

The background of the entire page is a photograph of a rural landscape. In the foreground, a herd of approximately ten cows, mostly black with one brown cow, are grazing in a lush green field. In the middle ground, there are some utility poles and a small building. The background is dominated by a large, rugged mountain range under a clear blue sky with a few wispy clouds.

# **ECONOMIC ANALYSIS OF THE FOOD AND AGRICULTURE SECTOR IN NEVADA 2019**



The Economic Analysis of the Food and Agriculture Sector in Nevada - 2019 is based on data from IMPLAN, QCEW, Nevada Workforce Informer, USDA, and surveys conducted by the Nevada Department of Agriculture.

Research analyzed by Tatjana Vukovic, education and information officer.

Updated January 21, 2018.



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# INTRODUCTION

Agriculture, natural resources and related food manufacturing industries represent a set of economic activities which produce goods and services that contribute to the economy of Nevada. Agriculture production uses natural resources from forests, croplands and ranches in Nevada to produce raw food commodities. These raw and unprocessed commodities are converted into finished products by the food manufacturing industries used by consumers.

The Nevada Department of Agriculture (NDA) evaluated the economic contributions of these industries to the total economy of Nevada and each county in 2017 (for a list of industries that fall under agriculture production and food manufacturing, see Appendix A). The economic impact analysis in this report assesses the effect of agriculture and food manufacturing activities on the overall economy of Nevada and its individual counties in 2017. In the economic impact analysis, secondary effects are measured through economic multipliers for each type of activity.

This report provides facts about farm and ranching operations, like number of farms, number of operators and value of cash receipts from selling agriculture and food products, but the extent of the total effects of an activity or event in each county is measured by employment, output, labor income, exports and imports. Export sales bring dollars into the county economy, providing for future economic growth. Import sales represent outflow of funds (or dollars) from the state economy. It is important to analyze the changes in the economic activity of the agriculture sector to determine and measure the contribution these activities have on the total economy of each county.



# METHODOLOGY

Data for this analysis was obtained from the IMPLAN database for all seventeen counties in the state of Nevada for 2017, which was derived from the National Income and Product Accounts for the United States (U.S. Department of Commerce, Bureau of Economic Analysis) and the Quarterly Census of Employment and Wages (U.S. Bureau of Labor Statistics).

The food and agriculture sector is defined by agriculture production industries and food manufacturing industries. The total economic impacts were calculated as the sum of direct, indirect and induced effects. Therefore, while the estimates of this analysis are referred to as “economic impacts,” these values may be better understood as “economic contributions” because they represent the ongoing economic activity of existing industries rather than a change resulting from new activity introduced to the economies of these counties. Economic multipliers are calculated for each industry to estimate the secondary effects of economic activity.

Using data from 2017, this study updates a prior analysis of the contribution agriculture provides to the Nevada economy. For consistency with the prior analysis, agriculture is defined as food and agriculture production and value-added food processing (food and agriculture manufacturing). Production refers to the crop and livestock industries, as well as forestry and agricultural support services, like harvesting or soil preparation. Within the North American Industry Code System (NAICS) industry classification scheme, production activities refer to any industry classified in sector 11. The processing and manufacturing activities refer to industries that utilize farm and forest products as the key input into their finished goods – sector 31.

# NEVADA FOOD & AGRICULTURE SECTOR

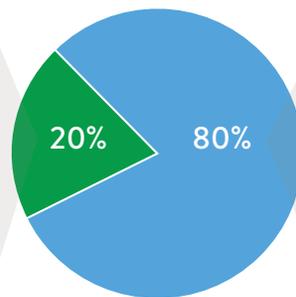
## NEVADA AGRICULTURE AT A GLANCE

- Nevada's food & agriculture sector contributed \$1.3 billion to the state's economy in 2017.
- Nevada's food & agriculture sector accounts for 16,344 jobs.
- The economic output multiplier was 1.7; meaning that for every \$1 invested in the agriculture sector, an additional \$0.70 in economic activity was stimulated in other industries in Nevada.



### NEVADA FARM FACTS

- **\$916 million:** Agriculture production output
- **4,000** farms covering **6 million** acres
- Top 3 agriculture industries:
  - **beef cattle ranching and farming**
  - **all other crop farming**
  - **animal production**



### NEVADA FOOD FACTS

- **\$3.6 billion:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **bread and bakery product**
  - **bottled and canned soft drinks and water**
  - **soybean and other oilseed processing**

### NEVADA SECTOR IN THE GLOBAL MARKET

**\$3.8 billion:** Total exports

Top export commodities:

- **beef cattle**
- **ice cream and frozen dessert**
- **all other crops**

Top export markets:

- **Canada**
- **China**
- **Mexico**



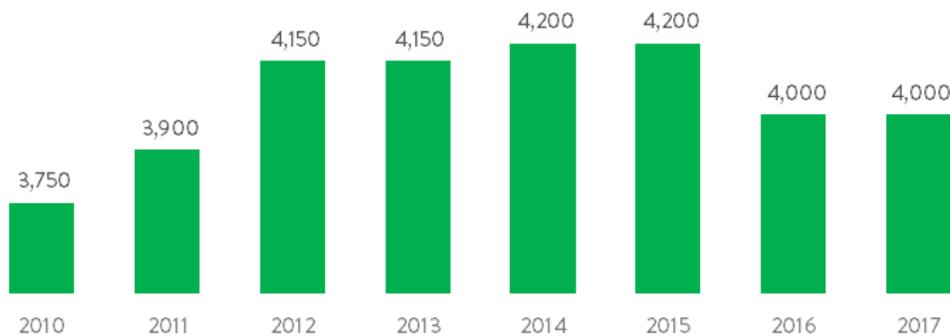
# NEVADA FOOD & AGRICULTURE SECTOR

## OVERVIEW

### ECONOMIC ANALYSIS OF AGRICULTURE PRODUCTION

In 2017, there were a total of 4,000 farms and ranches with 6 million acres of land dedicated to farming and ranching. Figure 1 shows the number of farm operations during the period of 2010-2017.

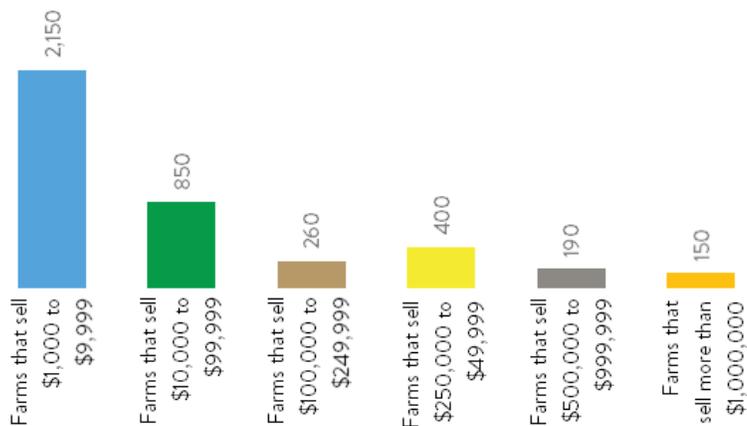
**Figure 1. Farm operations in Nevada (2010-2017)**



SOURCE: USDA, NASS

More than half of the farm and ranch operations in Nevada, 2,150 out of a total 4,000, or 54%, are small businesses with annual sales of less than \$10,000 (Figure 2).

**Figure 2. Distribution of total value of agricultural sales across farms and ranches in Nevada (2017)**

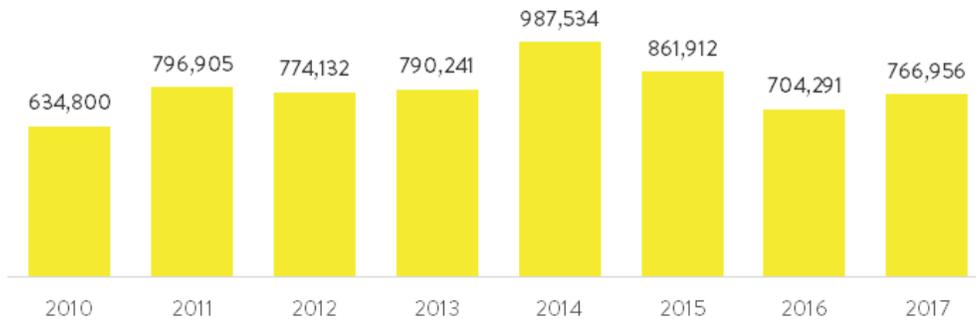


SOURCE: USDA, NASS

Total agriculture commodity sales in 2017 was \$646.9 billion and small farm and ranch operations contributed approximately \$5.1 million, or about 1% of total sales. The largest farm and ranch operations, those 340 with annual sales of more than \$500,000 representing about 9% of total operations, account for approximately 75% of the state’s total agricultural sales. The total commodity sales of the largest farms and ranch operations were approximately \$482 million. In between these, there is a span of 1,510 mid-size farm and ranch operations, with sales between \$10,000 and \$499,999, representing 38% of the total farm and ranch operations. These operations account for approximately 25% of the total value of commodity sales, or \$159.8 million.

The value of agriculture production increased from the \$704 million in 2016 to \$767 million in 2017, an 8.9% annual increase (Figure 3).

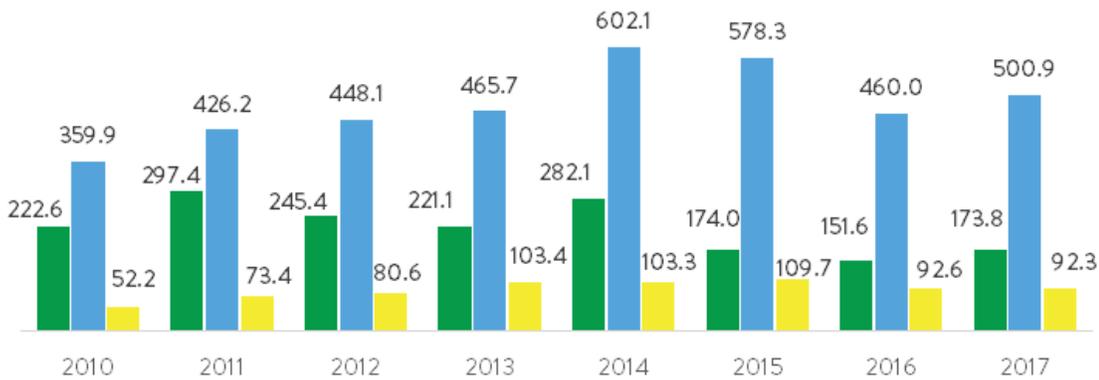
**Figure 3. Value of agriculture production in Nevada (\$1,000) (2010-2017)**



SOURCE: USDA, NASS

The value of animal production increased by 8.9%, and the value of crop production increased by 14.6% from 2016 to 2017. Other sources of agriculture production income, like forest products sold, declined compared to last year (Figure 4).

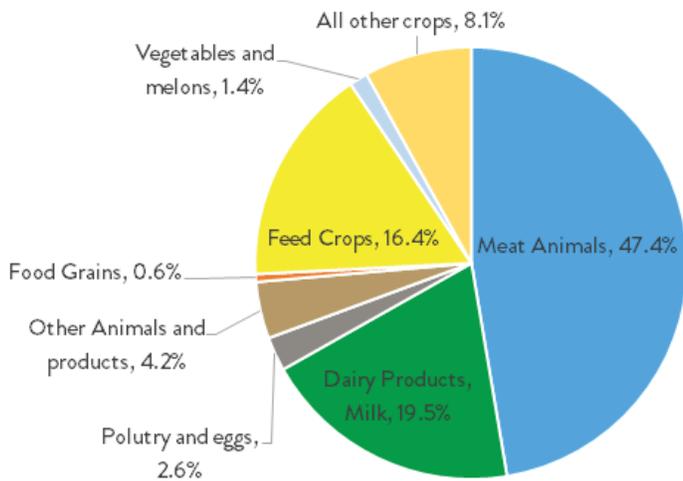
**Figure 4. Value of agriculture production by major categories in Nevada (\$million) (2010-2017)**



SOURCE: USDA, NASS

Nevada farmers and ranchers sold a total of \$646.9 million in unprocessed agricultural commodities in 2017. Agriculture production in Nevada is primarily range livestock production. Approximately \$476 million, or 74%, of the agriculture production sales originate from animal and products, and 26%, or \$171 million, from crop production. Figure 5 shows cash receipts from selling agriculture production commodities. The value of cash receipts in 2017 for all agricultural commodities increased by 8.5%, from \$596 million in 2016 to \$647 million.

**Figure 5. Annual cash receipts by commodity in Nevada (2017)**



The cash receipts from selling animals and animal products increased by 7% from \$445 million in 2016 to \$476 million in 2017. There was an increase of 12.8% in the value of cash receipts received from selling crop products in 2017 from \$151.3 million in 2016 to \$170.7 million. Nevada’s top 5 agriculture commodities when it comes to value of cash receipts in 2017 were:

- cattle and calves
- dairy products, milk
- hay
- miscellaneous crops
- all other animal products

SOURCE: USDA, NASS

Agriculture production activities include primarily livestock and crop production, while agriculture support activities are those associated with farm operations such as soil preparation, planting and harvesting. The agriculture production industries include establishments primarily engaged in growing and harvesting crops, raising animals, harvesting timber, etc. Establishments are described as farms, ranches, dairies, greenhouses, nurseries, orchards or hatcheries and can be operated by the operator alone or with the assistance of members of the household or hired employees.

### Livestock industries

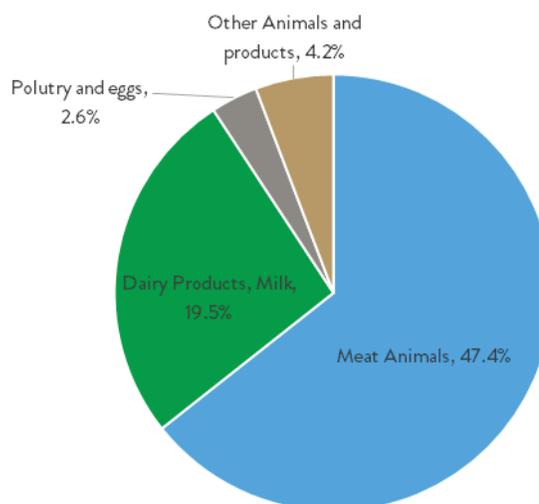
#### Industry overview

The livestock industry is important in Nevada agriculture. Livestock producers are mostly beef, dairy, sheep and swine producers who raise animals to finishing weight. After finishing, the animals are sold live to other producers, or sent to slaughter and returned to the original producer for retail sale. Major markets for producers to sell their products are on-site, at farmers markets and to retail stores or restaurants. Many producers identified the lack of a USDA processing facility nearby as a barrier to selling to a local market.

The industry sold about \$474 million in goods. Figure 6 shows the allocation of cash receipts by type of livestock commodity.

Meat animals, with \$306 million in total sales count for almost half of the total livestock commodity sales, followed by dairy products that brought in \$125 million or almost 20% of sales in 2017.

**Figure 6. Cash receipts allocation by livestock commodity in Nevada (2017)**

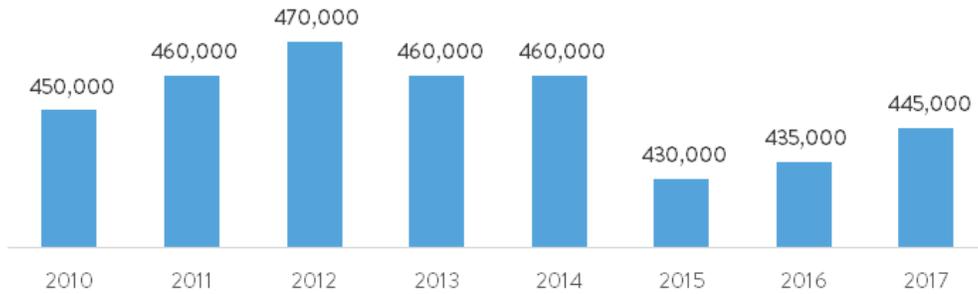


SOURCE: USDA/ERS

## Cattle and calf industry

Nevada had an estimated 445,000 cattle and calves in inventory valued at \$635.1 million in 2017 (Figure 7).

**Figure 7. Cattle and calf inventory (2010-2017)**



SOURCE: USDA/ERS

During 2017 there were approximately 144,888 animals shipped to several different states. Major destinations were California, Idaho, Colorado and Nebraska. These four states account for 77% of all shipped livestock, and each of these states received more than 10,000 animals in 2017. California and Idaho accounted for almost half (49%) of all livestock movement from Nevada in 2017. Minor destinations, or states that received between 2,000 and 10,000 animals, were Oregon, Utah, Texas and Arizona. States that receive less than 2,000 animals from Nevada are not listed in the table below and are considered as “other” destinations. A combined 8.9% of Nevada livestock was moved to those states.

**Table 1. Major and minor destinations for Nevada livestock movements (2017)**

MAJOR DESTINATION		MINOR DESTINATION	
STATE	PERCENT	STATE	PERCENT
California	30.40%	Oregon	5.80%
Idaho	18.60%	Utah	4.10%
Colorado	16.70%	Texas	2.10%
Nebraska	11.30%	Arizona	2.10%

SOURCE: NDA brand inspection database

Generally, livestock produced in Nevada is shipped out of state for processing. Most ranches in Nevada are still family-owned, and some of them sell their cattle to large industrial feedlots and slaughter/packing houses. Based on data from the NDA brand inspection database, more than half (64%) of all animals that are moved to processing were shipped to California and Arizona. Approximately 70,299 animals were moved from Nevada farms and ranches to feedlots out of the state, mostly in California, Idaho and Colorado.

The direct economic impacts are expenditures an industry makes in the local economy. For the cattle and calf industry, the direct impacts of the industry include all expenditures made to produce meat. Indirect economic impacts are expenditures made by firms that sell goods and/or services to livestock producers. Examples include trucking firms, equipment manufacturers, suppliers, veterinary services and financial institutions. Payroll expenses for these firms were also part of the indirect impacts. All these activities, when applied,



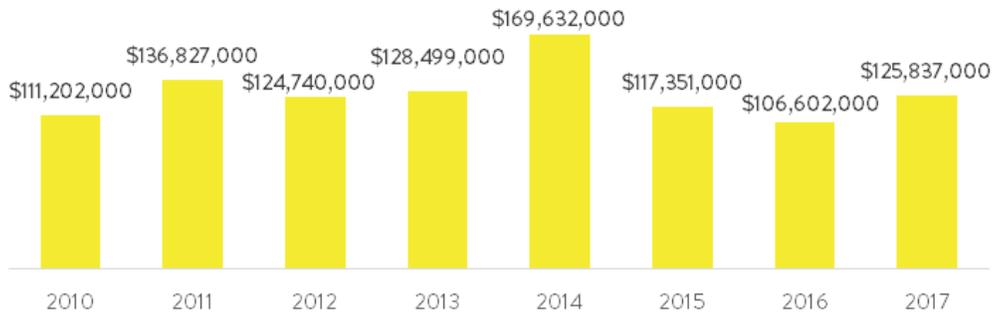
There are 27 cows for every employee in the food and agriculture sector.

provided an estimated economic impact of \$477 million and supported 2,682 jobs. The output multiplier was 1.8, meaning that every dollar invested in Nevada's cattle and calf production industry stimulated \$0.80 in additional economic activity in the state. The employment multiplier was 2.1 so for every 10 jobs directly related, cattle and calf production industry supported an additional 11 jobs in the state.

