Mayes County Food System Assessment
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Executive Summary

To assess the food system in Mayes County, a Food System Assessment was conducted using The Oklahoma Farm and Food Alliance (OFFA) Food Systems Assessment Tool, which focuses on indicators across five sectors of the food system: Production, Processing, Distribution, Consumption/Public Health, and Waste Recovery. All information gathered for this initial assessment is from secondary data sources at the county, state, and national levels. The report is divided into five main categories relevant to the region, including Food Production, Consumption and Public Health, Food Security and Distribution, Food in Schools, and Local Food. It gives an overview of the current state of the Mayes County food system and identifies gaps in knowledge that will guide future primary data collection efforts.

There were several key findings from the assessment. The majority of agricultural production in Mayes County is livestock, as opposed to crops. In terms of sales and number of farms, the main livestock categories are Cattle and calves and Poultry and eggs. Compared to the other 77 counties in Oklahoma, Mayes ranks high in Horses, ponies, mules, burros, and donkeys (4th); Other animals and animal products (Deer, Honey, Rabbits, and Elk) (4th); Milk and other dairy products from cows (5th); and Poultry and eggs (8th). Crop production is only a fraction of total agricultural production in Mayes County and the two largest categories, in terms of sales and number of farms, are Other crops and hay, and Grains, oilseeds, dry beans and peas. There are only 11 farms that produce fruit and 12 farms that produce vegetables in Mayes County. Consumer demand for all types of fruits and vegetables (as determined by annual household expenditures) far outweighs local production, indicating a significant area for growth in this market.

Mayes has a higher obesity rate (40.3%) than the national average (35.7%), but lower than average fruit and vegetable consumption (14% of adults eat the recommended 5 servings of fruits and vegetables per day, compared with the national average of 23.4%). Some Mayes County residents face issues with food access, where approximately 1% of zip codes within Mayes County having limited access to a “healthy food outlet” and 2 census tracts within Mayes County are considered to have “low access” to a supermarket. Food insecurity rates are comparable to state averages with 16% of people and 26% of children considered to be food insecure. These rates indicate a need for consumer health and nutrition education, as well as physical access to healthy food through improved transportation routes and increased number of stores sourcing healthy, fresh, and preferably local food.

To counter these issues, Mayes has a variety of food assistance programs, including 7 organizations with hunger relief programs, 39 Supplemental Nutrition Assistance Programs (SNAP) authorized stores, 14 Women, Infants and Children (WIC) authorized stores, and Senior Farmers Market Nutritional Programs (SFMNP), and reduced-price and free school meal programs. The extent to which these programs offer healthy, fresh, and local food is unclear. The Mayes County farmer’s market accepts SNAP, WIC, and SFMNP; and 2 of the 13 school districts participate in Farm to School programs.

In terms of local food, approximately 84 farms (5.1%) in Mayes County sell directly to consumers, totaling roughly $228,000 (0.3% of total sales). In addition to improving health, increasing access to local foods has potential economic benefits. For example, if each household spent $10 per week on locally grown items, this would inject and keep approximately $12.5 million circulating within Mayes County’s local economy, which is $2.1 million more than for non-local purchases.

Mayes county residents can benefit from an improved local food system and there are several initiatives and organizations working to do so. However, a lack of data is a major barrier to assessing and identifying gaps. For example, data regarding specific on-farm crop production, unmet consumer demands, processing and distribution needs of producers and buyers, institutional capacity to source locally, and number of retail outlets offering healthy, fresh, and local foods is crucial information needed to increase
access to local healthy foods, reduce food insecurity, and improve public health outcomes. An important next step is for organizations to engage in coordinated primary data collection efforts at the community level as well as education and outreach to raise awareness among community members about the benefits of eating healthy foods.

