provide locally sourced meats to the community. As one buyer stated, "Yes, we love serving healthy, locally sourced meats to our clients and we love supporting our local New Mexico farmers and ranchers! We believe it results in healthier communities and contributes to a more resilient food system." Another stakeholder said, "See, talk to some of the, say for

Figure 4. NM Grown Buyers' ($n = 28$) Satisfaction (%) with Components of the MPP



example, the seniors, and they know when it's not in New Mexico. They know when it's New Mexico carrots. They know when it's New Mexico beef. They taste the difference, and they appreciate the value of it."

Providing nutrient-dense foods to consumers aligned with buyers' motivation for participating in the MPP. Buyers explained the value of offering nutritious foods to the vulnerable populations, such as children, that they serve. Regarding meat types, beef was noted as the greatest success. The inclusion of culturally relevant meat products such as bison and mutton was appreciated, with desire for more bison. Buyers from schools mentioned that students loved trying new types of meat like brisket and roasts, and that staff enjoyed the meals as well. Some schools used creative strategies like "Nuevo Thursdays" to highlight new menu items. Buyers even reported that the MPP contributed to increased participation in senior and K–12 meal programs. One buyer stated, "Participation in our senior meals program has increased 25% since we started to use NM Grown products."

Buyers also noted that the MPP benefitted local agriculture and the local economy; one buyer further discussed the urgency for agricultural transformation: "I think that has helped to make agriculture sexy again, and that's what we got to get it to. Because as much as [redacted] alluded to, we have a small window of opportunity to change the catastrophic agricultural problem that is brewing."

Buyers offered suggestions for MPP improvement involving needs for additional administrative support (e.g., submitting for reimbursement) and more opportunities to foster personal connections with vendors. One participant said, "I'd really like some events where we can meet the farmers and build relationships with them. I'd love for them to be able to show their product and us to get food samples." Additional information about Approved Suppliers, such as proximity and location, delivery, and product details (e.g., type, fat content), was also sought in order to streamline the procurement process and promote transparency regarding traceability of products, nutrient content, and confidence in food safety. Buyers also explained that they would appreciate more meat supplier options and that many ranchers, producers, and processors

are currently missing from the Approved Supplier list.

Logistical issues such as needing to drive to pick up items ordered in cases where suppliers were not close posed barriers for some buyers. School-specific barriers were related to financial and physical resources, with schools suggesting allowing more than 40% of their NM Grown budget to be spent on meat, and reporting having to struggle to purchase items 1–2 months in advance, requiring advanced planning. Storage space (e.g., freezers) was also a barrier to ordering large quantities.

Discussion

This study evaluated meat suppliers, buyers, and other stakeholders' participation in and perspectives on the FY23 MPP, which introduced meat products to New Mexico's statewide local food procurement program, NM Grown. Fourteen MPP Approved Suppliers (50%) participated in the study survey, representing producers, processors, food hubs, and distributors selling beef, pork, and lamb/mutton. Just 26% of NM Grown buyers were represented in the study survey, potentially due to high turnover in foodservice staff, timing of the survey in early fall which is a busy time for schools and other participating institutions, and competing responsibilities. Despite their low participation rate, buyers represented all types (K–12, early childhood education, senior centers, food banks) and perceptions of the MPP were largely positive, particularly packing and quality of meat products and ease of doing business with suppliers. Suppliers' perceptions of the MPP were also positive, but several were dissatisfied with the amount of product sold, pricing, and ability to find interested buyers. Differences in buyer and supplier perceptions of the MPP are important to consider in NM Grown improvement efforts, and by other meat-to-institution programs, to ensure supplier expectations and needs are met.

New Mexico is a unique, largely rural state with a high proportion of socially disadvantaged producers, and our results align with other published research on farm-to-institution and meat-to-institution programs. A 2024 systematic review found that facilitators for local food system approaches

and programs among low-income populations include health-promoting environments, community cohesion, financial incentives, and high-quality produce (Garrity et al., 2024). Social marketing and dynamic nutrition education were also tied to positive changes in diet quality and fruit and vegetable intake among multimodal short value chain intervention participants. Social marketing strategies such as promotional activities, printed recipes, and newsletters increase awareness of and engagement in local food programs. Nutrition education complements seasonal local food provision and may further enhance positive outcomes of short value chain interventions related to knowledge, skills, and diet quality. Our study similarly found that community connections, positive perceived impact on recipients and communities, and high-quality products were important components of the MPP and were primary motivators for buyers and suppliers to participate.