### *Dairy and milk production industry*

There are a total of 25 dairy farms in Nevada, and 66% are in Fallon, Churchill County. In 2017, available milk production for sale in Nevada was estimated at 703 million pounds. Total milk sales increased by 18% from \$107 million in 2016 to \$126 million in 2017 (Figure 8).

**Figure 8. Value of milk sales in Nevada (2010-2017)**



SOURCE: USDA/ERS

The total economic contribution of the dairy and milk production industry on Nevada's economy was estimated at \$48 million. This includes both direct and indirect economic activity resulting from the dairy and milk production industry. The dairy milk production activities created an additional 227 jobs within the state economy with a total labor income impact of \$6.9 million.

The output multiplier was 1.5, meaning that every dollar invested in Nevada's dairy and milk production industry production stimulated \$0.50 in additional economic activity in the state. The employment multiplier was 2.3, meaning that every 10 jobs directly related to the dairy and milk production industry supported an additional 13 jobs in the state.

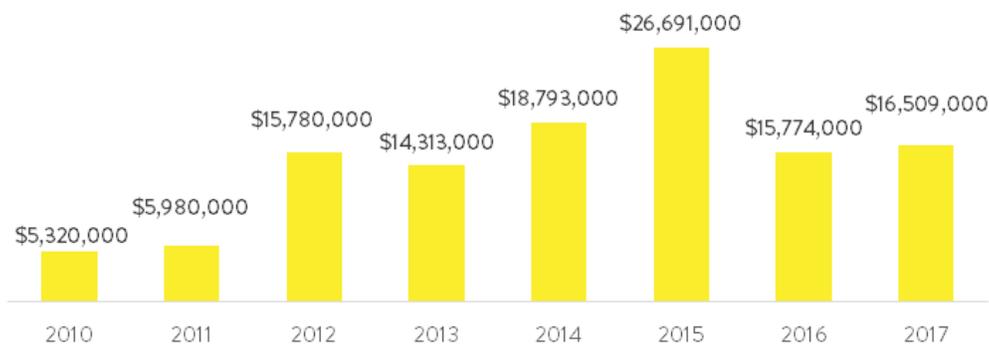
### *Poultry and egg production industry*

Poultry and egg production in Nevada is not a large industry when looking at the value of production or employment numbers. There were approximately 52 certified egg producers with mostly small operations in Nevada in 2017. Nevada's poultry and egg production measured in the dollar value shows an increase from \$16 million in 2016 to \$17 million in 2017 (Figure 9).

Much of the milk exported from Nevada makes its way to foreign markets in its dried form. The dried form is easier to transport and lasts longer than milk in its liquid form.



**Figure 9. Value of poultry and egg production in Nevada (2010-2017)**



SOURCE: USDA/ERS

### Economic contributions of the Nevada livestock industries

This report provides estimates of the economic contributions of Nevada’s livestock industries, comprised of the following activities:

- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- dairy cattle and milk production
- poultry and egg production
- animal production, except cattle and poultry and eggs

Table 2, shows the economic impact of the livestock industry in 2017.

**Table 2. Economic Impact of livestock industry in Nevada (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Livestock industry	616	3,575
Multipliers	1.7	1.9

SOURCE: IMPLAN, 2017

The total economic contribution of the livestock industry on the Nevada economy was estimated at \$616 million. This includes both direct and indirect economic activity resulting from livestock industries. The industry activities created an additional 3,575 jobs within the state economy.

The output multiplier was 1.7, meaning that every dollar invested in Nevada’s livestock production stimulated \$0.70 in additional economic activity in the state. The employment multiplier of 1.9 means that every 10 jobs directly related to livestock industry supported an additional 9 jobs in the state.

### Value of livestock industry trade

In 2017, the value of livestock commodity exports was \$502 million while value of industry imports was \$361 million. These figures show that the value of exports was \$141 million more than the value of imports, creating a positive trade balance.

The largest exporting industries with positive trade balance were beef cattle with a value of \$218 million in exports, animal products, except cattle and poultry and eggs, with \$118 million in export value, and dairy cattle and milk products with \$98 million in exports. Poultry and egg production imported \$60 million more of good and services than it exported, creating a negative trade balance.

## Plant industry

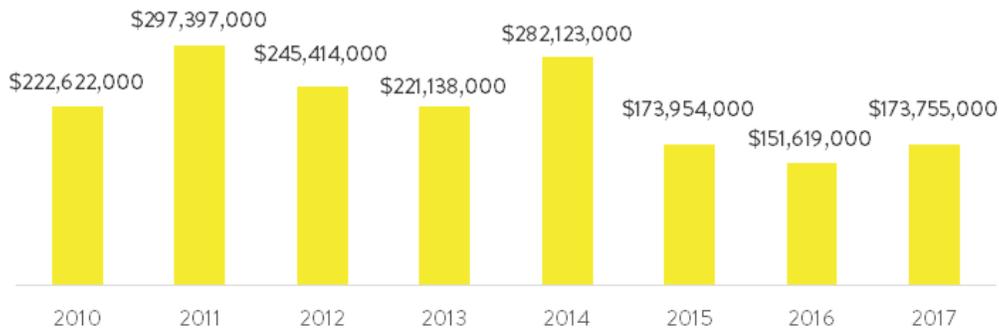
### Industry overview

The plant industry is an important part of Nevada’s food and agriculture production, not only for providing fresh food to a growing population, but also for providing farm-originated production inputs, like feed crops and seeds to support livestock and other industries. The main crop product categories are food grains (wheat); feed crops (hay); fruits and vegetables (onions, garlic, potatoes and other); greenhouse, nursery and floriculture; and all other miscellaneous crops (mushrooms, etc.).

Fruit and tree nut production, as well as many other vegetables and fruits, were produced in the state, but their production is small, and for that reason the value of production is in the “other” sub-category in fruits and vegetables. Other fruits and vegetables grown by Nevada producers include tomatoes, lettuce, peppers, berries and apples. Additional products, like pomegranates, melons, pumpkins, asparagus, eggplant, carrots, basil, peaches, and microgreens are also grown in Nevada.

The total value of all Nevada crop production in 2017 was \$174 million (Figure 10).

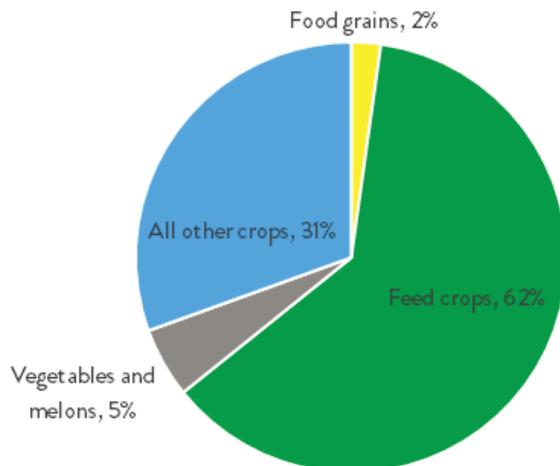
**Figure 10. Value of crop production in Nevada (2010-2017)**



SOURCE: USDA/ERS

The cash receipts from marketing crop products were \$170 million in 2017. Most of the cash receipts came from sales of feed crops like hay (62%). All other miscellaneous crops are the second largest commodity bringing in over 30% of the total crop cash receipts. (Figure 11).

**Figure 11. Cash receipts by crop commodity in Nevada (2010-2017)**

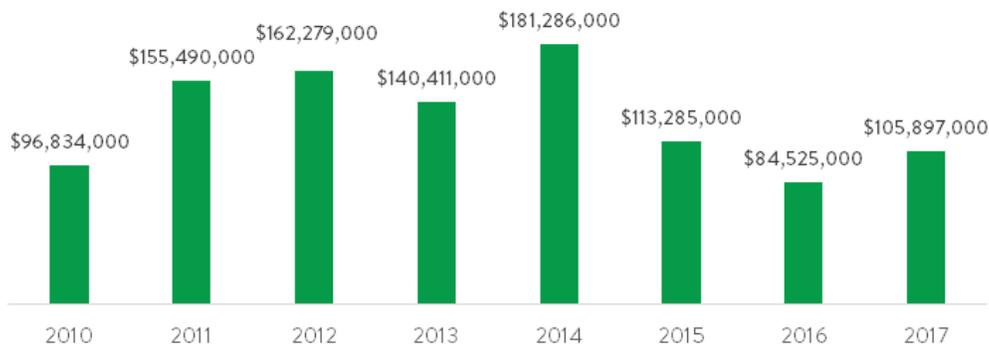


SOURCE: USDA/ERS

## Feed crop industry

The main crop commodity produced in Nevada is hay. Nevada's climate and irrigable soil are conducive to the production of high quality and specialty hays. In 2017, the cash receipts from selling feed crops were \$106 million showing a 25.3% increase from 2016 when the value was \$85 million (Figure 12).

**Figure 12. Feed crop cash receipt value in Nevada (2010-2017)**



SOURCE: USDA/ERS

All other hay includes wild and improved grasses, timothy hay and sudan. Grass hay is used to meet the winter feeding demands of resident livestock herds and timothy hay is marketed primarily to race horse producers across the western United States. Wheat, barley oats, rye and triticale are also commonly cut and baled for cattle feed.

The total economic contribution of the feed crop industry on Nevada's economy was estimated at \$182 million. This includes both direct and indirect economic activity resulting from industry activities. The total employment impact on the economy was 2,046 jobs with a total labor income impact of \$58 million.

The output multiplier was 1.7, meaning that every dollar invested in Nevada's feed crop production stimulated \$0.70 in additional economic activity in the state. The employment multiplier of 1.5 means every 10 jobs directly related to this industry supported an additional 5 jobs in the state.

## Vegetable and melon industry

The state is a producer of many specific categories of vegetables; however, the leading commodities are potatoes, garlic and onions. Nevada's onions are primarily produced for fresh market use, and Nevada garlic is used primarily for seed, although some is also dehydrated.

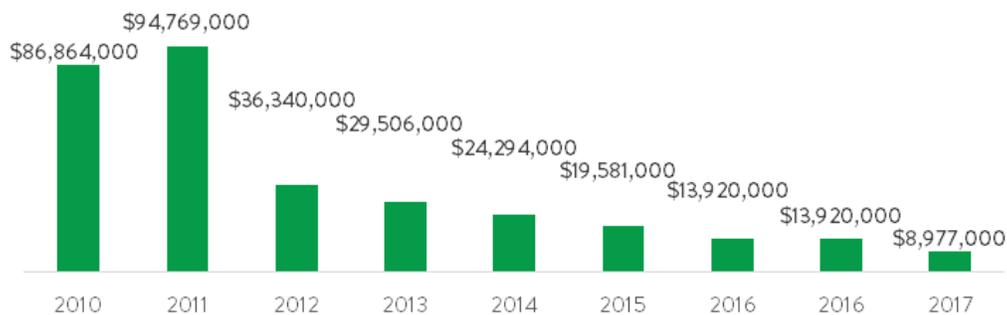
The value of onion production in 2017 was approximately \$9 million, and the value of garlic production for the same year was estimated at \$1 million. Along with onions and garlic, potatoes are another important row crop in Nevada. The estimated value of potato production was \$5 million.

A constant year over year decrease in cash receipts was seen in the period between 2010 and 2017. That could be partially explained due to dry climate and lack of water resources (Figure 13).



Melons grow throughout the state with top producers in Elko, Churchill, Lyon and Nye counties.

**Figure 13. Vegetable and melon cash receipts in Nevada (2010-2017)**



SOURCE: USDA/ERS

The total economic contribution of the vegetable and melon industry on Nevada's economy was estimated at \$2.3 million. This includes both direct and indirect economic activity resulting from industry activities. The total employment impact on the economy was 20 jobs with a total labor income impact of \$596,618.

The output multiplier was 1.6, meaning that every dollar invested in Nevada's vegetable and melon production stimulated \$0.60 in additional economic activity in the state. The employment multiplier of 1.7 means every 10 jobs directly related to this industry supported an additional 7 jobs in the state.

#### *Greenhouse and other miscellaneous crop production industry*

Greenhouse and nursery crops are considered high-value crops. They are typically grown in greenhouses or nurseries, mostly for residential and commercial use. They usually do not require significant land; however, they do require a significant amount of water, fertilizers and pesticides so their production could be considered fairly capital-intensive. Growing food under cover or indoors is becoming a popular method of crop production.

Growth in urban areas of the state has provided a demand base for these crops. The estimated market value of greenhouse and other miscellaneous crops sold was \$52 million in 2017 (Figure 14).

**Figure 14. Greenhouse and other miscellaneous crops cash receipts in Nevada (2010-2017)**



SOURCE: USDA/ERS

The total economic contribution of the greenhouse and other miscellaneous crops production on Nevada's economy was estimated at \$350,046. This included both direct and indirect economic activity resulting from industry activities. All the industry activities supported creation of an additional 4 jobs with a total labor income impact of \$121,613.

The output multiplier was 1.6, meaning that every dollar invested in Nevada's greenhouse, nursery and floriculture industry stimulated \$0.60 in additional economic activity in the state. The employment multiplier of 1.4 means every 10 jobs directly related to this industry supported an additional 4 jobs in the state.

## Economic contributions of the Nevada plant industry

This section of the report provides the estimates of the economic contributions of Nevada's plant industry comprised of the following activities:

- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming

**Table 3. Economic Impact of plant industry in Nevada (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Plant industry	186	2,073
Multipliers	1.7	1.5

SOURCE: IMPLAN

The total economic contribution of the plant industry on Nevada's economy was estimated at \$186 million. This includes both direct and indirect economic activity resulting from plant industries. The total employment impact on the economy was 2,073 jobs with total labor income impact of \$59 million.

The output multiplier was 1.7 meaning that every dollar invested in Nevada's plant industry stimulates \$0.70 in additional economic activity in the state. The employment multiplier of 1.5 means every 10 jobs directly related to plant industry supported an additional 5 jobs in the state.

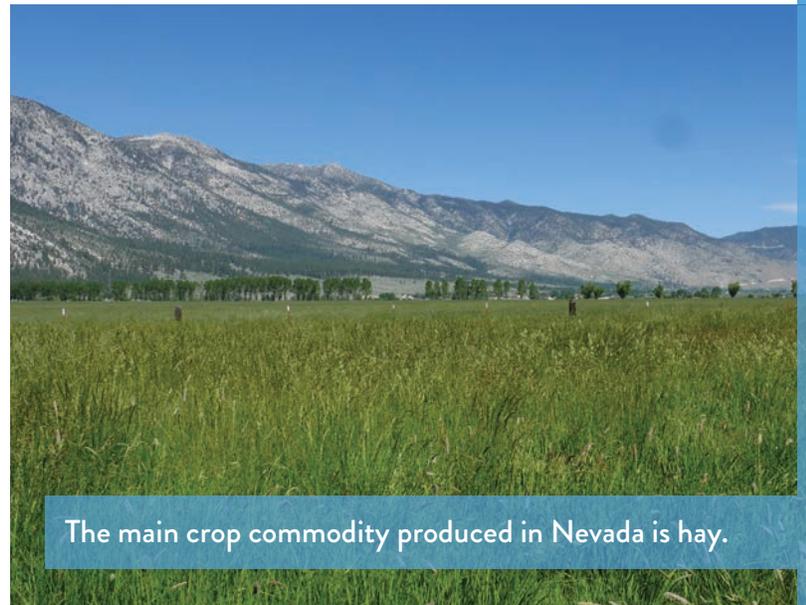
### Value of Nevada plant industry trade

In 2017, the value of plant industry commodities exported was \$175 million while value of industry imports was \$927 million. These figures show that value of imports was \$752 million more than value of exports creating a negative trade balance.

The largest exporting commodity, with a positive trade balance of \$79 million, was alfalfa and hay crops with \$108 million value of export and \$29 million in imports. Other top exporting commodities were grains, nursery and floriculture products and vegetables and melons. However, total industry import needs from these industries was larger than the value of exports, creating a negative trade balance.

### Economic contribution of the agriculture production industries

The total economic contribution of the agriculture production industries on Nevada's economy was estimated at \$836 million. This included both direct and indirect economic activity resulting from industry activities. All the industry activities supported the creation of an additional 6,548 jobs with a total labor income impact of \$147 million.



The main crop commodity produced in Nevada is hay.

The output multiplier was 1.6, meaning that every dollar invested in Nevada’s food manufacturing activities stimulated \$0.60 in additional economic activity in the state. The employment multiplier of 1.7 means every 10 jobs directly related to this industry supported an additional 7 jobs in the state.

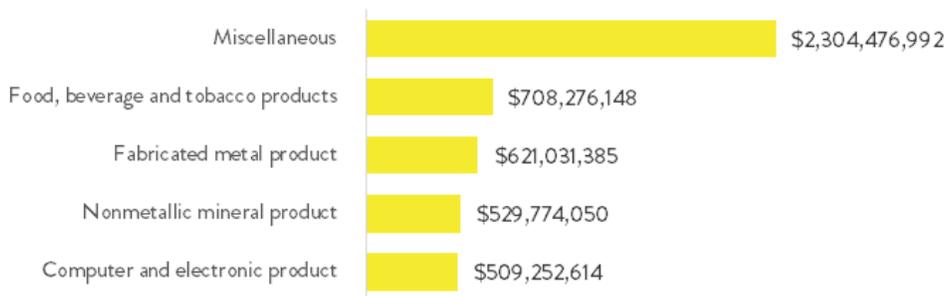
### Value of agriculture production trade

In 2017, the value of agriculture commodities exported was \$699 million while value of industry imports was \$1.335 billion. These figures show that value of imports was \$635.9 million more than value of exports creating a negative trade balance. This tells us that agriculture production industries require input from outside of the country. The largest exporting commodity with a positive trade balance of \$205 million was beef cattle. Other top exporting commodities were hay and other feed crops as well as other animal products (except cattle and poultry).

## ECONOMIC ANALYSIS OF FOOD MANUFACTURING

Food and beverage manufacturing industry output in 2017 accounted for approximately 10% of the total manufacturing output in the state. It is the second largest manufacturing industry in Nevada (Figure 15).