There are some significant limitations to the current assessment. The information was gathered using secondary online sources as opposed to primary data at the local level, and therefore potentially lack comprehensiveness and reliability. In addition, state and national data is most often out-of-date, as large-scale data collection efforts often happen infrequently, (i.e. the USDA agricultural census is conducted every 5 years). Therefore, this assessment is helpful in gaining a broad overview of the local food system, identifying gaps in knowledge and providing direction for future steps.
Food Production

According to the USDA 2007 Census of Agriculture,¹ there are 1,640 farms in Mayes county and a total of 313,131 acres (489 square miles) of land in farms. The majority of these farms (1,266 or 77%) each make less than $20,000 annually. Sales and Government payments for these farms are shown in the graph below:

The majority of total agricultural sales in Mayes County are livestock sales. Approximately 42% of total livestock sales in 2007 were from Cattle and calves ($28,433,000) and 37% were from Poultry and eggs ($25,044,000).²

Aquaculture is not shown here because it contributed less than $500 in 2007 and therefore details were unavailable.
The graph below shows how many farms are producing each animal or animal product.³

³

<table>
<thead>
<tr>
<th>Livestock Category</th>
<th>State Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horses, ponies, mules, burros, and donkeys</td>
<td>4</td>
</tr>
<tr>
<td>Other animals and other animal products*</td>
<td>4</td>
</tr>
<tr>
<td>Milk and other dairy products from cows</td>
<td>5</td>
</tr>
<tr>
<td>Poultry and eggs</td>
<td>8</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>20</td>
</tr>
<tr>
<td>Cattle and calves</td>
<td>31</td>
</tr>
<tr>
<td>Sheep, goats, and their products</td>
<td>33</td>
</tr>
<tr>
<td>Hogs and pigs</td>
<td>38</td>
</tr>
</tbody>
</table>

*Deer, Honey, Rabbits (incl. pelts), and Elk

Despite the large contribution of cattle and calves sales to total livestock sales in the county, Mayes ranks 31st in Oklahoma (there are a total of 77 counties in Oklahoma).⁴ As shown in the table below, Mayes ranks high in other areas of livestock production, including Horses, ponies, mules, burros, and donkeys; Other animals and other animal products (Deer, Honey, Rabbits, and Elk); Milk and other dairy products from cows; and Poultry and eggs.

⁴

Crop production, which includes hay, soybeans, wheat, corn, fruits and vegetables, is a relatively small part of the economy. Approximately 48% ($2,722,000) of those total crop sales in 2007 were from Other Field Crops and Hay and 43% ($2,456,000) were from Grains, oilseeds, dry beans and peas production. The graph below shows total crop sales in 2007 by crop category in Mayes County.⁵ (Due to a lack of data, Cut Christmas trees and short rotation woody crops and Vegetables, melons, potatoes, and sweet potatoes are not shown).

⁵
There are approximately 69 (4%) farms in Mayes County raising fruits, vegetables or tree nuts. This percentage is lower than the average county in Northeastern Oklahoma (6.5%). The graph below shows how many farms are producing each specific crop for Mayes County.

The table below shows how Mayes County compares to other Oklahoma counties in crop production.

<table>
<thead>
<tr>
<th>Crop Category</th>
<th>State Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut Christmas trees and short rotation woody crops</td>
<td>21</td>
</tr>
<tr>
<td>Other crops and hay</td>
<td>23</td>
</tr>
<tr>
<td>Vegetables, melons, potatoes, and sweet potatoes</td>
<td>31</td>
</tr>
<tr>
<td>Fruits, tree nuts, and berries</td>
<td>31</td>
</tr>
<tr>
<td>Nursery, greenhouse, floriculture, and sod</td>
<td>34</td>
</tr>
<tr>
<td>Grains, oilseeds, dry beans and peas</td>
<td>43</td>
</tr>
</tbody>
</table>

On the demand side, Mayes County residents spend a combined total of $93.5 million on food each year (approximately 60% of that is spent on groceries and the remainder on eating out). Fruit and vegetable consumption (the number of adults eating the recommended 5 servings of fruits and vegetables each day) is 14%, which is significantly lower than the national average (23.4%). Even with low fruit and vegetable consumption, Mayes County residents still spend a significant amount of money on food, indicating a need for increased availability and access to healthy food options.

Consumption and Public Health

Even with low fruit and vegetable consumption, Mayes County residents still spend a significant amount of money on food, indicating a need for increased availability and access to healthy food options.