In this study, buyers affirmed recipients' satisfaction with products and there were positive economic benefits for producers, results consistent with previous studies (Becot et al., 2017; Izumi, Alaimo et al., 2010; Izumi, Wynne Wright et al., 2010). A qualitative study of school foodservice professionals found primary motivators for buying locally grown food to be expressed in the statements "The students like it," "The price is right," and "We're helping our local farmers" (Izumi, Alaimo et al., 2010). Economic benefits noted by MPP buyers and suppliers align with modest economic impacts of farm-to-school programs (Becot et al., 2017); however, more research is needed to demonstrate the effects on the economy of comprehensive local food procurement, especially meat-to-institution. Participants in this study also valued new connections formed between New Mexico meat producers and local institutions, and the opportunity for expanded markets for local meat producers.

Buyer motivations for participating in the MPP were not directly captured in surveys, but interview and focus group results show that supporting local ranchers, adding diverse and culturally relevant meat to menus, and improving the nutritional quality of meals were primary motivators across settings. Similar benefits were reported by South

Dakota's Beef to School program participants, including better quality foods; increased positive perceptions of school nutrition programs among parents, school staff, students, and the community; lower school meal program costs; and increased consumption of school meals (Dunn et al., 2024). A case study of Montana's Beef-to-School project also found high quality products, community partnerships, food literacy, and enhancing local identity were important motivators for schools to participate (Byker Shanks et al., 2019).

Motivators for participating in farm-to-institution programs may vary by setting, as described in our literature review. Early childhood center staff report that attending or receiving training and having a dietitian on staff are important facilitators to local purchasing, while senior center staff claim primary motivators include staff training, administrative support, nutrition education for clients, access to a dietitian, and positive relationships with food producers (Ames et al., 2019). Our results are consistent with these findings, further emphasizing the importance of cultural relevance, expanding markets, and improving diet quality and food security, important insights for meat-to-institution programs in other rural or underserved regions.

Buyers and suppliers acknowledged a variety of MPP barriers in this study, including administrative burdens of participating, difficulties connecting with suppliers or buyers, and potential difficulties producing the volume of product requested by larger institutions like school districts, exacerbated by inadequate meat processor capacity. These barriers resemble those reported in the farm-to-institution literature, including lack of program awareness and limited accessibility (Garrity et al., 2024). Indeed, few early childhood facilities were found to participate in local food procurement in Colorado due to barriers such as time, cost, and knowledge (McCloskey et al., 2020), and, in New York, due to high food costs and delivery barriers (Ames et al., 2019). School food service directors in Mississippi report that few K–12 schools purchase local foods directly from farmers, and that lack of connection with local producers is a barrier (Thomson et al., 2024). Senior center staff note the inability of centers to meet order minimums required by local food producers as a primary bar-

rier in New York City (Ames et al., 2019), while food pantry representatives, rather than food flowing through a larger food bank, prefer more frequent fresh food delivery directly from local growers, which is a barrier as it may not always be an option (Huang et al., 2023).

In further insights into meat-to-institution program barriers, the South Dakota Beef to School survey found lack of storage, limited slaughter facilities, and difficulty finding local producers and processors were barriers experienced by participating schools (Dunn et al., 2024). Three schools that participated in a case study of Montana's Beef-to-School project cited higher costs, limitations of processors in providing products required by schools that may have inadequate kitchens or training on utilizing local products, school size and meal participation, and supply chain logistics and product availability as key barriers (Byker Shanks et al., 2019).

To alleviate barriers, meat-to-institution programs should ensure reimbursement and/or purchasing incentives are high enough to discourage increases in total food costs associated with purchasing local foods (Long et al., 2021). Providing resources and support for tracking and reporting purchasing data for buyers and suppliers and emphasizing flexibility and innovation in programming may decrease barriers associated with purchasing from small-scale local producers (Whitehouse et al., 2025), as is common in New Mexico. Assessing and aligning producer and buyer values is critical to ensure program success (Janssen, 2014), as well as considering creative evaluation methods that promote engagement and empowerment (Inwood et al., 2023).

Limitations

Recruitment of survey, interview, and focus group participants was a barrier in this study. Participants received incentives, but the survey response rate was low for buyers in particular. Low buyer response rates may reflect high turnover among food procurement staff, lack of time due to competing responsibilities, and attempting to recruit participants during a very busy time of year. Requiring survey participants to be involved in their organization or operation's MPP participation

for at least six months in FY23 led to the disqualification of 14 willing participants. Additionally, no suppliers selling bison and just one buyer purchasing bison during the MPP were represented in surveys. Respondents also were not required to complete all questions, leading to missing data. Therefore, these results are exploratory, reflecting the experiences of some organizations and operations that participated, and may not be generalizable.