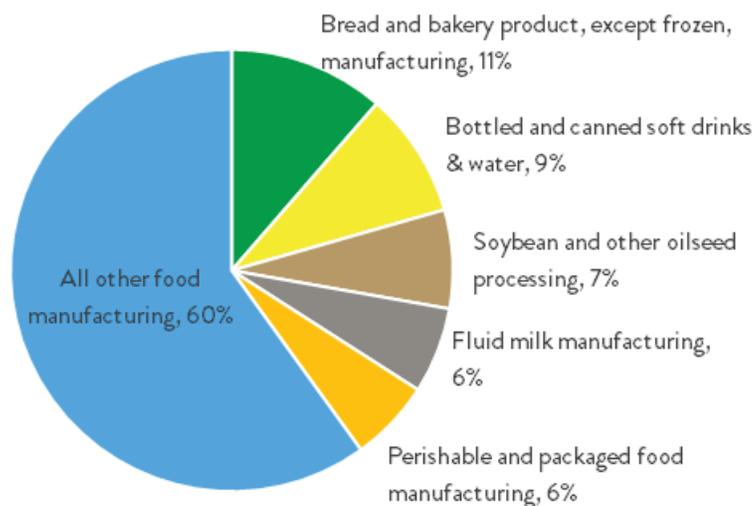
**Figure 15. Top 5 Nevada manufacturing industries by GDP (current dollars) (2017)**



SOURCE: US Bureau of Economic Analysis

In 2017, Nevada was home to 284 private food manufacturing establishments, providing employment for approximately 9,040 people. The value of food manufacturing output was valued at \$3.6 billion. The largest concentration of food manufacturing and processing industry establishments is evident in two major urban counties:

**Figure 16. Top 5 food manufacturing industries by output value in Nevada (2017)**



SOURCE: IMPLAN, 2017

Washoe and Clark County. Those two counties have the largest population and are also the major markets for food and agriculture products.

The top 5 food manufacturing industries in Nevada by output value are:

- bread and bakery product, except frozen, manufacturing
- bottled and canned soft drinks & water
- soybean and canned oilseeds processing
- fluid milk manufacturing
- perishable and packaged food manufacturing

These industries account for 40% of the total food manufacturing output in Nevada (Figure 16).

The importance of bread and bakery product entrepreneurs can be seen in

the size of the bread and bakery production industry in the state, which accounted for more than \$405 million in industry sales. The second largest industry was the bottled and canned soft drinks and water manufacturing industry with \$327 million in output value. The third largest industry by the size of output was the soybean and other oil processing industry with total sales of \$257 million.

### Economic contributions of the food manufacturing industries

The total economic contribution of the food manufacturing industries on Nevada’s economy was estimated at \$422 million. This included both direct and indirect economic activity resulting from industry activities. All the industry activities supported the creation of an additional 1,569 jobs with a total labor income impact of \$79 million.

The output multiplier was 1.5, meaning that every dollar invested in Nevada’s food manufacturing activities stimulated \$0.50 in additional economic activity in the state. The employment multiplier of 2.1 means every 10 jobs directly related to this industry supported an additional 11 jobs in the state.

This report also provides estimated economic contributions of the Nevada food manufacturing industries, comprised of 36 activities. These 36 activities are grouped into main food manufacturing activities:

- animal food manufacturing
- grain and oilseed milling
- sugar and confectionery product
- fruit and vegetable preserving
- dairy product manufacturing
- animal slaughtering and processing
- bakeries and tortilla manufacturing
- other food manufacturing
- beverage and tobacco product manufacturing

Table 4 shows the economic contribution of these 10 food manufacturing activities on Nevada’s economy.

**Table 4. Economic impact of food manufacturing industry activities in Nevada (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Animal food manufacturing	13	28
Grain and oilseed milling	37	62
Bakeries and tortilla manufacturing	70	494
Sugar and confectionery product	4	15
Fruit and vegetable preserving	46	172
Specialty food	37	136
Dairy product manufacturing	126	387
Animal processing	10	35
Beverage and tobacco product manufacturing	77	239

SOURCE: IMPLAN

### Value of food manufacturing industry trade

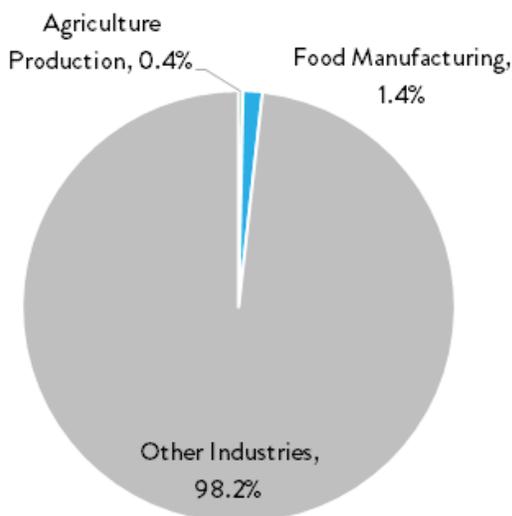
In 2017, the value of food manufactured commodities exported was \$3.1 billion while the value of industry imports was \$8.9 billion. These figures show that value of imports was \$5.8 billion more than value of exports creating a negative trade balance. This tells us that most food processing and manufacturing industries require input from outside of the country.

The largest exporting industries with positive trade balances were ice cream and frozen desserts, spice and extracts, and soybean and other oilseed processing. These industries exported more products than were imported. Other top exporting commodities were bread and bakery products, bottled and canned soft drinks and water and other perishable package products. However, total import needs from these industries is larger than the value of exports, creating a negative trade balance.

## ECONOMIC IMPACT ANALYSIS OF THE FOOD AND AGRICULTURE SECTOR ON THE NEVADA ECONOMY

This section of the report provides estimates of the economic contributions of the Nevada food and agriculture sector to the state’s economy. “Food and agriculture sector” in our analysis is defined by agricultural production and food manufacturing industries, because food processing and manufacturing is closely linked to farming industries.

**Figure 17. Agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

In 2017, the total value of the agriculture sector gross output was \$4.5 billion. The value of agriculture production gross output was \$916 million, accounting for only 0.4% of the total gross output value of Nevada. The food manufacturing gross output value accounted for 1.4% of Nevada’s total output at \$3.6 billion. (Figure 17).

In 2017, the total economic contribution of the agriculture sector on Nevada’s economy was an estimated \$1.3 billion. Given the multiplier impact, the total economic contribution generated by Nevada agriculture production activities was \$836 million. The total economic contribution generated by food manufacturing was \$422 million.

**Table 5. Economic impact of agriculture sector industries in Nevada (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Agriculture production	836	6,548
Food manufacturing	422	1,569
<b>Total food and agriculture sector</b>	<b>1,258</b>	<b>8,117</b>

SOURCE: IMPLAN data for Nevada, 2017

When it comes to employment, the total employment impact of the agriculture sector was 8,117 jobs. The food and agriculture sector employed a total of 16,344 people. Because of the food and agriculture sector, an additional 8,117 jobs were created within other industries in the state economy. The total employment created from agriculture production industry activities was 6,548, and food manufacturing was 1,569 jobs. The multiplier offers a useful way to interpret these ripple effects. Table 6 shows the sector multiplier.

**Table 6. Industry Multipliers for the agriculture sector industries in Nevada (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT	EMPLOYMENT
Total food and agriculture sector	1.7	1.9

SOURCE: IMPLAN data for Nevada, 2017

The ratio of total direct impact to impact value yields a multiplier of 1.7, meaning that every dollar invested in Nevada's agriculture sector industries stimulated another \$0.70 in additional economic activity in other industries in the state. The employment multiplier was 1.9, meaning that every 10 jobs directly related to agriculture supported an additional 9 jobs in the state.

## VALUE OF FOOD AND AGRICULTURE SECTOR TRADE

The agriculture sector is an important and integral part of Nevada's economy. Enterprises involved with farming and ranching, or those in food processing and manufacturing, produce food and food products for the state, the nation and the global marketplace. The growth of foreign markets for agricultural products has only enhanced the significance of this sector.

Export sales brings revenues to the state's economy, and those revenues provide future growth and expansion. However, most agriculture sector specialty food manufacturing industries require inputs from outside the state. In 2017, the Nevada agriculture sector exported a total of \$3.8 billion in agriculture and food products and commodities. However, most agriculture sector industries require inputs from outside the state. The total value of the imports in 2017 were estimated at \$8.9 million, showing the value of imports was \$5.8 billion more than value of exports, creating a negative trade balance.

Top 5 agriculture and food products with positive trade balances were beef cattle, ice cream and frozen desserts, feed crops, all other animal products, and spices and extracts. This positive trade balance means the value of exports is larger than value of imports bringing revenues to Nevada's economy.

## CONCLUSION

This section provided a profile of the food and agriculture sector and an overview of the economic impact the food and agriculture sector had on the economy of Nevada.

There were 4,000 farm operations in 2017 in Nevada, covering approximately 6 million acres of land.

In 2017, Nevada's total value of the agriculture sector output was \$4.5 billion accounting for 2% of the total state production output.

The largest agriculture production industries by output value were:

- beef cattle ranching and farming, including feedlots
- all other crop farming including hay
- animal production, except cattle and poultry and eggs

These industries account for more than 14% of the total agriculture sector output.

The largest food manufacturing industries by output value were:

- bread and bakery products manufacturing
- bottled and canned soft drinks and water
- fluid milk manufacturing

These industries account for more than 21% of Nevada's agriculture sector output.



The total state employment was 1.7 million. The agriculture sector had 16,344 employees accounting for 1% of the total state employment. In 2017, the labor income of the agriculture sector in Nevada was \$543 million accounting for 0.7% of the total state's income.

The agriculture sector total exports were \$3.8 billion. The top 3 exporting agriculture commodities were:

- bread and bakery products
- bottled and canned soft drinks and water
- beef cattle

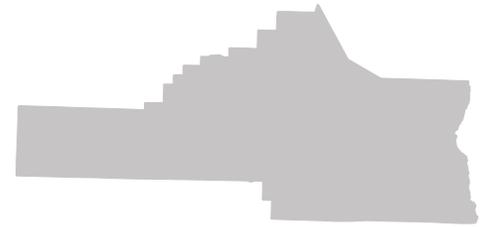
In 2017, given the economic inter-linkage and multiplier effect, the total economic contribution to Nevada's economy from all the food and agricultural sector activities was \$1.3 billion. The total employment impacts from activity of the food and agriculture sector was 8,117 jobs and \$226 million in labor income. The total economic contribution of agriculture production activities to the state economy was an estimated \$835 billion. The total employment impact from agriculture production activities was 6,548 jobs and \$147 million in labor income. The food manufacturing activities total economic contribution to state economy was \$422 million. The total employment impact was an estimated 1,569 jobs with \$79 million in labor income.



# NEVADA FOOD & AGRICULTURE SECTOR

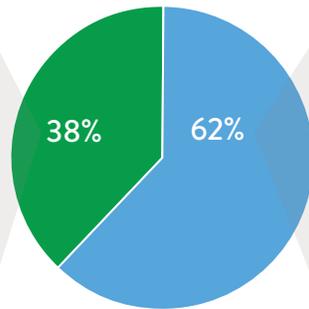
## CARSON CITY AGRICULTURE AT A GLANCE

- Carson City’s food & agriculture sector contributed \$45 million to the state’s economy in 2017.
- Carson City’s food & agriculture sector accounts for 528 jobs.
- The economic output multiplier was 1.3; meaning that for every \$1 invested in the agriculture sector, an additional \$0.30 in economic activity was stimulated in other industries in Nevada.



### CARSON CITY FARM FACTS

- **\$55 million:** Agriculture production output
- **21** farms covering **2,756** acres
- Top 3 agriculture industries:
  - **commercial fishing**
  - **dairy cattle and milk production**
  - **greenhouse, nursery and floriculture production**



### CARSON CITY FOOD FACTS

- **\$89 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **coffee and tea manufacturing**
  - **meat processed from carcasses**
  - **bread and bakery production**

### CARSON CITY SECTOR IN THE GLOBAL MARKET

- \$131 million:** Total exports
- Top 3 export commodities:
- **fish from fish farming**
  - **coffee and tea**
  - **meat processed from carcasses**

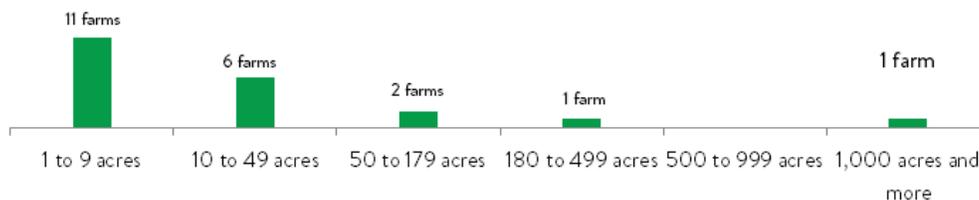
# FOOD AND AGRICULTURE SECTOR IN CARSON CITY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

The approximate land area of Carson City is 92,583 acres. There were 21 farms in Carson City covering approximately 2,756 acres, which accounts for 3% of the land. More than 80% of all farms were small farms between 1 and 49 acres, 14% were mid-size farms between 50 to 499 acres and 5% were large farms with 500 to 1,000 acres or more (Figure 18). Data from the USDA Census of Agriculture showed an increase in total number of farms from 11 in 1997 to a steady number of 21 farms in 2002, 2007 and 2012.

**Figure 18. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Carson City had a total employed population of 39,287 in 2017. 528 people were employed within the food and agriculture sector in Carson City—258 in agriculture production and 270 in food manufacturing.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 228 different industries in Carson City and 8 were agriculture production industries:

- greenhouse, nursery and floriculture production
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- dairy cattle and milk production
- animal production, except cattle and poultry and eggs
- commercial logging
- commercial fishing
- support activities for agriculture and forestry

Food manufacturing industries of Carson City were:

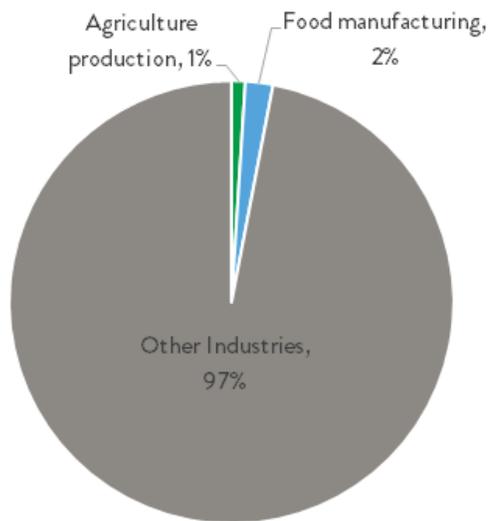
- nonchocolate confectionery manufacturing
- meat processed from carcasses
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- tortilla manufacturing
- coffee and tea manufacturing
- breweries

Food manufacturing industries, combined with the agriculture production industries, provide the economic description of the food and agriculture sector in Carson City.

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$143.6 million. The value of agriculture production output was \$54.5 million, accounting for only 1% of the total output value of Carson City. The agriculture and food manufacturing output value accounted for 2% of the total county's output with a value of \$89.1 million.

**Figure 19. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

balance of \$92.5 million. However, the agricultural production industries in Carson City had a positive contribution to the trade balance with \$17.4 million more in exports than imports. This shows the importance of agriculture production to the Carson City economy. The food manufacturing industry imports were \$108.8 million more than exports. This negative trade balance shows that most of Carson City food manufacturing commodities were purchased from outside the county.

### Economic impact analysis of the food and agriculture sector on Carson City's economy

The economic impact analysis shows the contributions of agriculture production and food manufacturing activities to the Carson City economy (Table 7).

Food and agriculture sector employment accounted for only 1% of the county's total employment in 2017. When looking at the levels of labor income, the sector made up approximately 1% of the total Carson City labor income valued at approximately \$20.2 million.

### Sectorial value of exports and imports

Food and agriculture sector export value in 2017 was \$131.2 million and the import value was \$223.7 million, creating a negative trade

Top exporting commodities from Carson City are fish, coffee and tea, and meat.

The total economic contribution was estimated at \$45.3 million. This included both direct and indirect economic activity resulting from industry activities. All industry activities supported the creation of an additional 221 jobs with a total labor income impact of \$7.4 million.

**Table 7. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	45	221
Multipliers	1.3	1.5

SOURCE: IMPLAN

The output multiplier was 1.3, meaning that every dollar invested in Nevada’s food and agriculture sector stimulated \$0.30 in additional economic activity in the state. The employment multiplier of 1.5 means every 10 jobs directly related to this industry supported an additional 5 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

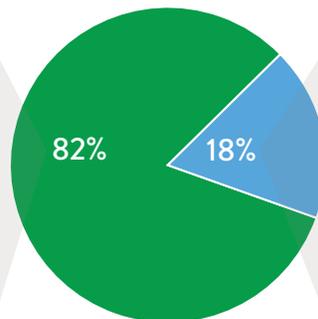
## CHURCHILL COUNTY AGRICULTURE AT A GLANCE

- Churchill County's food & agriculture sector contributed \$107 million to the state's economy in 2017.
- Churchill County's food & agriculture sector accounts for 894 jobs.
- The economic output multiplier was 1.2; meaning that for every \$1 invested in the agriculture sector, an additional \$0.20 in economic activity was stimulated in other industries in Nevada.



### CHURCHILL COUNTY FARM FACTS

- **\$133 million:** Agriculture production output
- **672** farms covering **197,232** acres
- Top 3 agriculture industries:
  - **dairy cattle and milk production**
  - **animal production**
  - **all other crop farming**



### CHURCHILL COUNTY FOOD FACTS

- **\$29 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **dry, condensed and evaporated dairy product manufacturing**
  - **animal slaughtering**
  - **bread and bakery production**

### CHURCHILL COUNTY SECTOR IN THE GLOBAL MARKET

**\$148 million:** Total exports

Top 3 export commodities:

- **animal products, except cattle and poultry and eggs**
- **dairy cattle and milk products**
- **all other crops**

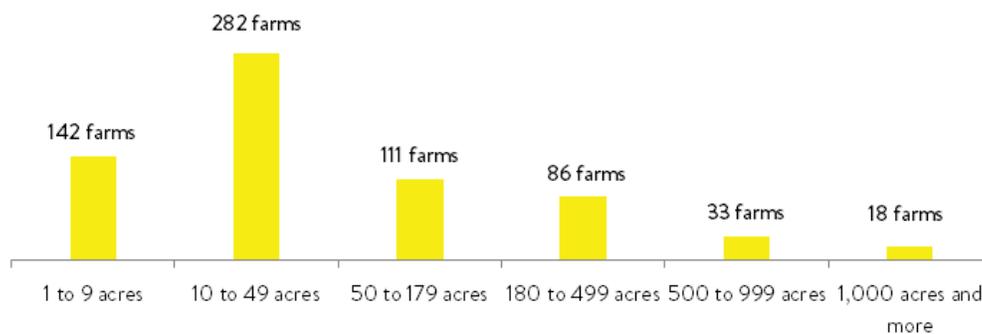
# FOOD AND AGRICULTURE SECTOR IN CHURCHILL COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

The approximate land area of Churchill County is 3,155,596 acres. In 2012, there were 672 farms in this county covering 197,232 acres of land, which accounted for a total of 6.3% of farmland in Churchill County. The average farm size was 294 acres. Approximately 63%, or 424, farms were small farms between 1 to 50 acres and 17% were mid-size farms between 50 to 179 acres. Only a small number of farms were large farms with 500 to 1,000 acres or more (Figure 20).