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vegetable consumption, households still spend a combined total of $9.7 million on fruits and vegetables (fresh, frozen and/or canned). Recalling that only 4% of farms in Mayes County produce fruits, veggies or tree nuts, there is clear potential for growing this local market. The graph below shows what Mayes residents spend collectively on food each year, compared to Housing, Transportation, Entertainment, and Apparel and Services.

The relationship between food consumption, physical activity, lifestyle-related diseases and general public health is highly correlated. According to the Oklahoma State Department of Health, Mayes spends millions of dollars annually on diet-related health care costs, including cardiovascular disease ($21.8 million), obesity ($3.5 million) and diabetes ($1.3 million). The graph below shows risk factors (fruit and vegetable consumption and the obesity rate among adults) and disease prevalence (diabetes) among adults in Mayes County.

Food Security, Distribution, and Food Assistance

Mayes County has a population of 41,168. Of that, 6,590 people (16%) and 2,740 children (26%) are considered food insecure*. (The state averages for Oklahoma are 17.2% and 25.3%, respectively). The latest 2013 data reveals that 7,604 people (18.5%) receive monthly Supplemental Nutrition Assistance Program (SNAP) benefits, totaling approximately $11.5 million in benefits annually; and 604 people
(1.47%) participate in Women, Infants and Children (WIC) each month, totaling approximately $939,042 in redemptions annually.\textsuperscript{15}

*According to the USDA, food insecurity includes \textit{low} and \textit{very low} food security categories, defined as: “reports of reduced quality, variety, or desirability of diet; Little or no indication of reduced food intake,” and “reports of multiple indications of disrupted eating patterns and reduced food intake,” respectively.

- Approximately 1\% of zip codes within Mayes County have limited access to a “healthy food outlet”\textsuperscript{16} and 2 census tracts within Mayes County are considered to have low access* to a supermarket, but neither are considered to be low income. The graphic below shows which tracts have low access.\textsuperscript{17}

*The definition of “low access” varies. For the teal-colored tract, low access means that at least 500 people or 33\% of the population lives farther than \(\frac{1}{2}\) mile (urban) or 10 miles (rural) from the nearest supermarket. The pink tract has low access at \(\frac{1}{2}\) mile (urban) or 20 miles (rural). The pink tract also has low vehicle access, where more than 100 households have no access to a vehicle and are more than \(\frac{1}{2}\) mile from the nearest supermarket.

- There are a variety of food distribution outlets in the county, presented in the table below in three categories, including General Distributors,\textsuperscript{18} Low-income Distributors,\textsuperscript{19,20,21} and Local Food Distributors\textsuperscript{22,23,24,25}:

<table>
<thead>
<tr>
<th>General Distributors</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-service restaurants</td>
<td>31</td>
</tr>
<tr>
<td>Convenience stores</td>
<td>26</td>
</tr>
<tr>
<td>Fast-food restaurants</td>
<td>24</td>
</tr>
<tr>
<td>Grocery stores</td>
<td>7</td>
</tr>
<tr>
<td>Supercenters and club stores</td>
<td>1</td>
</tr>
<tr>
<td>Specialized food stores</td>
<td>1</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---</td>
</tr>
<tr>
<td><strong>Low-income Distributors</strong></td>
<td></td>
</tr>
<tr>
<td>SNAP-authorized stores</td>
<td>38</td>
</tr>
<tr>
<td>WIC-authorized stores</td>
<td>13</td>
</tr>
<tr>
<td>Hunger relief programs</td>
<td>7</td>
</tr>
<tr>
<td>SNAP-authorized Farmer's Markets</td>
<td>1</td>
</tr>
<tr>
<td><strong>Local Food Distributors</strong></td>
<td></td>
</tr>
<tr>
<td>Farm to School projects</td>
<td>2</td>
</tr>
<tr>
<td>Community Supported Agriculture projects</td>
<td>1</td>
</tr>
<tr>
<td>Farmers’ Markets</td>
<td>1</td>
</tr>
<tr>
<td>OK Food Co-op pickup locations</td>
<td>0</td>
</tr>
</tbody>
</table>