Moreover, detailed purchasing data were unavailable for many buyers, limiting the ability to more fully understand the meat pilot marketplace. Suppliers' and buyers' motivations for participating in the MPP were not directly assessed via survey, and while we assessed perceived impacts of the MPP on recipient diet quality and food security, impacts on other outcomes were not examined. Future research must assess short- and long-term impacts of meat-to-institution initiatives on health and wellbeing, alongside in-depth examinations of local economic impacts.

Recommendations

Based on findings from this exploratory study and a review of the literature, NM Grown and other meat-to-institution programs may consider (1) providing comprehensive information about suppliers (vendor location, delivery information, product details, capacity) to buyers and organizing more meetings and networking (in-person and remote) to facilitate community and trust building; (2) offering culturally relevant options and prioritizing the recruitment of small-scale and diverse producers; (3) increasing marketing and outreach strategies to eligible suppliers and further exploring barriers to supplier participation, particularly among socially disadvantaged, smaller-scale, and rural producers that may lack access to the scale-appropriate processing, storage, and infrastructure required to meet buyer needs; (4) ensuring adequate buyer knowledge of the nuances of local meat purchasing as well as resources to meet suppliers' expectations and needs (e.g., funding and assistance meeting program requirements, troubleshooting logistical issues, and accessing to buyers and large-scale processing); (5) providing nutrition education, which has been found to be successful

alongside local food procurement in K–12 school settings (Rains et al., 2019); and (6) collecting and sharing high-quality participation and purchase data to further meat-to-institution knowledge.

Future research should assess the impacts of implementing these participant-driven recommendations on meat-to-institution program participation, barriers, and outcomes, especially during a time of devastating funding cuts to farm-to-institution programs in the U.S.

Conclusions

The FY23 MPP was designed to introduce meat products to NM Grown, connecting New Mexico food producers to K–12 schools, early childhood and senior centers, and food banks. During the MPP, 28 producers, processors, distributors, food hubs, and producer collectives sold local beef,

lamb/mutton, pork, and bison to over 100 NM Grown buyers. In turn, buyers served locally raised, culturally relevant and sometimes novel meat products to New Mexico's priority populations. Lessons learned from the NM Grown MPP can inform meat-to-institution initiatives in other rural or culturally diverse regions, particularly those attempting to overcome barriers related to supplier infrastructure, administrative burden, and limited program awareness. This study also reveals a clear gap in the meat-to-institution literature, highlighting the need for additional research. 

Acknowledgments

The research team would like to acknowledge all participants for providing invaluable input on the New Mexico Grown FY23 Meat Pilot Program.

References

- Ames, M., Ilieva, R. T., Rauh, L., Shapiro, S., Wolf, S., Willingham, C., Capers, T., & Freudenberg, N. (2019). *Barriers and facilitators to local and regional food procurement at institutions serving children, seniors, and food insecure families in Central Brooklyn* (Policy Brief). CUNY Urban Food Policy Institute. https://cunyurbanfoodpolicy.org/wp-content/uploads/2022/04/CUFPI-Restoration_Policy_Brief_11.26.19_final.pdf
- Avuwadah, B. Y., & Kropp, J. D. (2022). Impact of introducing a farm to school program on the number of school lunches served. *Appetite*, 168, Article 105741. <https://doi.org/10.1016/j.appet.2021.105741>
- Becot, F., Kolodinsky, J. M., Roche, E., Zipparo, A. E., Berlin, L., Buckwalter, E., & McLaughlin, J. (2017). Do farm-to-school programs create local economic impacts? *Choices*, 32(1), Article 90014633. https://www.choicesmagazine.org/UserFiles/file/cmsarticle_565.pdf
- Bersamin, A., Izumi, B. T., Nu, J., O'Brien D, M., & Paschall, M. (2019). Strengthening adolescents' connection to their traditional food system improves diet quality in remote Alaska Native communities: Results from the Neqa Elicarvigmun Pilot Study. *Translational Behavioral Medicine*, 9(5), 952–961. <https://doi.org/10.1093/tbm/ibz087>
- Bobronnikov, E., Prenovitz, S., & Yadav, L.M.B. (2021). *2019 Farm to School Census report*. U.S. Department of Agriculture, Food and Nutrition Service. <https://fns-prod.azureedge.us/sites/default/files/resource-files/2019-Farm-to-School-Census.pdf>
- Bontrager Yoder, A. B., Liebhart, J. L., McCarty, D. J., Meinen, A., Schoeller, D., Vargas, C., & LaRowe, T. (2014). Farm to elementary school programming increases access to fruits and vegetables and increases their consumption among those with low intake. *Journal of Nutrition Education and Behavior*, 46(5), 341–349. <https://doi.org/10.1016/j.jneb.2014.04.297>
- Byker Shanks, C., Bass, T. M., & Schumacher, J. B. (2019). Montana's beef-to-school project: Making connections to enhance local agriculture. In S. E. Thottathil & A. M. Goger (Eds.), *Institutions as conscious food consumers: Leveraging purchasing power to drive systems change* (pp. 195–218). Academic Press. <https://doi.org/10.1016/B978-0-12-813617-1.00009-5>
- Campbell, C. G. (2023). Values-based institutional food procurement programs: A narrative review. *Journal of Agriculture, Food Systems, and Community Development*, 12(4), 123–133. <https://doi.org/10.5304/jafscd.2023.124.005>
- Code of Federal Regulations Title 7. *Agriculture § 7.1291.2 Definitions*. (2024). FindLaw. <https://codes.findlaw.com/cfr/title-7-agriculture/cfr-sect-7-1291-2/>