**Figure 20. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

Data from the USDA Census of Agriculture showed a constant increase in the number of farms from 341 farms in 1997, 498 farms in 2002, 529 farms in 2007 to 672 farms in 2012.

### Population and farm operators

24,230 people were living in Churchill County in 2017. A total of 894 people were employed within the food and agriculture sector in Churchill County; 861 were employed in agriculture production and agriculture and food manufacturing had 33 employees.

## Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 164 different industries in Churchill County, and 13 were agriculture production industries:

- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- dairy cattle and milk production
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial logging
- commercial hunting and trapping
- support activities for agriculture and forestry

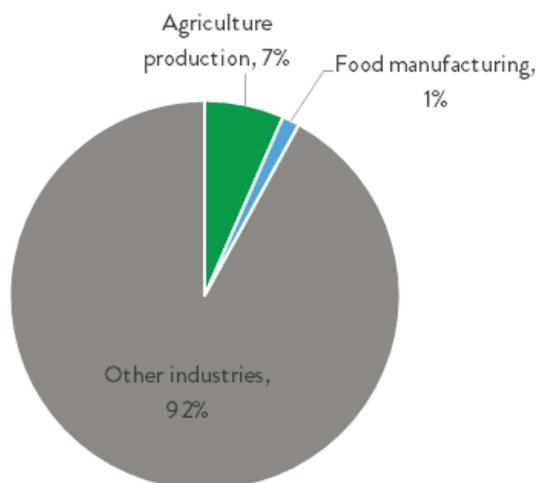
The five main food manufacturing industries for this county were:

- dry, condensed and evaporated dairy product manufacturing
- animal, except poultry, slaughtering
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- breweries

## Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$161.4 million. The value of agriculture production output was \$132.5 million, accounting for 7% of the total output value of Churchill County. The agriculture and food manufacturing output value accounted for 1% of the total county's output with a value of \$28.9 million (Figure 21).

**Figure 21. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

Food and agriculture sector employment accounted for 7% of the total county's employment in 2017. When looking at the levels of labor income, the food and agriculture sector made up approximately 3% of the total Churchill County labor income valued at approximately \$14.8 million.

## Sectorial value of export and import

The agriculture sector export value of Churchill County in 2017

was \$147.6 million, of which, \$9.2 million were exports to international markets. The total agriculture production export value was \$119.2 million, and the import value was \$26.8 million, creating a positive trade balance of \$92.4 million. The commodities with positive trade balance were animal products, dairy cattle and milk products, feed crops and beef cattle. Grains, vegetables and melons and greenhouse production were commodities with negative trade balances. By identifying input-output sector commodities that are imported, the county can target these for

import substitution efforts. However, the agricultural production industries in Churchill County contributed to the favorable balance of trade. This shows the importance of agriculture production to Churchill County’s economy. The food manufacturing sector created \$66.7 million more in imports than exports. This negative trade balance shows that most of Churchill County food manufacturing commodities were purchased from outside of the county.

**Economic impact analysis of the food and agriculture sector on Churchill County’s economy**

The economic impact analysis shows the contributions of agriculture production and food manufacturing activities to the total Churchill County economy (Table 8).

**Table 8. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	107	764
Multipliers	1.2	1.3

SOURCE: IMPLAN

In 2017, the total contribution of the food and agriculture sector on Churchill County’s economy was \$107 million. Given the multiplier effect, the total economic impact generated by Churchill County agriculture production activities was \$106 million. The total economic impact generated by agriculture and food manufacturing operations was \$1 million.

The food and agriculture sector output multiplier were 1.2, meaning that every dollar invested in Nevada’s food and agriculture sector stimulated \$0.20 in additional economic activity in the state. The employment multiplier of 1.3 means every 10 jobs directly related to this industry supported an additional 3 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

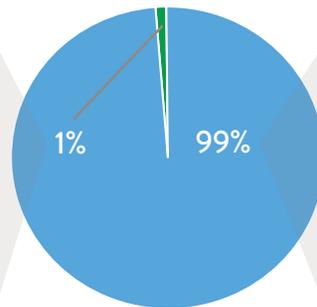
## CLARK COUNTY AGRICULTURE AT A GLANCE

- Clark County's food & agriculture sector contributed \$240 million to the state's economy in 2017.
- Clark County's food & agriculture sector accounts for 6,684 jobs.
- The economic output multiplier was 1.5; meaning that for every \$1 invested in the agriculture sector, an additional \$0.50 in economic activity was stimulated in other industries in Nevada.



### CLARK COUNTY FARM FACTS

- **\$23 million:** Agriculture production output
- **252** farms covering **15,620** acres
- Top 3 agriculture industries:
  - **animal production**
  - **greenhouse, nursery and floriculture production**
  - **support activities for agriculture and forestry**



### CLARK COUNTY FOOD FACTS

- **\$1.9 billion:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **bread and bakery production**
  - **bottled and canned soft drinks and water**
  - **ice cream and frozen dessert manufacturing**

### CLARK COUNTY SECTOR IN THE GLOBAL MARKET

**\$1.7 billion:** Total exports

- Top 3 export commodities:
- **bread and bakery products**
  - **all other food products**
  - **ice cream and frozen dessert**

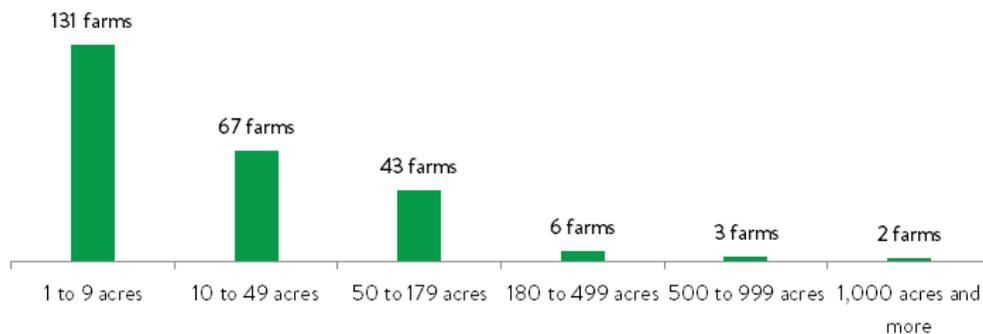
# FOOD AND AGRICULTURE SECTOR IN CLARK COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

The approximate land area of Clark County is 5,050,556 acres. In 2012, there were 252 farms in Clark County, covering 15,620 acres of land, accounting for 0.3% of land. The average farm size was 62 acres. 79%, or 198 farms, were small farms between 1 to 50 acres; 19%, or 49, were mid-size farms (50 to 179 acres); and 2%, or 5 farms, were large farms with 500 to 1,000 or more acres (Figure 22).

**Figure 22. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Clark County had a population of 2,204,079 in 2017. A total of 6,684 people were employed within the food and agriculture sector in Clark County—596 were employed in agriculture production, and agriculture and food manufacturing had 6,088 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 372 different industries in Clark County and 12 were agriculture production industries:

- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming

- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial logging
- commercial hunting and trapping
- support activities for agriculture and forestry

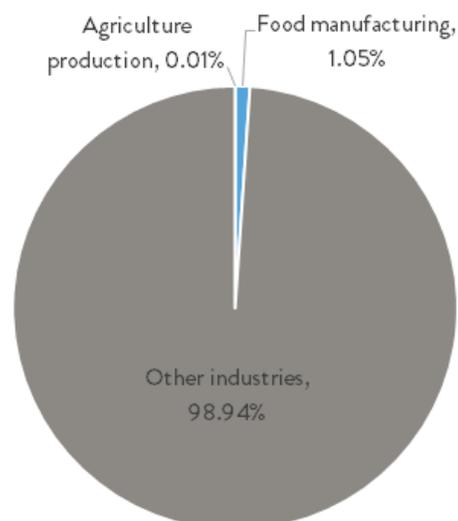
Food manufacturing had a significant presence in Clark County. There were 30 food manufacturing industries that were included in food and agriculture sector analysis listed below:

- bread and bakery product, except frozen, manufacturing
- bottled and canned soft drinks and water
- ice cream and frozen dessert manufacturing
- all other food manufacturing
- fluid milk manufacturing
- mayonnaise, dressing and sauce manufacturing
- frozen specialties manufacturing
- canned fruits and vegetables manufacturing
- frozen fruits, juices and vegetables manufacturing
- meat processed from carcasses
- other snack food manufacturing
- confectionery manufacturing from purchased chocolate
- cookie and cracker manufacturing
- dry, condensed and evaporated dairy product manufacturing
- coffee and tea manufacturing
- distilleries
- tortilla manufacturing
- dry pasta, mixes and dough manufacturing
- frozen cakes and other pastries manufacturing
- breweries
- tobacco product manufacturing
- dog and cat food manufacturing
- spice and extract manufacturing
- seafood product preparation and packaging
- manufactured ice
- dehydrated food products manufacturing
- rendering and meat byproduct processing
- other animal food manufacturing
- poultry processing
- wineries

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$1.9 billion, counting for 1% of total county output. The value of agriculture production output was \$22.6 million, accounting for only 0.01% of the total output value of Clark County. The agriculture and food manufacturing output value accounted for 1% of the total county's output with value of \$1.7 billion (Figure 23).

**Figure 23. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment accounted for only 1% of the total county’s employment in 2017. When looking at the levels of labor income, the sector made up approximately 0.5% of the total Clark County labor income valued at approximately \$264.6 million.

**Sectorial value of export and import**

The food and agriculture sector export value in 2017 was \$1.7 billion, of which, \$89.8 million was foreign exports to international markets. The total value of agriculture production exports was \$45.5 million, and the value of imports was \$810.7 million, creating a negative trade balance of \$765.2 million. The largest exporting commodities were animal products except cattle and poultry, animal aquaculture (fish farm raising, shellfish, etc.), grains and oilseeds. The largest importing commodities within the agriculture production sector were fruits, vegetables and melons, and greenhouse, nursery and floricultures products. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts.

The food manufacturing sector created \$4.7 billion more in imports than exports. The largest importing commodities within the food processing sector were soft drinks and bottled water, meat (except poultry) produced in slaughtering plants, and processed poultry meat products. The largest exporters were the bakery industry, ice cream and frozen desserts producers and other frozen fruits and vegetable product producers. Negative trade balance shows that most of Clark County’s food manufacturing commodities were purchased from outside of the county.

**Economic impact analysis of the food and agriculture sector on Clark County’s economy**

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Clark County economy (Table 9).

In 2017, the total economic contribution of the food and agriculture sector on Clark County’s economy was \$240.1 million. Given the multiplier impact, the total economic impact generated by Clark County agriculture production activities was \$5.6 million. The total economic impact generated by food manufacturing operations was \$273.8 million.

**Table 9. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Food and agriculture sector	240.1	1,111
Multipliers	1.5	1.7

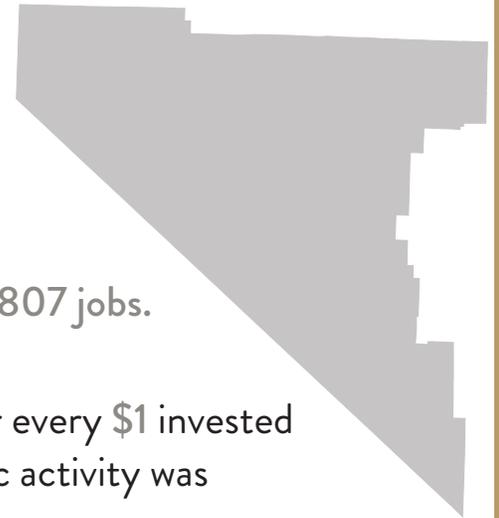
SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.5, meaning that every dollar invested in Clark County’s food and agriculture sector stimulated another \$0.50 in additional economic activity in other industries in the state. The employment multiplier was 1.7, meaning that every 10 jobs directly related to agriculture supported an additional 7 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

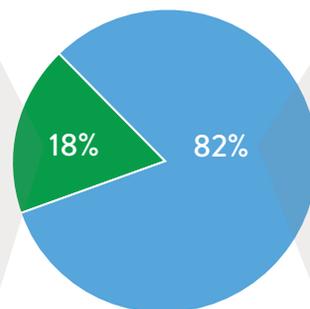
## DOUGLAS COUNTY AGRICULTURE AT A GLANCE

- Douglas County's food & agriculture sector contributed \$60 million to the state's economy in 2017.
- Douglas County's food & agriculture sector accounts for 807 jobs.
- The economic output multiplier was 1.4; meaning that for every \$1 invested in the agriculture sector, an additional \$0.40 in economic activity was stimulated in other industries in Nevada.



### DOUGLAS COUNTY FARM FACTS

- **\$32 million:** Agriculture production output
- **255** farms covering **100,944** acres
- Top 3 agriculture industries:
  - **animal production**
  - **beef cattle ranching and farming**
  - **all other crop farming**



### DOUGLAS COUNTY FOOD FACTS

- **\$143 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **coffee and tea manufacturing**
  - **frozen fruits, juices and vegetables manufacturing**
  - **canned fruits and vegetables manufacturing**

### DOUGLAS COUNTY SECTOR IN THE GLOBAL MARKET

**\$162 million:** Total exports

- Top 3 export commodities:
- **coffee and tea**
  - **frozen fruits, juices and vegetables**
  - **canned fruits and vegetables**

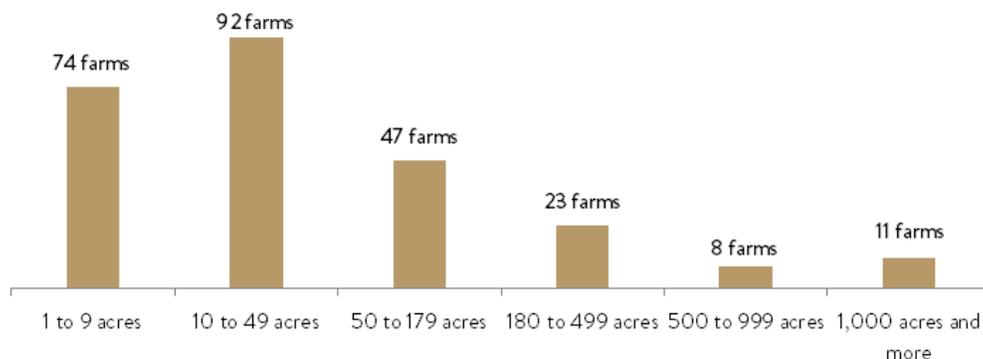
# FOOD AND AGRICULTURE SECTOR IN DOUGLAS COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

The approximate land area of Douglas County is 454,220 acres. There were 255 farms in Douglas County covering 100,944 acres of land, which accounted for 22.2% of land. The average farm size was 396 acres. 65%, or 166 farms, were small farms between 1 to 49 acres; 27% were mid-size farms between 50 to 499 acres; and 7% were large farms with 500 to 1,000 or more acres (Figure 24).

**Figure 24. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Douglas County had a population of 48,309 in 2017. A total of 807 people were employed within the food and agriculture sector in Douglas County—504 were employed in agriculture production and agriculture and food manufacturing had 303 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 205 different industries in Douglas County and 10 were agriculture production industries:

- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming

- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial hunting and trapping
- support activities for agriculture and forestry

Food manufacturing industries of Douglas County are listed below:

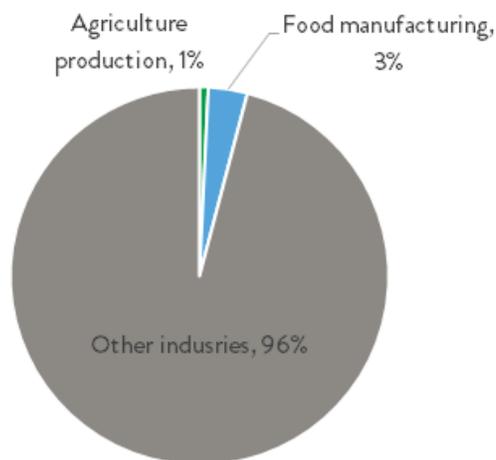
- confectionery manufacturing from purchased chocolate
- frozen fruits, juices and vegetables manufacturing
- canned fruits and vegetables manufacturing
- ice cream and frozen dessert manufacturing
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- coffee and tea manufacturing
- distilleries

Agriculture and food manufacturing industries, combined with agriculture production industries, in this report provide the economic description of the food and agriculture sector of Douglas County.

### Sectorial value of output, employment and labor income

The total value of the agriculture sector output in 2017 was \$175.3 million, accounting for 4% of the total output value of Douglas County. The value of agriculture production output was \$32.0 million, accounting for 1% of the total output value of Douglas County. The agriculture and food manufacturing output value accounted for 3% of the total county's output with a value of \$143.3 million (Figure 25).

**Figure 25. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

Food and agriculture sector employment accounted for 3% of the total county's employment in 2017. When looking at the levels of labor income, the sector made up approximately 2% of the total Douglas County labor income valued at approximately \$22.4 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$162.4 million and exports to international markets were \$11.6 million. The total value of agriculture production exports was \$21.4 million, and the value of imports was \$50.5 million, creating a negative trade balance of \$29.1 million. The commodities with a positive trade balance were animal products, beef cattle and all other crops. Fruits, vegetables and melons, and fish products were the largest import commodities within the agriculture production sector. Most imported commodities were fruits, vegetables and melons, and fish. By identifying input-output sector commodities that are imported, the county can target these for

import substitution efforts. The food manufacturing sector created \$23.8 million more in imports than exports. The commodities with a positive trade balance were coffee and tea, and frozen fruits, juices and vegetables.

### Economic impact analysis of the food and agriculture sector on Douglas County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Douglas County economy (Table 10).

In 2017, the total economic contribution of food and agriculture sector activities on Douglas County economy was \$59.8 million. Given the multiplier impact, the total economic impact generated by Douglas County agriculture production activities was \$39.3 million. The total economic impact generated by agriculture and food manufacturing operations was \$20.8 million.