### Food in Schools

- In Mayes County, 52.8% of students are free-lunch eligible and 12.1% of students are reduced-price-lunch eligible. As shown in the graph below, Mayes County school districts vary in child poverty rates and the percent of children enrolled in free or reduced-price meals:

![School Meals and Child Poverty](image)

- There are 13 school districts in Mayes County, which collectively serve meals to approximately 13,911 students each day. USDA School meal requirements recently increased serving size of fruits and vegetables from ¼ cup to ½ cup. Serving one meal featuring the recommended ½ cup of blackberries per student in Mayes County would require approximately 2,338 pounds of berries. Serving one meal with a ½ cup of cantaloupe per student would require over 4,128 pounds or 688 melons. Recall that 2 of the 13 school districts are currently participating in Farm to School programs, including Locust Grove and Pryor.

### Local Foods

- There are approximately 84 farms (5.1%) in Mayes County that sell directly to consumers. The total dollar amount from those direct-to-consumer sales is roughly $228,000 (0.3% of total sales). As seen in the table above, Mayes has one operating Farmer’s Market, 2 school districts with Farm To School projects, and one Community Supported Agriculture program. Additionally, there are 2 School Gardens and at least one Community Garden. (Note: these numbers are most likely inaccurate due to outdated secondary data. Also, there are currently no consolidated data on how many restaurants, stores and other food distributors source locally, highlighting a need for a concentrated community-level primary data collection effort).
If each household spent just $10 per week on locally grown items, this would inject and keep approximately $12.5 million circulating within Mayes County’s local economy annually, which is $2.1 million more than for non-local purchases. (This is based on the difference between a local economic multiplier of 1.5 and a commonly accepted regular economic multiplier of non-local goods of 1.25. This is a conservative estimate and points to the need for a locally derived economic multiplier specific to the region).

Conclusion and Future Steps
There is significant opportunity for Mayes County to improve across all sectors, including fruit and vegetable production, local food distribution, and consumer access to and consumption of healthy foods. Considering the local and national movement for creating built environments that support healthy lifestyles, the window of opportunity for improving access to healthy, fresh and local foods is open. Next steps to leveraging momentum and bolstering current efforts include a concentrated community-based effort at primary data collection across all sectors of the food system, including types of food produced, where it is sold, and institutional capacity for sourcing and serving fresh foods; providing networking and educational opportunities for different groups participating in the local food system, such as institutions and farmers; and health communication campaigns and public outreach to increase knowledge and awareness about nutritious foods, healthy lifestyles, and available community resources among community members. The potential for strengthening the local food system – which contributes to improved health, nutrition, local economy and overall wellbeing – is significant and must be accomplished through cooperation among existing organizations, producers, institutions, businesses, consumers and community members.
Resources


2. USDA, 2007 Census of Agriculture.

3. USDA/NASS, Quick Stats.

4. USDA, 2007 Census of Agriculture.

5. USDA, 2007 Census of Agriculture.

   <http://quickstats.nass.usda.gov/?source_des cc=CENSUS>

7. USDA, 2007 Census of Agriculture.

   <http://www.bls.gov/cex/cs xregion.htm>

   <http://www.ok.gov/health/Organization/Oklahoma_Health_Reports.html>

   <http://www.ok.gov/health/Community_Health/Communit y_Development_Service/Community_Epidemiology/County_Health_Profiles/index.html>

11. OS DH, Oklahoma Health Reports.

   <http://quickfacts.census.gov/qfd/states/40000.html>


   <http://www.okdhs.org/library/stats/sb/>

   <http://www.ok.gov/health/Child_and_Family_Health/WIC/Caseload_Data/index.html>

   <http://www.countyhealthrankings.org/>


   <http://www.okdhs.org/programsandservices/food/snap/docs/farmersmarkets.htm>


   <http://www.cfbeo.org/ProgramsandMemberAgencies/MemberAgencies.aspx>

   <http://www.localharvest.org/>

   <http://www.oklahom afoodcoop/locations.php>

   <http://agritourism.travelok.com/adventure >


   <http://febp.newamerica.net/k12/OK>