- Colasanti, K., & Matts, C. (2013). *Farm to institution in Michigan: A summary of research on local food purchasing by institutions*. Michigan State University Center for Regional Food Systems.
<https://www.canr.msu.edu/foodsystems/uploads/files/fti-summary.pdf>
- Dunn, M., Eidem, K., & He, T. (2024). *South Dakota Beef to School survey report*. South Dakota State University Extension.
<https://doe.sd.gov/farmtoschool/documents/BeefReport.pdf>
- Feeding the Economy. (2025). *U.S. food and ag industries: New Mexico*.
<https://goodstone.guerrillaeconomics.net/reports/b1d7d60a-279f-45a0-94f1-755dbb0b9991>
- Galloway, C., Devine, S., Parison, J., & Jones, H.-A. (2023). Procurement from local producers for food service in primary and secondary school settings: A scoping review. *Health Promotion Journal of Australia*, 34(2), 316–327.
<https://doi.org/10.1002/hpja.618>
- Garrity, K., Krzyzanowski Guerra, K., Hart, H., Al-Muhanna, K., Kunkler, E. C., Braun, A., Poppe, K. I., Johnson, K., Lazor, E., Liu, Y., & Garner, J. A. (2024). Local food system approaches to address food and nutrition security among low-income populations: A systematic review. *Advances in Nutrition*, 15(4), Article 100156.
<https://doi.org/10.1016/j.advnut.2023.100156>
- Harris, D., Lott, M., Lakins, V., Bowden, B., & Kimmons, J. (2012). Farm to institution: creating access to healthy local and regional foods. *Advances in Nutrition*, 3(3), 343–349. <https://doi.org/10.3945/an.111.001677>
- Haynes Stein, A., & Brinkley, C. (2023). Farm to food bank: Exploring the ties between local food producers and charitable food assistance. *Rural Sociology*, 88(3), 682–707. <https://doi.org/10.1111/ruso.12489>
- Hoffman, J. A., Schmidt, E. M., Wirth, C., Johnson, S., Sobell, S. A., Pelissier, K., Harris, D. M., & Izumi, B. T. (2017). Farm to preschool: The state of the research literature and a snapshot of national practice. *Journal of Hunger & Environmental Nutrition*, 12(4), 443–465. <https://doi.org/10.1080/19320248.2016.1227747>
- Huang, J., Acevedo, S., Bejster, M., Kownacki, C., Kehr, D., McCaffrey, J., & Nguyen, C. J. (2023). Distribution of fresh foods in food pantries: challenges and opportunities in Illinois during the COVID-19 pandemic. *BMC Public Health*, 23(1), Article 1307. <https://doi.org/10.1186/s12889-023-16215-4>
- Inwood, S., Rumble, J., Meeks, S., & Ryan Haden, V. (2023). Engaging, empowering, and evaluating farm-to-school projects with photovoice. *Journal of Agriculture, Food Systems, and Community Development*, 12(4), 173–185.
<https://doi.org/10.5304/jafscd.2023.124.014>
- Izumi, B. T., Alaimo, K., & Hamm, M. W. (2010). Farm-to-school programs: Perspectives of school food service professionals. *Journal of Nutrition Education and Behavior*, 42(2), 83–91. <https://doi.org/10.1016/j.jneb.2008.09.003>
- Izumi, B. T., Wynne Wright, D., & Hamm, M. W. (2010). Market diversification and social benefits: Motivations of farmers participating in farm to school programs. *Journal of Rural Studies*, 26(4), 374–382.
<https://doi.org/10.1016/j.jrurstud.2010.02.002>
- Janssen, B. (2014). Bridging the gap between farmers and food service directors: The social challenges in farm to school purchasing. *Journal of Agriculture, Food Systems, and Community Development*, 5(1), 129–143.
<https://doi.org/10.5304/jafscd.2014.051.012>
- Jia, F., Shahzadi, G., Bourlakis, M., & John, A. (2024). Promoting resilient and sustainable food systems: A systematic literature review on short food supply chains. *Journal of Cleaner Production*, 435, Article 140364.
<https://doi.org/10.1016/j.jclepro.2023.140364>
- Joshi, A., Azuma, A. M., & Feenstra, G. (2008). Do farm-to-school programs make a difference? Findings and future research needs. *Journal of Hunger & Environmental Nutrition*, 3(2–3), 229–246.
<https://doi.org/10.1080/19320240802244025>
- Lehnerd, M. E., Sacheck, J. M., Griffin, T. S., Goldberg, J. P., & Cash, S. B. (2018). Farmers' perspectives on the adoption and impacts of nutrition incentive and farm to school programs. *Journal of Agriculture, Food Systems, and Community Development*, 8(1), 147–165. <https://doi.org/10.5304/jafscd.2018.081.012>
- Long, A. B., Jablonski, B. B. R., Costanigro, M., & Frasier, W. M. (2021). The impact of state farm to school procurement incentives on school purchasing decisions. *Journal of School Health*, 91(5), 418–427.
<https://doi.org/10.1111/josh.13013>