**Table 10. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	59.8	726
Multipliers	1.4	1.5

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.4 meaning that every dollar invested in Douglas County's food and agriculture sector stimulated another \$0.40 in additional economic activity in other industries in the state. The employment multiplier was 1.5, meaning that every 10 jobs directly related to agriculture supported an additional 5 jobs in the state.

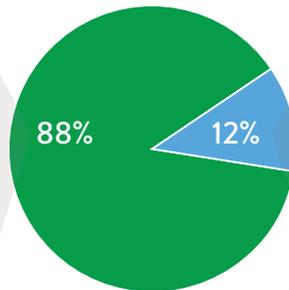
# NEVADA FOOD & AGRICULTURE SECTOR

## ELKO COUNTY AGRICULTURE AT A GLANCE

- Elko County's food & agriculture sector contributed \$14 million to the state's economy in 2017.
- Elko County's food & agriculture sector accounts for 841 jobs.
- The economic output multiplier was 1.4; meaning that for every \$1 invested in the agriculture sector, an additional \$0.40 in economic activity was stimulated in other industries in Nevada.

### ELKO COUNTY FARM FACTS

- **\$118 million:** Agriculture production output
- **552** farms covering **2 million** acres
- Top 3 agriculture industries:
  - **beef cattle ranching and farming**
  - **animal production**
  - **dairy cattle and milk production**



### ELKO COUNTY FOOD FACTS

- **\$16 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **bottled and canned soft drinks and water**
  - **bread and bakery product manufacturing**
  - **animal slaughtering**

### ELKO COUNTY SECTOR IN THE GLOBAL MARKET

**\$132 million:** Total exports

- Top 3 export commodities:
- **beef cattle**
  - **animal products**
  - **dairy cattle and milk products**



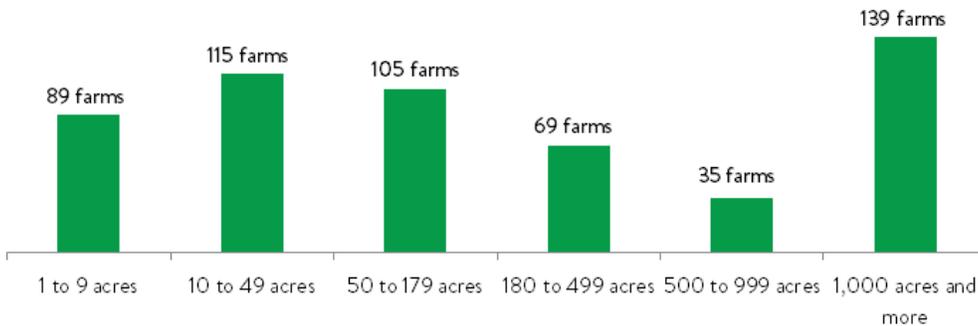
# FOOD AND AGRICULTURE SECTOR IN ELKO COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Elko County was 10,988,685 acres. There were 552 farms in Elko County, covering 2,126,980 acres of land, which accounted for 19.4% of land in farms. Average farm size was 3,853 acres. Approximately 37%, or 204 farms, were small farms between 1 to 50 acres; 31.5% were mid-size farms (50 to 499 acres); and 31.5% were large farms with 500 to 1,000 or more acres (Figure 26).

**Figure 26. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Elko County had a population of 52,649 in 2017. A total of 851 people were employed within the food and agriculture sector in Elko County; 785 were employed in agriculture production and agriculture and food manufacturing had 66 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 187 different industries in Elko County and 12 were agriculture production industries:

- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming

- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- dairy cattle and milk production
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial hunting and trapping
- support activities for agriculture and forestry

Food manufacturing industries in Elko County are listed below:

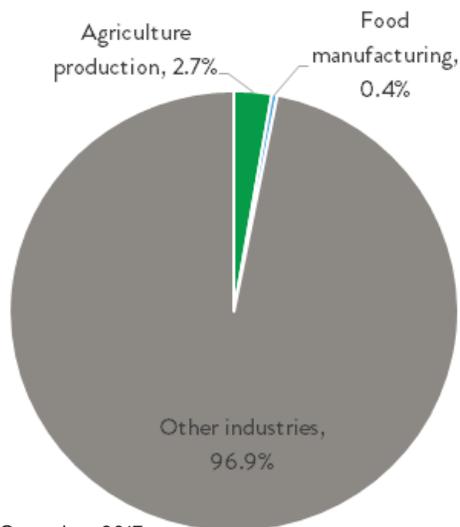
- animal, except poultry, slaughtering
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- bottled and canned soft drinks and water
- manufactured ice
- breweries

These agriculture and food manufacturing industries combined with agriculture production industries, provide the economic description of the total food and agriculture sector of Elko County.

### Sectorial value of output, employment and labor income

The total value of food and agriculture sector output in 2017 was \$133.9 million, accounting for 3% of the total output value of Elko County. The value of agriculture production output was \$117.8 million, accounting for 2.7% of the total output value. The food manufacturing output accounted for only 0.4% of total output value with \$16.2 million in 2017 (Figure 27).

**Figure 27. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

Food and agriculture sector employment accounted for 3% of the total county’s employment in 2017. When looking at the levels of labor income, the sector made up approximately 1% of the total Elko County labor income valued at approximately \$13.4 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$131.8 million and \$3.0 million were exports to international markets. The total value of agriculture production exports was \$115.7 million and the value of imports was \$47.5 million, creating a positive trade balance of \$68.2 million. The commodities with a positive trade balance were beef cattle, dairy cattle and milk production, and animal products. Support activities for agriculture and forestry, and greenhouse, nursery and floriculture products were the most needed importing industries within agriculture production. By identifying input-output sector commodities that are imported, the county can target

these for import substitution efforts. The agricultural production sector in Elko County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Elko County's economy.

The food manufacturing sector created \$153.1 million more in imports than exports. This negative trade balance shows that most of Elko County's food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Elko County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Elko County economy (Table 11).

In 2017, the total economic contribution of the agriculture sector on Elko County's economy was \$13.7 million. Given the multiplier effect, the total economic impact generated by Elko County agriculture production activities was \$13.3 million. The total economic impact generated by food manufacturing operations was \$412,170.

**Table 11. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	13.7	152
Multipliers	1.4	1.3

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.4, meaning that every dollar invested in Elko County's food and agriculture sector stimulated another \$0.40 in additional economic activity in other industries in the state. The employment multiplier was 1.3, meaning that every 10 jobs directly related to agriculture supported an additional 3 jobs in the state.



# NEVADA FOOD & AGRICULTURE SECTOR

## ESMERALDA COUNTY AGRICULTURE AT A GLANCE

- Esmeralda County’s food & agriculture sector contributed \$7 million to the state’s economy in 2017.
- Esmeralda County’s food & agriculture sector accounts for 61 jobs.
- The economic output multiplier was 1.1; meaning that for every \$1 invested in the agriculture sector, an additional \$0.10 in economic activity was stimulated in other industries in Nevada.

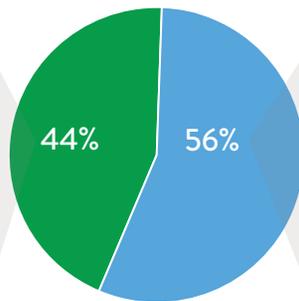


### ESMERALDA COUNTY FARM FACTS

- **\$4 million:** Agriculture production output
- **38** farms covering **34,606** acres
- Top 3 agriculture industries:
  - all other crop farming
  - beef cattle ranching and farming
  - animal production

### ESMERALDA COUNTY FOOD FACTS

- **\$5 million:** Total food manufacturing output
- Top food manufacturing industries:
  - other animal food manufacturing



### ESMERALDA COUNTY SECTOR IN THE GLOBAL MARKET

- \$9 million:** Total exports
- Top 3 export commodities:
- other animal food
  - all other crops
  - beef cattle

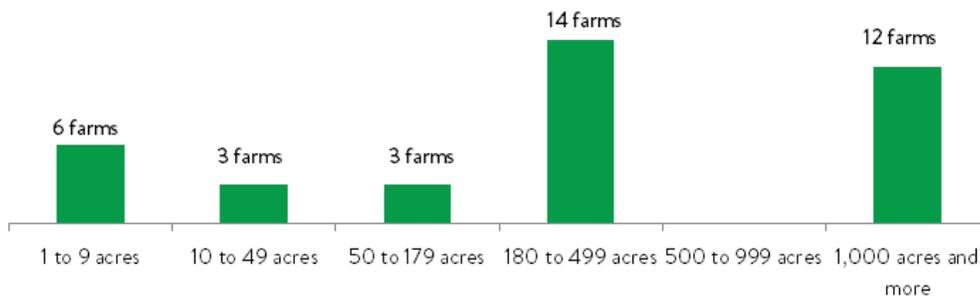
# FOOD AND AGRICULTURE SECTOR IN ESMERALDA COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Esmeralda County was 2,292,410 acres. There were 38 farms in Esmeralda County covering 34,606 acres of land, which accounted for 1.5% of land in farms. Average farm size was 911 acres. Approximately 24%, or 9 farms, were small farms between 1 to 50 acres; 45%, or 17 farms, were mid-size farms (50 to 179 acres); and 32%, or 12 farms, are large farms with 500 to 1,000 or more acres (Figure 28).

**Figure 28. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Esmeralda County had a population of 850 in 2017. A total of 210 people were employed within the food and agriculture sector in Esmeralda County.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 61 different industries in Esmeralda County and five were agriculture production industries:

- grain farming
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- poultry and egg production
- animal production, except cattle and poultry and eggs

The major food manufacturing industry was:

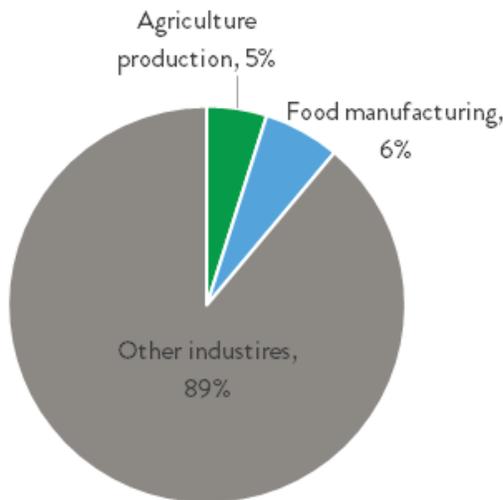
- other animal food manufacturing

Agriculture and food manufacturing industries, combined with agriculture production industries, provide the economic description of food and agriculture sector of Esmeralda County.

### Sectorial value of output, employment and labor income

The total value of the food and agriculture sector output was \$9.2 million, accounting for 11% of the total output value of Esmeralda County. The agriculture production output value was \$3.7 million, accounting for 3.9% of Esmeralda County's total production output. The food manufacturing output was \$4.2 million, accounting for 4.5% of the total county output.

**Figure 29. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment accounted for 12% of the total county's employment in 2017. When looking at the levels of labor income, the sector made up approximately 6% of the total Esmeralda County labor income valued at approximately \$1.3 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$8.9 million, of which, \$622,527 was exports to international markets. The total value of agriculture production exports was \$3.9 million, and the value of imports was \$1.9 million, creating a positive trade balance of \$2 million. The commodities with a positive trade balance were all other crops including hay, all other animal products except cattle and poultry, and nursery products. Grains and vegetables and melons were the largest import commodities within the agriculture production sector. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts. The agricultural production sector in Esmeralda County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Esmeralda County economy. The food manufacturing sector created \$587,818 more in exports than imports also creating a positive trade balance. The main exporting commodity contributing to positive trade balance was livestock and animal feed products with \$4.9 million more in export value than value of total production imports.

## Economic impact analysis of the food and agriculture sector on Esmeralda County's economy

The economic impact analysis shows the contribution of agriculture production and food manufacturing activities on the total Esmeralda County economy (Table 18).

In 2017, the total economic contribution of the food and agriculture sector on Esmeralda County economy was \$6.9 million. Given the multiplier impact, the total economic impact generated by Esmeralda County agriculture production activities was \$3.2 million. The total economic impact generated by agriculture and food manufacturing operations was \$3.7 million.

**Table 12. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	6.9	54
Multipliers	1.1	1.1

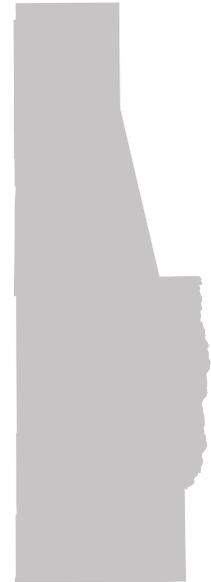
SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.1, meaning that every dollar invested in Esmeralda County's food and agriculture sector stimulated another \$0.10 in additional economic activity in other industries in the state. The employment multiplier was 1.1, meaning that every 10 jobs directly related to agriculture support an additional 1 job in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

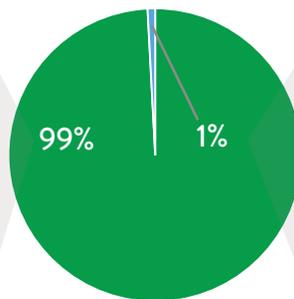
## EUREKA COUNTY AGRICULTURE AT A GLANCE

- Eureka County's food & agriculture sector contributed \$37 million to the state's economy in 2017.
- Eureka County's food & agriculture sector accounts for 229 jobs.
- The economic output multiplier was 1.3; meaning that for every \$1 invested in the agriculture sector, an additional \$0.30 in economic activity was stimulated in other industries in Nevada.



### EUREKA COUNTY FARM FACTS

- **\$32 million:** Agriculture production output
- **101** farms covering **638,848** acres
- Top 3 agriculture industries:
  - **all other crop farming**
  - **beef cattle ranching and farming**
  - **support activities for agriculture and forestry**



### EUREKA COUNTY FOOD FACTS

- **\$0.3 million:** Total food manufacturing output
- \*Food manufacturing industries did not have a significant presence in Eureka County.*

### EUREKA COUNTY SECTOR IN THE GLOBAL MARKET

**\$28 million:** Total exports

Top 3 export commodities:

- **all other crops**
- **beef cattle**
- **forest, timber and forest nursery products**

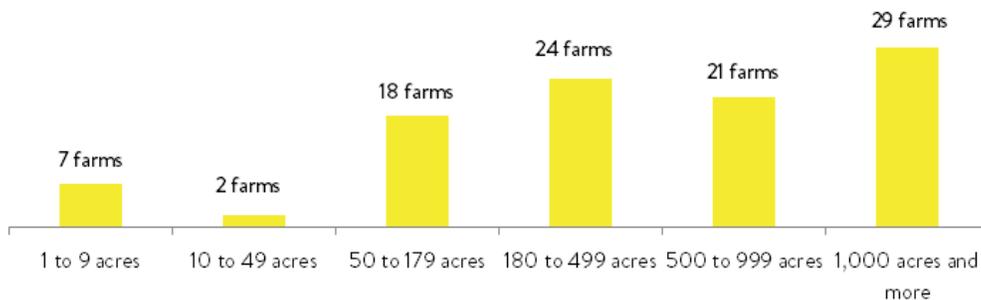
# FOOD AND AGRICULTURE SECTOR IN EUREKA COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Eureka County was 2,672,436 acres. There were 101 farms in Eureka County, covering 638,848 acres of land, which counts for 23.9% of land in farms. Average farm size was 6,325 acres. Approximately 50%, or 50 farms, were large farms with 500 to 1,000 or more acres; 42% were mid-size farms between 50 to 499 acres; and 9% were small farms between 1 to 49 acres (Figure 30).

**Figure 30. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Eureka County had a population of 1,961 in 2017. A total of 196 people were employed within the food and agriculture sector in Eureka County.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 90 different industries in Eureka County and 6 were agriculture production industries:

- grain farming
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- poultry and egg production
- animal production, except cattle and poultry and eggs
- support activities for agriculture and forestry

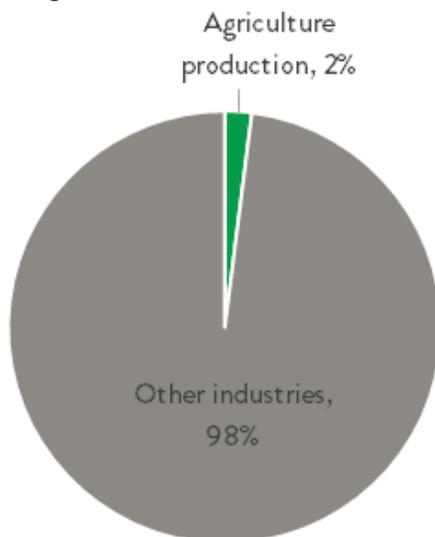
Food manufacturing industries did not have a significant presence in Eureka County. Only the bread and bakery industry was included in the definition of the food and agriculture sector.

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$31.6 million, accounting for 1.4% of the total output value of Eureka County (Figure 31).

The food and agriculture sector employment was 229 employees, accounting for 4.3% of the total county's employment in 2017. When looking at the levels of labor income, the sector made up approximately 1% of the total Eureka County labor income valued at approximately \$5.6 million.

**Figure 31. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$27.9 million, of which, \$2.6 million was foreign exports to international markets. The total value of agriculture production exports was \$27.5 million and the value of imports was \$4.0 million, creating a positive trade balance of \$23.5 million. The commodities with positive trade balances were all other crops, beef cattle, and forest, timber and forest nursery products.

The largest importing commodities were support activities for agriculture and grains. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts. The agricultural production sector in Eureka County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Eureka County's economy. The food manufacturing had \$7.2 million in imports. This negative trade balance shows that Eureka County food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Eureka County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Eureka County economy (Table 13).

In 2017, the total economic contribution of the food and agriculture sector on Eureka County's economy was \$37.0 million. Given the multiplier impact, the total employment impact generated by Eureka County sector activities was 208 jobs.

**Table 13. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	37	208
Multipliers	1.3	1.3

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.3, meaning that every dollar invested in Eureka County's food and agriculture sector stimulated another \$0.30 in additional economic activity in other industries in the state. The employment multiplier was 1.3, meaning that every 10 jobs directly related to agriculture supported an additional 3 jobs in the state.



# NEVADA FOOD & AGRICULTURE SECTOR

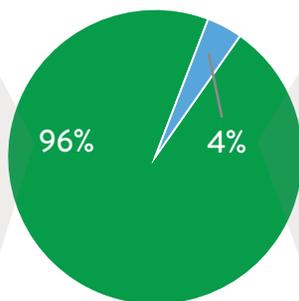
## HUMBOLDT COUNTY AGRICULTURE AT A GLANCE

- Humboldt County’s food & agriculture sector contributed \$110 million to the state’s economy in 2017.
- Humboldt County’s food & agriculture sector accounts for 820 jobs.
- The economic output multiplier was 1.4; meaning that for every \$1 invested in the agriculture sector, an additional \$0.40 in economic activity was stimulated in other industries in Nevada.



### HUMBOLDT COUNTY FARM FACTS

- **\$108 million:** Agriculture production output
- **359** farms covering **808,872** acres
- Top 3 agriculture industries:
  - all other crop farming
  - beef cattle ranching and farming
  - dairy cattle and milk production



### HUMBOLDT COUNTY FOOD FACTS

- **\$5 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - dehydrated food products manufacturing
  - bread and bakery products manufacturing
  - tortilla manufacturing

### HUMBOLDT COUNTY SECTOR IN THE GLOBAL MARKET

- \$98 million:** Total exports
- Top 3 export commodities:
- all other crops
  - beef cattle
  - dairy cattle and milk products



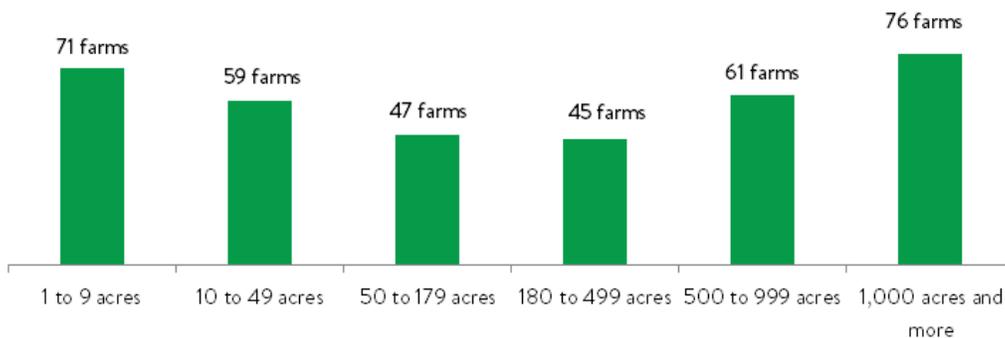
# FOOD AND AGRICULTURE SECTOR IN HUMBOLDT COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Humboldt County was 6,170,097 acres. There were 359 farms in Humboldt County covering 808,872 acres of land, which accounted for 13.1% of land in farms. The average farm size was 2,253 acres. Approximately 36%, or 130 farms, were small farms between 1 to 49 acres; 26% were mid-size farms between 50 to 499 acres; and 38% were large farms with 500 to 1,000 acres and more (Figure 32).

**Figure 32. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Humboldt County had a population of 16,826 in 2017. A total of 820 people were employed within the food and agriculture sector in Humboldt County—797 were employed in agriculture production and agriculture and food manufacturing had 23 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 161 different industries in Humboldt County and 13 were agriculture production industries:

- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming

- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- dairy cattle and milk production
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial logging
- commercial hunting and trapping
- support activities for agriculture and forestry

Food manufacturing industries in Humboldt County were:

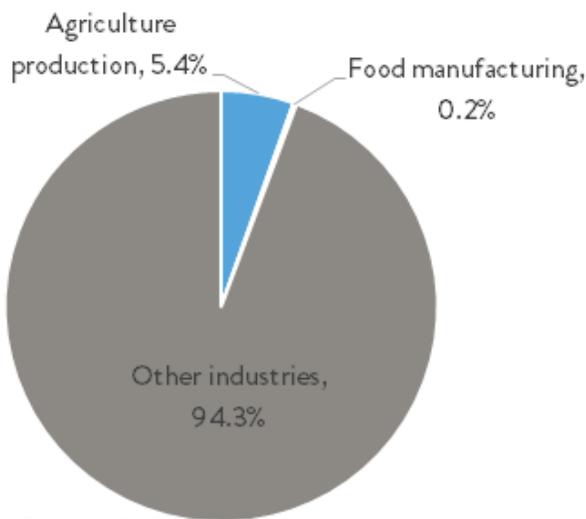
- dehydrated food products manufacturing
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- tortilla manufacturing
- breweries

These agriculture and food manufacturing industries combined with agriculture production industries provided the economic description of total food and agriculture sector of Humboldt County.

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$113.0 million. The value of agriculture production output was \$108.1 million, accounting for 5.4% of the total output value of Humboldt County. The food manufacturing output value accounted for 0.2% of the total county’s output with a value of \$4.9 million (Figure 33).

**Figure 33. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

Food and agriculture sector employment accounted for 8% of the county’s total employment in 2017. When looking at the levels of labor income, the sector made up approximately 4% of Humboldt County’s total labor income valued at approximately \$20.8 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$98.1 million with total exports to international markets at \$8.0 million.

The total value of agriculture production exports was \$93.7 million, and the value of imports was \$14.6 million, creating a positive trade balance of \$79.1 million. The commodities with a positive trade balance were all other crop products including hay, beef cattle, and dairy cattle and milk products. Support activities for agriculture, fruits and grains were the largest import commodities within the agriculture production sector. By identifying input-output

sector commodities that are imported, the county can target these for import substitution efforts. The agricultural production sector in Humboldt County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Humboldt County's economy.

The food manufacturing sector created \$54.2 million more in imports than exports. This negative trade balance shows that most of Humboldt County food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Humboldt County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Humboldt County economy (Table 14).

In 2017, the total economic impact of the food and agriculture sector on Humboldt County's economy was \$110 million. Given the multiplier impact, the total economic impact generated by Humboldt County's agriculture production activities was \$107.5 million. The total economic impact of food manufacturing activities was \$2.5 million. Additionally, food and agriculture sector job activities created an additional 903 jobs within the county's economy.

**Table 14. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	110	903
Multipliers	1.4	1.5

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.4, meaning that every dollar invested in Humboldt County's food and agriculture sector stimulated another \$0.40 in additional economic activity in other industries in the state. The employment multiplier was 1.5, meaning that every 10 jobs directly related to agriculture supported an additional 5 jobs in the state.



# NEVADA FOOD & AGRICULTURE SECTOR

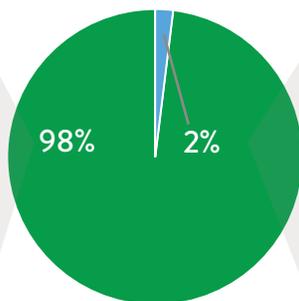
## LANDER COUNTY AGRICULTURE AT A GLANCE

- Lander County’s food & agriculture sector contributed \$25 million to the state’s economy in 2017.
- Lander County’s food & agriculture sector accounts for 201 jobs.
- The economic output multiplier was 1.3; meaning that for every \$1 invested in the agriculture sector, an additional \$0.30 in economic activity was stimulated in other industries in Nevada.



### LANDER COUNTY FARM FACTS

- **\$21 million:** Agriculture production output
- **124** farms covering **313,957** acres
- Top 3 agriculture industries:
  - **beef cattle ranching and farming**
  - **all other crop farming**
  - **animal production**



### LANDER COUNTY FOOD FACTS

- **\$0.5 million:** Total food manufacturing output
- \*Food manufacturing industries did not have a significant presence in Lander County.*

### LANDER COUNTY SECTOR IN THE GLOBAL MARKET

**\$18 million:** Total exports

- Top 3 export commodities:
- **beef cattle**
  - **all other crops**
  - **animal products**

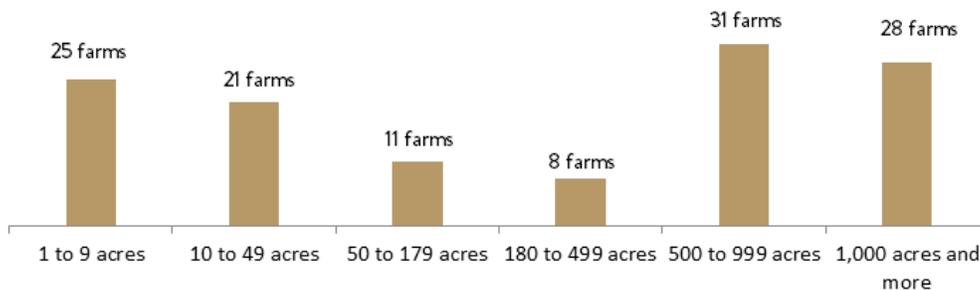
# FOOD AND AGRICULTURE SECTOR IN LANDER COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Lander County in acres was 3,513,659. There were 124 farms in Lander County covering 313,957 acres of land, which accounted for 8.9% of land in farms. Average farm size was 2,532 acres. Approximately 37%, or 46 farms, were small farms between 1 to 50 acres; 10% were farms are mid-size farms (50 to 179 acres); and 47%, or 59 farms, were large farms with 500 to 1,000 or more acres (Figure 34).

**Figure 34. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Lander County had a population of 5,693 in 2017. A total of 201 people were employed within the food and agriculture sector in Lander County, accounting for 5% of total employment of Lander County.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 113 different industries in Lander County and seven were agriculture production industries:

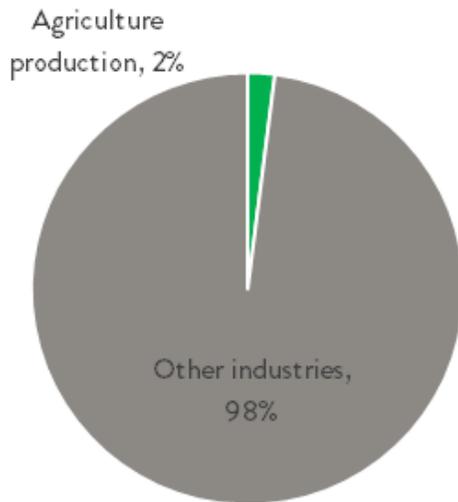
- grain farming
- vegetable and melon farming
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- poultry and egg production
- animal production, except cattle and poultry and eggs
- support activities for agriculture and forestry

There was not a significant presence of food manufacturing industries.

### Sectorial value of output, employment and labor income

The total value of the food and agriculture sector output in 2017 was \$21.6 million, accounting for 2% of the total output value of Lander County (Figure 35).

**Figure 35. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment accounted for 5% of the total county's employment in 2017. When looking at the levels of labor income, the sector made up approximately 1.2% of the total Lander County labor income valued at approximately \$4 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$18.2 million with exports to international markets at \$1.3 million.

The total value of agriculture production exports was \$17.7 million, and the value of imports was \$3.6 million, creating a positive trade balance of \$14.1 million. The commodities with a positive trade balance were beef cattle, all other crops (feed crops), and other animal products. The commodities with negative trade balance were support activities for agriculture, vegetables, grains and fruits. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts. The agricultural production sector in Lander County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Lander County's economy.

The food manufacturing sector created \$17.3 million more in imports than exports. This negative trade balance shows that most of Lander County food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Lander County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on Lander County's total economy (Table 15). In 2017, the total economic contribution of the food and agriculture sector on Lander County's economy was \$24.5 million. Economic activities of the sector created employment impact within the county's economy. In 2017, 213 additional jobs were created from sector activities.

**Table 15. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Food and agriculture sector	24.5	213
Multipliers	1.3	1.2

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.3 meaning that every dollar invested in Lander County's food and agriculture sector stimulated another \$0.30 in additional economic activity in other industries in the state. The employment multiplier was 1.2, meaning that every 10 jobs directly related to agriculture supported an additional 2 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

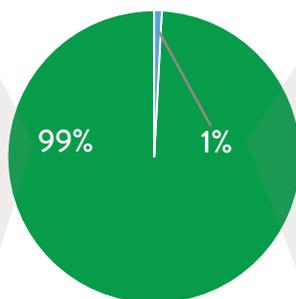
## LINCOLN COUNTY AGRICULTURE AT A GLANCE

- Lincoln County's food & agriculture sector contributed \$32 million to the state's economy in 2017.
- Lincoln County's food & agriculture sector accounts for 270 jobs.
- The economic output multiplier was 1.3; meaning that for every \$1 invested in the agriculture sector, an additional \$0.30 in economic activity was stimulated in other industries in Nevada.



### LINCOLN COUNTY FARM FACTS

- **\$37 million:** Agriculture production output
- **185** farms covering **46,271** acres
- Top 3 agriculture industries:
  - **beef cattle ranching and farming**
  - **all other crop farming**
  - **animal production**



### LINCOLN COUNTY FOOD FACTS

- **\$0.4 million:** Total food manufacturing output
- \*Food manufacturing industries did not have a significant presence in Lincoln County.*

### LINCOLN COUNTY SECTOR IN THE GLOBAL MARKET

**\$32 million:** Total exports

- Top 3 export commodities:
- **beef cattle**
  - **all other crops**
  - **animal products**

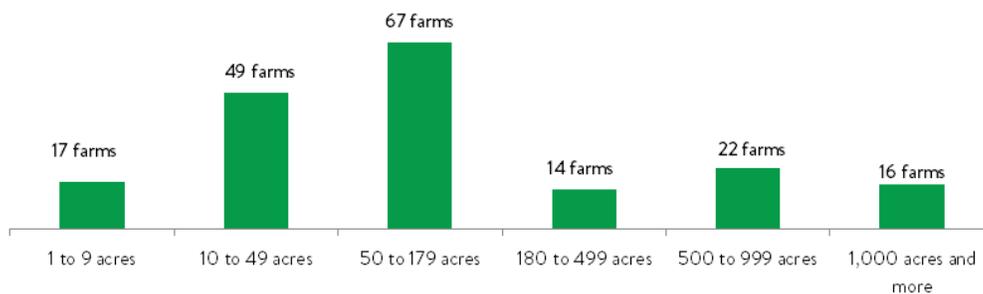
# FOOD AND AGRICULTURE SECTOR IN LINCOLN COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area in acres in Lincoln County was 6,805,248. There were 185 farms in Lincoln County, covering 46,271 acres of land. Average farm size was 472 acres. Approximately 36%, or 66 farms, were small farms between 1 to 49 acres; 44% were mid-size farms between 50 to 499 acres; and 21% were large farms with 500 to 1,000 acres and more (Figure 36).

**Figure 36. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

The total population of Lincoln County was 5,223 in 2017. A total of 270 people were employed within the food and agriculture sector in Lincoln County; 267 were employed in agriculture production and agriculture and food manufacturing didn't have a significant number of employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 115 different industries in Lincoln County and 11 were agriculture production industries:

- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming

- poultry and egg production
- animal production, except cattle and poultry and eggs
- support activities for agriculture and forestry

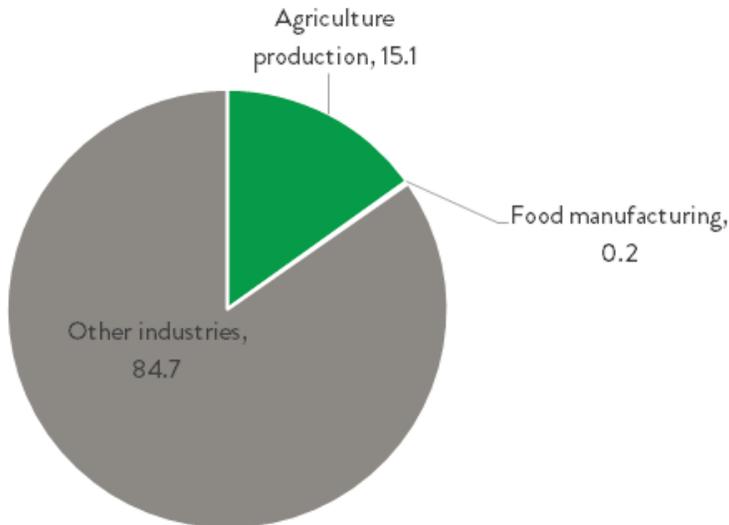
Food manufacturing industries contributing to the total food and agriculture sector output were:

- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing

### Sectorial value of output, employment and labor income

The total value of the agriculture production sector output in 2017 was \$37.1 million, accounting for 15% of the total output value of Lincoln County (Figure 37).

**Figure 37. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

Food and agriculture sector employment accounted for 13% of the total county’s employment in 2017. When looking at the levels of labor income, the sector made up approximately 7% of the total Lincoln County labor income valued at approximately \$5.1 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$32.4 million with exports to international markets at \$1.7 million. The total value of agriculture production exports was \$32.0 million and the value of imports was \$7.4 million, creating a positive trade balance of \$24.6 million. The commodities with a positive trade balance were beef cattle, all other crops and animal product other than cattle within the agriculture production sector. The agricultural production sector in Lincoln County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Lincoln County’s economy. The food manufacturing sector created \$16.5 million more in imports than exports. This negative trade balance shows the majority of Lincoln County food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Lincoln County’s economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on Lincoln County’s total economy (Table 22). In 2017, the total economic contribution of the food and agriculture sector on Lincoln County’s economy was \$32 million. Economic activities of the food and agriculture sector created additional employment opportunities within Lincoln County’s economy, resulting in a total employment impact of 238 jobs.

**Table 16. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Food and agriculture sector	32	238
Multipliers	1.3	1.3

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.3, meaning that every dollar invested in Lincoln County's food and agriculture sector stimulated another \$0.30 in additional economic activity in other industries in the state. The employment multiplier was 1.3, meaning that every 10 jobs directly related to agriculture supported an additional 3 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

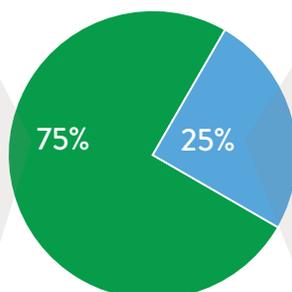
## LYON COUNTY AGRICULTURE AT A GLANCE

- Lyon County's food & agriculture sector contributed \$174 million to the state's economy in 2017.
- Lyon County's food & agriculture sector accounts for 1,073 jobs.
- The economic output multiplier was 1.4; meaning that for every \$1 invested in the agriculture sector, an additional \$0.40 in economic activity was stimulated in other industries in Nevada.



### LYON COUNTY FARM FACTS

- **\$150 million:** Agriculture production output
- **462** farms covering **366,006** acres
- Top 3 agriculture industries:
  - **beef cattle ranching and farming**
  - **animal production**
  - **dairy cattle and milk production**



### LYON COUNTY FOOD FACTS

- **\$50 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **meat processed from carcasses**
  - **chocolate confectionery manufacturing**
  - **other animal food manufacturing**

### LYON COUNTY SECTOR IN THE GLOBAL MARKET

**\$166 million:** Total exports

- Top 3 export commodities:
- **beef cattle**
  - **meat processed from carcasses**
  - **animal products**

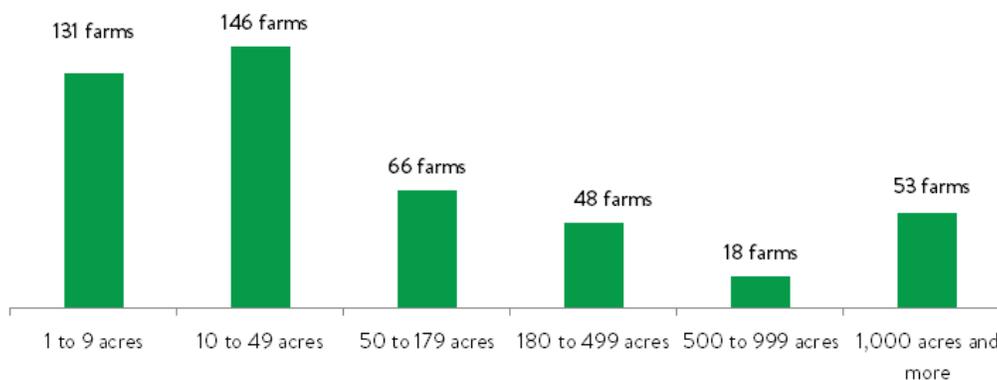
# FOOD AND AGRICULTURE SECTOR IN LYON COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Lyon County was 1,280,689 acres. There were 462 farms in Lyon County covering 366,006 acres of land, which accounted for 28.6% of land in farms. Average farm size was 792 acres. Approximately 60%, or 277 farms, were small farms between 1 to 49 acres; 25% were mid-size farms between 50 to 499 acres; and 15% were large farms with 500 to 1,000 acres and more (Figure 38).