- Machata, N., Jennings, L., Morrison, H., & Boyle, M. (2024). *2023 Farm to school census report*. U.S Department of Agriculture, Food and Nutrition Service. https://fns-prod.azureedge.us/sites/default/files/resource-files/2023FarmToSchoolCensusReport_v3.pdf
- McCloskey, M. L., Kesterson, H., Mena, N. Z., Dellaport, J., & Bellows, L. L. (2020). Farm to early care and education programming: A descriptive study of challenges and opportunities to promote healthful foods to young children. *International Journal of Environmental Research and Public Health*, 17(18), Article 6857. <https://doi.org/10.3390/ijerph17186857>
- Mishra, S. K., Khanal, A. R., & Collins, W. J. (2022). Farm-to-school programmes, benefits, health outcomes and barriers: A structured literature review. *Health Education Journal*, 81(7), 781–792. <https://doi.org/10.1177/00178969221119290>
- New, J. S. (2023). *Agriculture's impact to NM economy: Opportunities for investment*. New Mexico Department of Agriculture. <https://www.nmlegis.gov/handouts/IPOC%20081823%20Item%203%20NMDA--Agriculture's%20Impact%20to%20NM%20Economy%20and%20Opportunities%20for%20Investment.pdf>
- New Mexico Grown. (2024). *What is New Mexico Grown?* <https://newmexicogrown.org/>
- Office of the Governor Michelle Lujan Grisham. (2023). *The Food, Farm, and Hunger Initiative*. https://newmexicogrown.org/wp-content/uploads/2023/08/FACT-SHEET-Hunger-Initiative_FINAL-002.pdf
- Pinard, C. A., Smith, T. M., Carpenter, L. R., Chapman, M., Balluff, M., & Yaroch, A. L. (2013). Stakeholders' interest in and challenges to implementing farm-to-school programs, Douglas County, Nebraska, 2010–2011. *Preventing Chronic Disease*, 10, Article 130182. <https://doi.org/10.5888/pcd10.130182>
- Prescott, M. P., Cleary, R., Bonanno, A., Costanigro, M., Jablonski, B. B. R., & Long, A. B. (2020). Farm to school activities and student outcomes: A systematic review. *Advances in Nutrition*, 11(2), 357–374. <https://doi.org/10.1093/advances/nmz094>
- Rabbitt, M. P., Hales, L. J., Michael Burke, P., & Coleman-Jensen, A. (2023). *Household food security in the United States in 2022* (Report No. ERR-325). U.S. Department of Agriculture, Economic Research Service. <https://doi.org/10.32747/2023.8134351.ers>
- Rabbitt, M. P., Reed-Jones, M., Hales, L. L., & Michael Burke, P. (2024). *Household food security in the United States in 2023* (Report No. ERR-337). U.S. Department of Agriculture, Economic Research Service. <https://doi.org/10.32747/2024.8583175.ers>
- Rains, C. B., Giombi, K. C., & Joshi, A. (2019). Farm-to-school education grants reach low-income children and encourage them to learn about fruits and vegetables. *Translational Behavioral Medicine*, 9(5), 910–921. <https://doi.org/10.1093/tbm/ibz092>
- Smith, S., Wleklinski, D., Roth, S. L., & Tragoudas, U. (2013). Does school size affect interest for purchasing local foods in the midwest? *Childhood Obesity*, 9(2), 150–156. <https://doi.org/10.1089/chi.2012.0055>
- Stephens, L., & Oberholtzer, L. (2020). Opportunities and challenges for farm to early care and education in settings serving low-income children. *Journal of Hunger & Environmental Nutrition*, 15(1), 93–106. <https://doi.org/10.1080/19320248.2018.1547670>
- Thomson, J. L., Landry, A. S., & Walls, T. I. (2024). Mississippi school food service directors' interest and experience with local food procurement and farm to school activities. *Health Promotion Practice*, 25(4), 623–633. <https://doi.org/10.1177/15248399231178543>
- Thomson, J. L., Walls, T. I., & Landry, A. S. (2022). Mississippi farmers' interest in and experience with farm to school. *International Journal of Environmental Research and Public Health*, 19(13), Article 8025. <https://doi.org/10.3390/ijerph19138025>
- U.S. Department of Agriculture, Agricultural Marketing Service [USDA AMS]. (n.d.-a). *List of signed local food purchase assistance cooperative agreements*. Retrieved April 22, 2025, from <https://www.ams.usda.gov/selling-food-to-usda/lfpacap/exec-summaries>
- USDA AMS. (n.d.-b). *Local Food for Schools Cooperative Agreement Program*. Retrieved April 22, 2025, from <https://www.ams.usda.gov/selling-food-to-usda/lfs>