**Figure 38. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Lyon County had a population of 54,122 in 2017. A total of 1,073 people were employed within the food and agriculture sector in Lyon County; 952 were employed in agriculture production and agriculture and food manufacturing had 121 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 218 different industries in Lyon County and 13 were agriculture production industries:

- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming

- greenhouse, nursery and floriculture production
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- dairy cattle and milk production
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial logging
- commercial hunting and trapping
- support activities for agriculture and forestry

The major food manufacturing industries in Lyon County were:

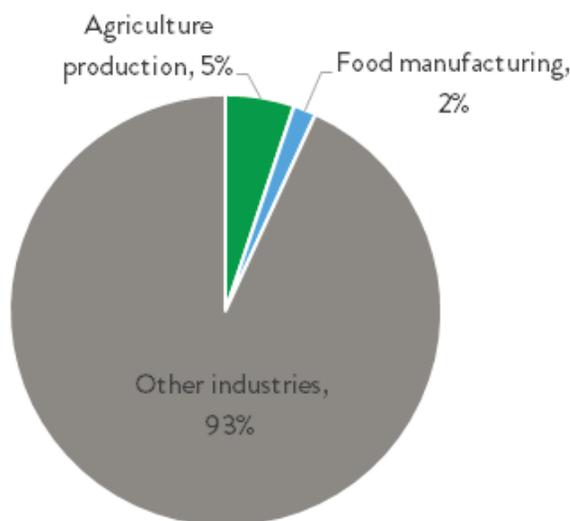
- other animal food manufacturing
- confectionery manufacturing from purchased chocolate
- dehydrated food products manufacturing
- cheese manufacturing
- meat processed from carcasses
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- breweries

These agriculture and food manufacturing industries combined with agriculture production industries, provide the economic description of the total food and agriculture sector of Lyon County.

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$236.6 million. The value of agriculture production output was \$150 million, accounting for 5% of the total output value of Lyon County. The agriculture and food manufacturing output value accounted for 2% of the total county's output with a value of \$49.6 million (Figure 39).

**Figure 39. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2014

The food and agriculture sector employment was 1,073 employees, accounting for only 6% of the total county's employment in 2017. Total sector labor income was \$26.4 million, accounting for 4% of the total county employee compensations.

## Sectorial value of export and import

Food and agriculture sector export value in 2017 was \$166.3 million with total exports to international markets at \$9.1 million. The total value of agriculture production exports was \$120.1 million and the value of imports was \$27.2 million, creating a positive trade balance of \$92.9 million. The commodities with positive trade balance were beef cattle, animal products, except cattle and poultry and eggs, and dairy cattle and milk products. Fruits and grain were the largest import commodities within the agriculture production sector. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts. The agricultural production sector in Lyon County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Lyon County's economy.

The food manufacturing sector spent \$116.8 million more in imports than exports. Negative trade balance shows that most of Lyon County food manufacturing commodities were purchased from outside of the county.

## Economic impact analysis of the food and agriculture sector on Lyon County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Lyon County economy (Table 17).

In 2017, the total economic contribution of the food and agriculture sector on Lyon County's economy was \$174.2 million. An additional 1,097 jobs were created by Lyon County sector activities with a total of \$15.7 million in labor income impact. Given the multiplier impact, the total economic impact generated by Lyon County agriculture production activities was \$169.3 million. The total economic impact generated by agriculture and food manufacturing operations was \$4.9 million.

**Table 17. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Food and agriculture sector	174.2	1,097
Multipliers	1.4	1.5

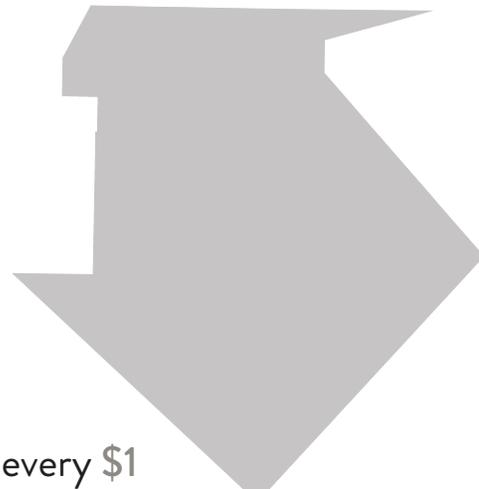
SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.4, meaning that every dollar invested in Lyon County's food and agriculture sector stimulated another \$0.40 in additional economic activity in other industries in the state. The employment multiplier was 1.5, meaning that every 10 jobs directly related to agriculture supported an additional 5 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

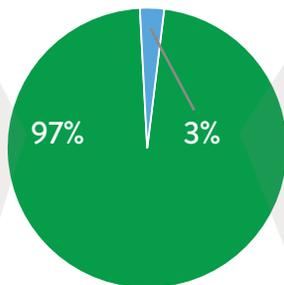
## MINERAL COUNTY AGRICULTURE AT A GLANCE

- Mineral County's food & agriculture sector contributed \$9 million to the state's economy in 2017.
- Mineral County's food & agriculture sector accounts for 101 jobs.
- The economic output multiplier was 1.2; meaning that for every \$1 invested in the agriculture sector, an additional \$0.20 in economic activity was stimulated in other industries in Nevada.



### MINERAL COUNTY FARM FACTS

- **\$9 million:** Agriculture production output
- **119** farms
- Top 3 agriculture industries:
  - all other crop farming
  - beef cattle ranching and farming
  - greenhouse, nursery and floriculture production



### MINERAL COUNTY FOOD FACTS

- **\$0.2 million:** Total food manufacturing output
- \*Food manufacturing industries did not have a significant presence in Mineral County.*

### MINERAL COUNTY SECTOR IN THE GLOBAL MARKET

**\$9 million:** Total exports

Top 3 export commodities:

- all other crops
- beef cattle
- forest, timber and forest nursery products

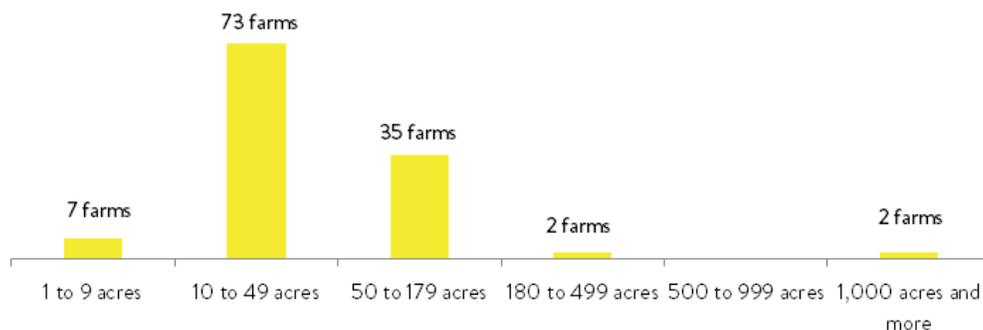
# FOOD AND AGRICULTURE SECTOR IN MINERAL COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Mineral County in acres was 2,401,816. There were 119 farms in Mineral County. Approximately 67%, or 80 farms, were small farms between 1 to 49 acres; 31% were mid-size farms between 50 to 499 acres; and 2% were large farms with 500 to 1,000 acres and more (Figure 40).

**Figure 40. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Mineral County had a population of 4,457 in 2017. A total of 2,065 people were employed in Mineral County, and 101 were employed in food and agriculture sector, accounting for 5% of the total employment.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 114 different industries in Mineral County and 7 were agriculture production industries:

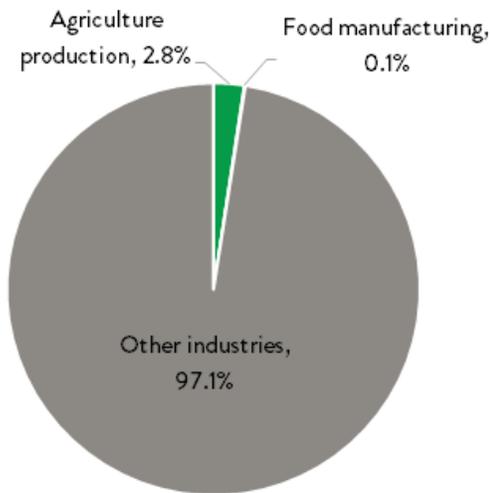
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- greenhouse, nursery and floriculture production
- animal production, except cattle and poultry and eggs
- poultry and egg production
- forestry, forest products and timber tract production
- support activities for agriculture and forestry

There was no significant presence of food manufacturing industries; therefore, agriculture production industries will be the only segment of the food and agriculture sector of Mineral County.

### Sectorial value of output, employment and labor income

The total value of the food and agriculture sector output was \$8.7 million, accounting for 2.8% of the total output value of Mineral County (Figure 41).

**Figure 41. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment accounted for only 5% of the total county's employment in 2017 with 101 employees. When looking at the levels of labor income, the sector made up approximately 0.4% of the total Mineral County labor income valued at approximately \$442,629.

### Sectorial value of export and import

Food and agriculture sector export value in 2017 was \$8.7 million and total exports to international markets were \$1.0 million. The total value of agriculture production exports was \$8.5 million, and the value of imports was \$2.4 million, creating a positive trade balance of \$6.1 million. The commodities with a positive trade balance were beef cattle and all other crops. Fruits and vegetables and melons were the largest import commodities within the agriculture production sector. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts.

The agricultural production sector in Mineral County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to the Mineral County economy.

The food manufacturing sector created \$12.7 million more in imports than exports. This negative trade balance shows that most of Mineral County food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Mineral County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Mineral County economy (Table 18). In 2017, total economic contribution of the food and agriculture sector on Mineral County's economy was \$9.4 million. Total employment impact resulting from sector employment activities was 98 jobs.

**Table 18. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	9.4	98
Multipliers	1.2	1.1

SOURCE: IMPLAN

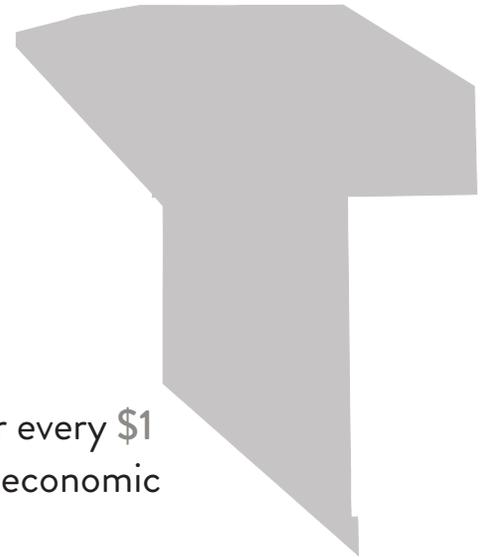
The ratio of total direct impact to impact value yields a multiplier of 1.2, meaning that every dollar invested in Mineral County's food and agriculture sector stimulated another \$0.20 in additional economic activity in other industries in the state. The employment multiplier was 1.1, meaning that every 10 jobs directly related to agriculture supported an additional job in the state.



# NEVADA FOOD & AGRICULTURE SECTOR

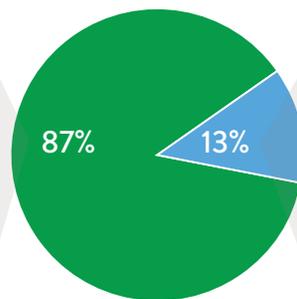
## NYE COUNTY AGRICULTURE AT A GLANCE

- Nye County’s food & agriculture sector contributed \$84 million to the state’s economy in 2017.
- Nye County’s food & agriculture sector accounts for 396 jobs.
- The economic output multiplier was 1.7; meaning that for every \$1 invested in the agriculture sector, an additional \$0.70 in economic activity was stimulated in other industries in Nevada.



### NYE COUNTY FARM FACTS

- **\$53 million:** Agriculture production output
- **198** farms covering **65,116** acres
- Top 3 agriculture industries:
  - dairy cattle and milk production
  - beef cattle ranching and farming
  - support activities for agriculture and forestry



### NYE COUNTY FOOD FACTS

- **\$8 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - coffee and tea manufacturing
  - bread and bakery product manufacturing
  - fluid milk manufacturing

### NYE COUNTY SECTOR IN THE GLOBAL MARKET

**\$49 million:** Total exports

- Top 3 export commodities:
- dairy cattle and milk products
  - beef cattle
  - coffee and tea

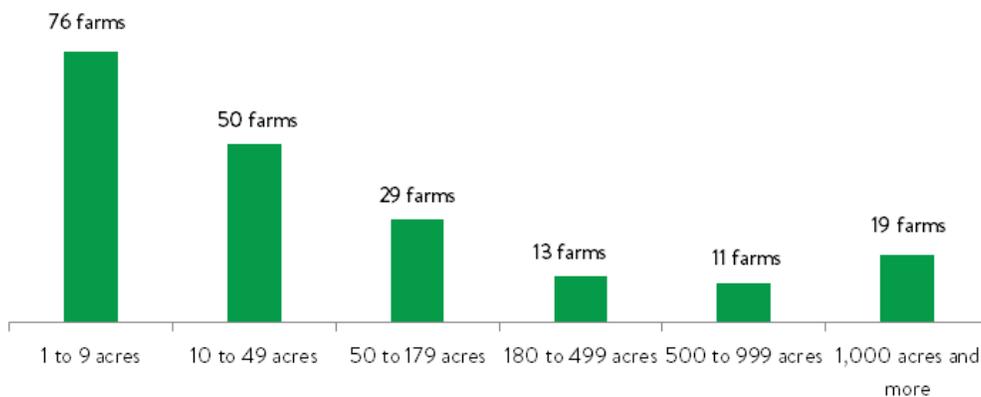
# FOOD AND AGRICULTURE SECTOR IN NYE COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Nye County was 11,636,437 acres. There were 198 farms in Nye County, covering 65,116 acres of land, which accounted for 0.6% of land in farms. The average farm size was 329 acres. Approximately 64%, or 126 farms, were small farms between 1 to 50 acres; 21%, or 42 farms, were mid-size farms (50 to 179 acres); and 15%, or 30 farms, were large farms with 500 to 1,000 or more acres (Figure 42).

**Figure 42. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Nye County had a population of 44,202 in 2017. A total of 396 people were employed within the food and agriculture sector in Nye County; 362 were employed in agriculture production and agriculture and food manufacturing had 34 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 180 different industries in Nye County and 12 were agriculture production industries:

- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production

- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- dairy cattle and milk production
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial logging
- commercial hunting and trapping
- support activities for agriculture and forestry

The food manufacturing industries in Nye County are listed below:

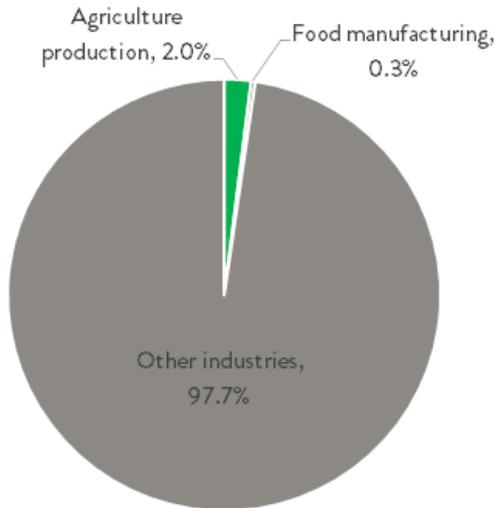
- fluid milk manufacturing
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- coffee and tea manufacturing
- manufactured ice

The food manufacturing industries combined with agriculture production industries provide the economic description of the total food and agriculture sector of Nye County.

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$61.6 million. The total value of agriculture production sector output was \$53.2 million, accounting for only 2% of the total output value of Nye County. The food manufacturing industries total output was valued at \$8.4 million, which was 0.3% of the county’s total output value (Figure 43).

**Figure 43. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment accounted for only 3% of the total county’s employment in 2017. When looking at the levels of labor income, the sector made up approximately 1% of the total Nye County labor income valued at approximately \$7.3 million.

### Sectorial value of export and import

Food and agriculture sector export value in 2017 was \$49.1 million, of which, \$1.3 million were total exports to international markets.. The total value of agriculture production exports was \$41.4 million, and the value of imports was \$12.6 million, creating a positive trade balance of \$28.8 million. The commodities with a positive trade balance were dairy cattle and milk products and beef cattle. Fruits, vegetables and melons, and grains were the largest import commodities within the agriculture production sector. By identifying input-output sector commodities that are

imported, the county can target these for import substitution efforts.

The agricultural production sector in Nye County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to Nye County's economy. The food manufacturing sector created \$110.9 million more in imports than exports. This negative trade balance shows that most of Nye County food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Nye County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Nye County economy (Table 19).

In 2017, the total economic impact of the food and agriculture sector on Nye County's economy was \$84.3 million. Given the multiplier impact, the total economic impact generated by Nye County agriculture production activities was \$83.4 million. The total economic impact generated by agriculture and food manufacturing operations was \$854,337.

**Table 19. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	84.3	645
Multipliers	1.7	1.9

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.7, meaning that every dollar invested in Nye County's food and agriculture sector stimulated another \$0.70 in additional economic activity in other industries in the state. The employment multiplier was 1.9, meaning that every 10 jobs directly related to agriculture supported an additional 9 jobs in the state.



# NEVADA FOOD & AGRICULTURE SECTOR

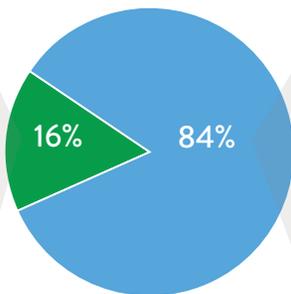
## PERSHING COUNTY AGRICULTURE AT A GLANCE

- Pershing County’s food & agriculture sector contributed \$75 million to the state’s economy in 2017.
- Pershing County’s food & agriculture sector accounts for 301 jobs.
- The economic output multiplier was 1.1; meaning that for every \$1 invested in the agriculture sector, an additional \$0.10 in economic activity was stimulated in other industries in Nevada.