- USDA National Agricultural Statistics Service [USDA NASS]. (2022). *Table 9. Land in farms, harvested cropland, and irrigated land by size of farms: 2022 and 2017*.
https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_State_Level/New_Mexico/st35_1_009_010.pdf
- Vitiello, D., Grisso, J. A., Whiteside, L. K., & Fischman, R. (2015). From commodity surplus to food justice: Food banks and local agriculture in the United States. *Agriculture and Human Values*, 32(3), 419–430.
<https://doi.org/10.1007/s10460-014-9563-x>
- Whitcotton, M., Bautista, M., & Gustason, K. (2024). *New Mexico agricultural statistics 2023–2024 annual bulletin*. U.S. Department of Agriculture, National Agricultural Statistics Service, Mountain Regional Field Office.
https://www.nass.usda.gov/Statistics_by_State/New_Mexico/Publications/Annual_Statistical_Bulletin/2023-2024/2023-2024-NM-Ag-Statistics.pdf
- Whitehouse, C., Conner, D., & Moen, A. (2025). Overcoming the “game of pennies”: Challenges and opportunities for farm to institution in Vermont. *Journal of Hunger & Environmental Nutrition*. Advance online publication.
<https://doi.org/10.1080/19320248.2025.2468332>

Appendix A. Approved Supplier Criteria and Requirements for the FY23 Meat Pilot Program

To meet food safety and product specification requirements, vendors must:

- Attest that the meat products they plan to sell meet 3 out of the 4 of the following criteria to be considered locally grown:
 1. Animal was born/raised in New Mexico
 2. Animal was fed/finished in New Mexico
 3. Animal was slaughtered/processed in New Mexico
 4. Animal ownership was maintained by a New Mexico producer
- Product must have been slaughtered and processed at a Federal or State (future) Inspected Facility, and vendor must attest to all three of the following:
 - Product must be in its original packaging with the USDA FSIS inspection stamp on the packaging from the USDA FSIS inspected processor.
 - No further processing is allowed without further USDA FSIS inspection
 - Vendor will provide buyers proof of FSIS certification (packaging, invoice, etc.) alongside a corresponding invoice for administering agency reimbursement.
- Vendor must ensure the safe transportation of product to the end market, which facilitates food safety and quality management throughout the cold-chain distribution process. Specifically, the vendor must ensure that acceptable temperature ranges have been maintained, depending on whether the meat is transported in a fresh or frozen state in temperature-controlled trucks. Frozen meat should stay frozen and fresh meat should be held at a temperature of 41° F or below.
- Vendor is required to hold a current USDA Food Safety and Inspection Service (FSIS) Distribution License. Providing documentation of having applied to FSIS for a registration number is part of the application process, and for a vendor to become approved they must provide their FSIS registration number.
- Vendor must be bonded.
 - Processors and distributors must hold product liability insurance at a minimum of 1 million dollars.
 - In the case of individual producers who are engaged in direct marketing, product liability insurance is required. If not engaged in direct marketing, it's highly encouraged.
 - Appropriate documentation will be submitted as part of the application process.
- Vendor must participate in the no-cost NMDA Taste the Tradition/Grown with Tradition Logo Program. License agreement must be completed and submitted to NMDA.

Appendix B. Approved Supplier Criteria and Requirements for the FY23 Meat Pilot Program

NM Grown Buyer Survey

Please answer all survey questions on behalf of your organization.

1. Please type of the name of your organization:
2. Which of the following best fits how your organization purchased and distributed meat products through the New Mexico Grown FY23 Meat Pilot program?
 - a. Individual buyer: we purchased meat products to directly distribute to clients.
 - b. Collective buyer: we purchased meat products to distribute to other centers/locations to distribute to clients.
3. Please select which meat products your organization purchased during the NM Grown FY23 Meat Pilot program. You may select more than one.
 - a. Beef
 - b. Bison
 - c. Lamb/mutton
 - d. Pork
 - e. None of the above
4. Please select types of meat products your organization purchased during the NM Grown FY23 Meat Pilot program. You may select more than one.
 - a. Fresh meat products
 - b. Frozen meat products
 - c. USDA certified organic meat products
 - d. Grass-fed and/or grass-finished meat products
 - e. Free-range/pasture raised meat products
 - f. Hormone-free meat products
 - g. Other (please specify: _____)
 - h. None of the above
5. Approximately what percent of your organization's NM Grown grant allocation for local food purchasing was spent on meat products in FY23 (July 2022-June 2023)?

Please rate your organization's satisfaction with the following components of the FY23 (July 2022-June 2023) NM Grown Meat Pilot program: (scale: very dissatisfied, dissatisfied, neutral, satisfied, very satisfied, not applicable)

6. Recruitment and marketing materials inviting your organization's participation in the program
7. Knowledge of Meat Pilot program goals

8. Knowledge of expectations and requirements for participating in the Meat Pilot program
9. Availability of supply of preferred meat products in needed volumes
10. Packaging of meat products
11. Transport of meat products
12. Pricing of meat products
13. Safety and traceability of meat products
14. Ease of doing business with meat suppliers
15. Quality of meat products purchased
16. Technical Assistance and support received from the New Mexico Farmers' Marketing Association (NMFMA)
17. Technical Assistance and support received from the NM Department of Agriculture (NMDA)
18. Overall experience participating in the NM Grown FY23 Meat Pilot program

19. Please expand upon any ratings here:

Please rate your organization's agreement to the following statements regarding the FY23 (July 2022-June 2023) NM Grown Meat Pilot program: (scale: strongly disagree, disagree, neutral, agree, strongly agree, not applicable)

20. Users/consumers were satisfied with NM Grown meat products.
21. The FY23 NM Grown Meat Pilot improved users'/consumers' food security status.
22. The FY23 NM Grown Meat Pilot improved users'/consumers' diet/meal quality.
23. The FY23 NM Grown Meat Pilot provided ranchers and other meat suppliers an important economic opportunity.
24. Will your organization purchase NM Grown meat products in the future?
 - a. Yes
 - b. No
 - c. I'm not sure
25. If "yes" is selected for Q24: Please list reasons why your organization will purchase meat products through NM Grown in the future; If "No" is selected for Q25: Please list reasons why your organization will not purchase meat products through NM Grown in the future. If "I'm not sure" is selected for Q25: Please list reasons why you aren't sure if your organization will purchase meat products through NM Grown in the future.
26. What NM Grown meat products are you most interested in in the future?
27. What worked well during the FY23 NM Grown Meat Pilot Program? Why?
28. What was most challenging for your organization during the FY23 NM Grown Meat Pilot Program? Why?
29. What can be improved upon moving forward to ensure meat buyer needs are met?
30. Please enter any other comments here.

Approved Supplier Meat Vendor Survey

Please answer all survey questions on behalf of your operation.

1. Please type of the name of your operation:
2. What type of operation do you represent? You may select more than one.
 - a. Producer
 - b. Processor
 - c. Distributor
 - d. Food Hub (a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distributions, and/or marketing of locally/regionally produced food products)
 - e. Producer Collective
3. Please select which meat products your operation sold as an Approved Supplier Meat Vendor during the NM Grown FY23 Meat Pilot. You may select more than one.
 - a. Beef
 - b. Bison
 - c. Lamb/mutton
 - d. Pork
 - e. None of the above
4. Please select types of meat products your operation sold as an Approved Supplier Meat Vendor during the NM Grown FY23 Meat Pilot program. You may select more than one.
 - a. Fresh meat products
 - b. Frozen meat products
 - c. USDA certified organic meat products
 - d. Grass-fed and/or grass-finished meat products
 - e. Free-range/pasture raised meat products
 - f. Hormone-free meat products
 - g. Other (please specify: _____)
 - h. None of the above

The USDA defines a "Socially Disadvantaged Producer" as a producer who is a member of a Socially Disadvantaged Group. A Socially Disadvantaged Group is a group whose members have been subject to discrimination on the basis of race, color, national origin, age, disability, and, where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program.

5. If you are an individual producer, would your operation be classified as a Socially Disadvantaged Producer?
 - a. Yes
 - b. No
 - c. Not applicable
6. If you are not an individual producer (in other words, you are a processor, food hub, distributor, etc.): do you source meat products from Socially Disadvantaged Producers?
 - a. Yes
 - b. No
 - c. Not applicable

Please rate your operation's satisfaction with the following components of the FY23 (July 2022–June 2023) NM Grown Meat Pilot program: (scale: very dissatisfied, dissatisfied, neutral, satisfied, very satisfied, not applicable)

7. Recruitment and marketing materials inviting your operation's participation in the program
8. Knowledge of Meat Pilot program goals
9. Knowledge of expectations and requirements for participating in the Meat Pilot program
10. Application process to become an Approved Supplier Meat Vendor
11. USDA Food Safety and Inspection Service (FSIS) registration and inspection process for meat handling and distribution
12. Pricing of meat products
13. Ability to find interested buyers
14. Ease of doing business with meat buyers (including communications, invoicing, distribution requirements, payment terms)
15. Buyer satisfaction with meat products
16. Amount of product sold during the Meat Pilot program (July 2022-June 2023)
17. Participation in the New Mexico Department of Agriculture (NMDA) Taste the Tradition/Grown with Tradition Logo Program
18. Technical Assistance and support received from the New Mexico Farmers' Marketing Association (NMFMA)
19. Technical Assistance and support received from the NM Department of Agriculture (NMDA)
20. Overall experience participating in the FY23 Meat Pilot program
21. Please expand upon any ratings here.

Please rate your operation's ability to respond to buyer requests during the NM Grown FY23 Meat Pilot for the following: (scale: very difficult, difficult, neutral, easy, very easy, not applicable)

22. Buyer requests for specific meat products
23. Volume of meat products **requested** by buyers
24. Volume of meat products **purchased** by buyers
25. Packaging of meat products
26. Transport of meat products
27. Please expand upon any ratings here.
28. Will your operation participate as an NM Grown Approved Supplier Meat Vendor in the future?
 - a. Yes
 - b. No
 - c. I'm not sure
29. If "Yes" is selected for Q28: Please list reasons why your operation will participate as an NM Grown Approved Supplier Meat Vendor in the future; If "No" is selected for Q28: Please list reasons why your operation will not participate as an NM Grown Approved Supplier Meat Vendor in the future. If "I'm not sure" is selected for Q28: Please list reasons why you aren't sure if your operation will participate as an NM Grown Approved Supplier Meat Vendor in the future.
30. Briefly describe why your operation participated in the FY23 NM Grown Meat Pilot program.
31. What worked well during the FY23 NM Grown Meat Pilot Program? Why?
32. What was most challenging for your operation during the FY23 NM Grown Meat Pilot Program? Why?
33. What can be improved upon moving forward to ensure Approved Supplier Meat Vendor needs are met?
34. Please enter any other comments here.