### PERSHING COUNTY FARM FACTS

- **\$48 million:** Agriculture production output
- **154** farms covering **299,290** acres
- Top 3 agriculture industries:
  - **beef cattle ranching and farming**
  - **dairy cattle and milk production**
  - **all other crop farming**



### PERSHING COUNTY FOOD FACTS

- **\$257 million:** Total food manufacturing output
- Top food manufacturing industries:
  - **soybean and other oilseed manufacturing**
  - **bread and bakery product manufacturing**

### PERSHING COUNTY SECTOR IN THE GLOBAL MARKET

**\$294 million:** Total exports

- Top 3 export commodities:
- **soybean and other oilseed**
  - **beef cattle**
  - **refined and blended fats and oils**

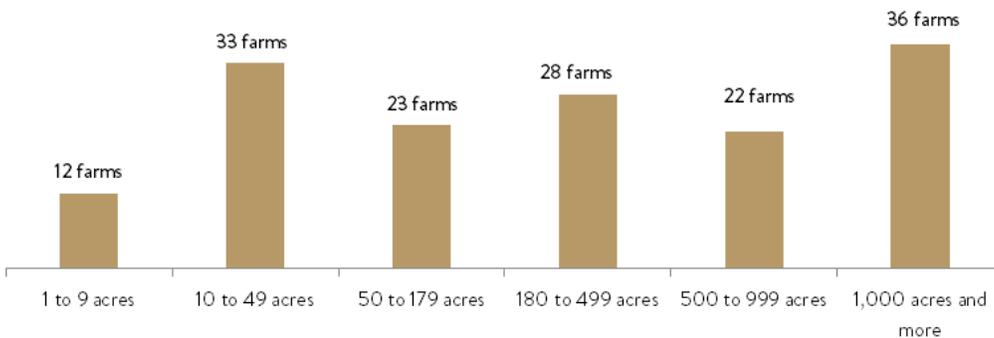
# FOOD AND AGRICULTURE SECTOR IN PERSHING COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Pershing County was 3,863,423 acres. There were 154 farms in Pershing County, covering 299,290 acres of land, which accounted for 7.7% of land in farms. The average farm size was 1,943 acres. Approximately 29%, or 45 farms, were small farms between 1 to 50 acres; 33%, or 51 farms, were mid-size farms (50 to 179 acres); and 38%, or 58 farms, were large farms with 500 to 1,000 or more acres (Figure 44).

**Figure 44. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Pershing County had a population of 6,508 in 2017. The total number of food and agriculture sector employment was 301 jobs, 245 within agriculture production industries and 57 employees in agriculture and food manufacturing.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 117 different industries in Pershing County and 9 were agriculture production industries:

- grain farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming

- dairy cattle and milk production
- poultry and egg production
- support activities for agriculture and forestry

Food manufacturing industries of the Pershing County economy are listed below:

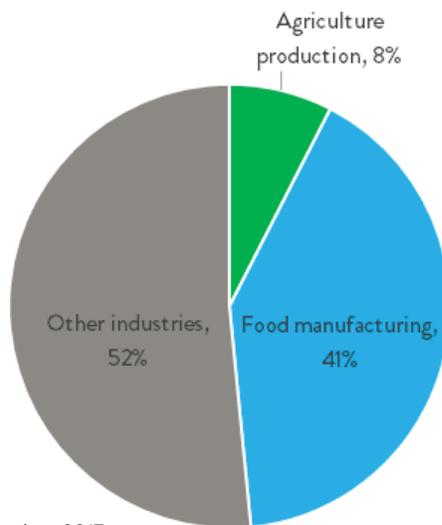
- soybean and other oilseed processing
- bread and bakery product manufacturing

The food manufacturing industries combined with the agriculture production industries provide the economic description of total food and agriculture sector of Pershing County.

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$304.5 million. The value of agriculture production output was \$47.5 million, accounting for only 8% of the total output value of Pershing County. The food manufacturing output value accounted for 41% of the total county’s output with value of \$256.9 million (Figure 45).

**Figure 45. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment accounted for only 12% of the total county’s employment in 2017. When looking at the levels of labor income, the sector made up approximately 9% of the total Pershing County labor income valued at approximately \$12.7 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$293.6 million and total exports to international markets was \$34.4 million. The total value of agriculture production exports was \$46.3 million, and the value of imports was \$154.3 million, creating a negative trade balance of \$108 million. The commodities with a positive trade balance were dairy cattle and milk products and beef cattle. Oil and grains were the largest import commodities within the agriculture production sector. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts.

The food manufacturing sector created \$191.5 million more in exports than imports. The commodities with a positive trade balance were soybean and other oilseed processing and fats and oils refining and blending, while commodities with the largest negative trade balance were other animal food and bottled and canned soft drinks and water.

## Economic impact analysis of the food and agriculture sector on Pershing County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Pershing County economy (Table 20).

In 2017, the total economic contribution of the food and agriculture sector on Pershing County's economy was \$75.2 million. Given the multiplier impact the total economic impact generated by Pershing County agriculture production activities was \$11 million. The total economic impact generated by food manufacturing operations was \$64.1 million. Total employment impact of sector activities resulted in 130 jobs.

**Table 20. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	75.2	130
Multipliers	1.1	1.3

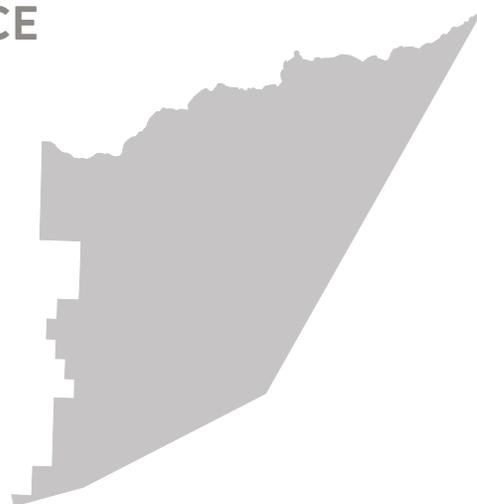
SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.1, meaning that every dollar invested in Pershing County's food and agriculture sector stimulated another \$0.10 in additional economic activity in other industries in the state. The employment multiplier was 1.3, meaning that every 10 jobs directly related to agriculture supported an additional 3 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

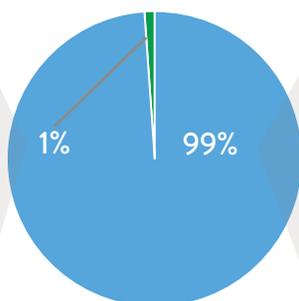
## STOREY COUNTY AGRICULTURE AT A GLANCE

- Storey County's food & agriculture sector contributed \$22 million to the state's economy in 2017.
- Storey County's food & agriculture sector accounts for 308 jobs.
- The economic output multiplier was 1.1; meaning that for every \$1 invested in the agriculture sector, an additional \$0.10 in economic activity was stimulated in other industries in Nevada.



### STOREY COUNTY FARM FACTS

- **\$2 million:** Agriculture production output
- **6** farms covering **86** acres
- Top agriculture industries:
  - **animal production**
  - **support activities for agriculture and forestry**



### STOREY COUNTY FOOD FACTS

- **\$207 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **dog and cat food manufacturing**
  - **nonchocolate confectionery manufacturing**
  - **breweries**

### STOREY COUNTY SECTOR IN THE GLOBAL MARKET

**\$208 million:** Total exports

Top 3 export commodities:

- **dog and cat food**
- **nonchocolate confectioneries**
- **beer, ale, malt liquor and nonalcoholic beer**



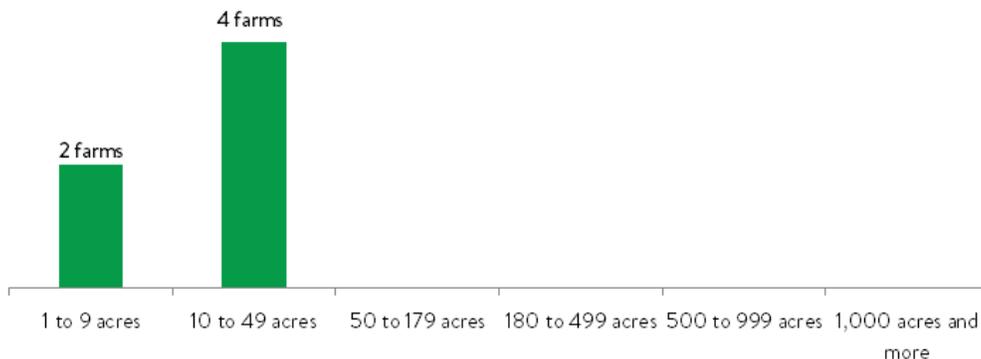
# FOOD AND AGRICULTURE SECTOR IN STOREY COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Storey County was 168,269 acres. There were six farms in Storey County, covering 86 acres of land, which counts for 0.1% of land in farms. The average farm size was 14 acres. All of the farms in Storey County were small farms between 1 to 49 acres (Figure 46).

**Figure 46. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Storey County had a population of 4,006 in 2017. A total of 308 people was employed within the food and agriculture sector in Storey County; 76 were employed in agriculture production and agriculture and food manufacturing had 233 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 131 different industries in Storey County; however, agriculture production industries have no significant presence. Industries included in agriculture production:

- animal production, except cattle and poultry and eggs
- support activities for agriculture and forestry

Food manufacturing industries in Storey County economy are listed below:

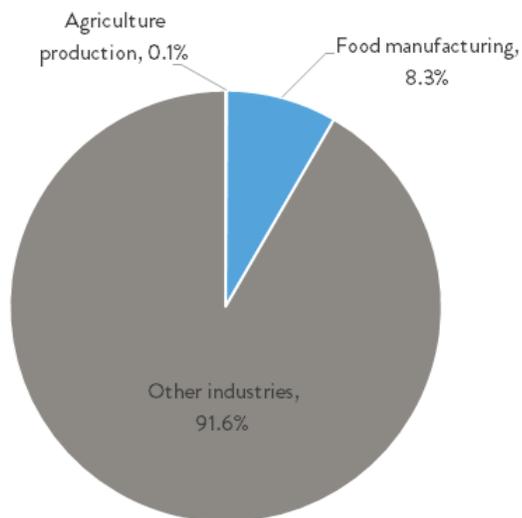
- dog and cat food manufacturing
- other animal food manufacturing
- nonchocolate confectionery manufacturing
- confectionery manufacturing from purchased chocolate
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- coffee and tea manufacturing
- breweries

These food manufacturing industries combined with agriculture production industries provide the economic description of the total food and agriculture sector of Storey County.

### Sectorial value of output, employment and labor income

In 2017, the total value of the food and agriculture sector output was \$208.7 million. The value of agriculture production output was \$1.9 million, accounting for only 0.1% of the total output value of Storey County. The agriculture and food manufacturing output value accounted for 8% of the total county's output with a value of \$206.8 million (Figure 47).

**Figure 47. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment accounted for only 3% of the county's total employment in 2017. When looking at the levels of labor income, the sector made up approximately 3% of the total Storey County labor income valued at approximately \$18.8 million.

### Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$208.1 million, of which, \$7.7 million were total foreign exports to international markets.

The total value of agriculture production exports was \$1.9 million, and the value of imports was \$12.6 million, creating a negative trade balance of \$10.7 million. Most of the agriculture commodities have negative trade balances indicating that agriculture production activities get their production inputs outside of the state. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts. The food manufacturing sector created \$129.6 million more in exports than imports. The commodities with positive trading balance were dog and cat food, non-chocolate confectioneries, and beer and liquor.

## Economic impact analysis of the food and agriculture sector on Storey County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Storey County economy (Table 21). In 2017, the total economic impact of the food and agriculture sector on Storey County economy was \$21.9 million, and sector activities supported additional 106 jobs within the state economy.

**Table 21. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	21.9	106
Multipliers	1.1	1.1

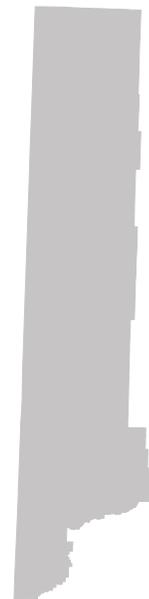
SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.1, meaning that every dollar invested in Storey County's food and agriculture sector stimulated another \$0.10 in additional economic activity in other industries in the state. The employment multiplier was 1.1, meaning that every 10 jobs directly related to agriculture supported an additional 1 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

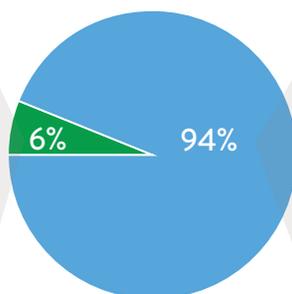
## WASHOE COUNTY AGRICULTURE AT A GLANCE

- Washoe County's food & agriculture sector contributed \$90 million to the state's economy in 2017.
- Washoe County's food & agriculture sector accounts for 2,616 jobs.
- The economic output multiplier was 1.5; meaning that for every \$1 invested in the agriculture sector, an additional \$0.50 in economic activity was stimulated in other industries in Nevada.



### WASHOE COUNTY FARM FACTS

- **\$56 million:** Agriculture production output
- **479** farms covering **442,697** acres
- Top 3 agriculture industries:
  - **animal production**
  - **commercial fishing**
  - **support activities for agriculture and forestry**



### WASHOE COUNTY FOOD FACTS

- **\$843 million:** Total food manufacturing output
- Top 3 food manufacturing industries:
  - **spice and extract manufacturing**
  - **breakfast cereal manufacturing**
  - **fluid milk manufacturing**

### WASHOE COUNTY SECTOR IN THE GLOBAL MARKET

**\$866 million:** Total exports

- Top 3 export commodities:
- **spices and extracts**
  - **breakfast cereal**
  - **fluid milk**

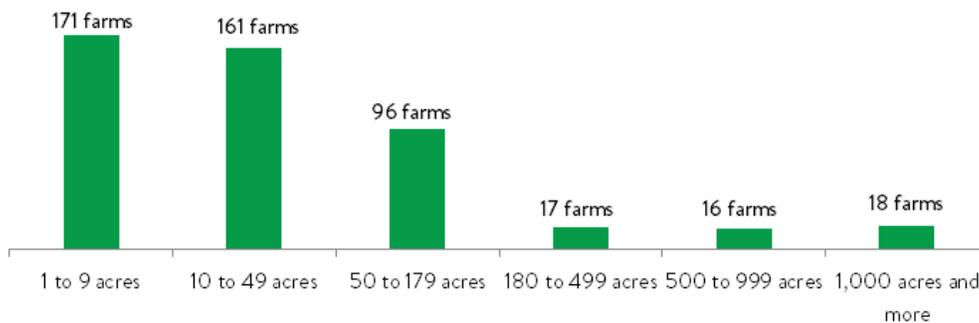
# FOOD AND AGRICULTURE SECTOR IN WASHOE COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of Washoe County was 4,033,516 acres. There were 479 farms in Washoe County, covering 442,697 acres of land, which accounted for 11% of land in farms. The average farm size was 924 acres. Approximately 69%, or 332 farms, were small farms between 1 to 50 acres; 24%, or 113, were mid-size farms (50 to 179 acres); and 7%, or 34 farms, were large farms with 500 to 1,000 or more acres (Figure 48).

**Figure 48. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

Washoe County had a population of 460,587 in 2017. A total of 2,616 people were employed within the food and agriculture sector in Washoe County—828 were employed in agriculture production and agriculture and food manufacturing had 1,788 employees.

### Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 335 different industries in Washoe County and 11 were agriculture production industries:

- vegetable and melon farming
- fruit farming
- tree nut farming
- greenhouse, nursery and floriculture production
- all other crop farming

- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial logging
- commercial fishing
- support activities for agriculture and forestry

Food manufacturing industries in Washoe County were:

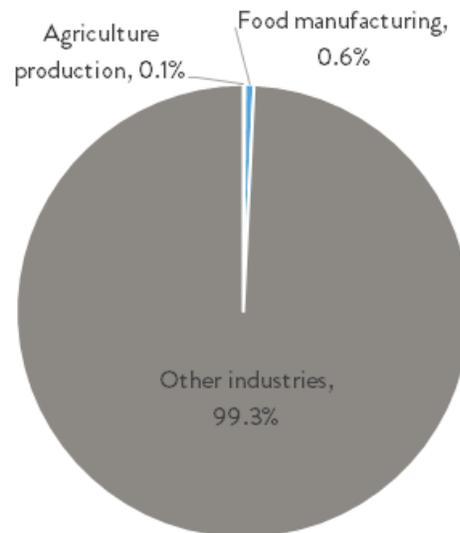
- other animal food manufacturing
- breakfast cereal manufacturing
- nonchocolate confectionery manufacturing
- chocolate and confectionery manufacturing from cacao beans
- confectionery manufacturing from purchased chocolate
- frozen specialties manufacturing
- canned specialties
- fluid milk manufacturing
- cheese manufacturing
- meat processed from carcasses
- rendering and meat byproduct processing
- seafood product preparation and packaging
- bread and bakery product, except frozen, manufacturing
- frozen cakes and other pastries manufacturing
- cookie and cracker manufacturing
- dry pasta, mixes and dough manufacturing
- tortilla manufacturing
- coffee and tea manufacturing
- flavoring syrup and concentrate manufacturing
- mayonnaise, dressing and sauce manufacturing
- spice and extract manufacturing
- all other food manufacturing
- bottled and canned soft drinks & water
- breweries
- distilleries

These food manufacturing industries, combined with agriculture production industries, provide the economic description of the total food and agriculture sector of Washoe County.

### Sectorial value of output, employment and labor income

The total value of the food and agriculture sector output was \$899.2 million, accounting for only 2% of the total output value of Washoe County. The agriculture production output was \$55.9 million accounting for 0.1% of the total county's output, and food manufacturing industries had an output valued at \$843.4 million, accounting for 0.6% of the total Washoe County output (Figure 49).

**Figure 49. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

The food and agriculture sector employment with 2,616 jobs accounted for only 1% of the county's total employment in 2017. When looking at the levels of labor income, the sector made up approximately 1% of the total Washoe County labor income valued at approximately \$102.3 million.

### Sectorial value of export and import

Food and agriculture sector export value in 2017 was \$865.6 million, of which, \$43.2 million were total exports to international markets. The total value of agriculture production exports was \$56.5 million and the value of imports was \$253.5 million, creating a negative trade balance of \$196.9 million. The commodities with a negative trade balance were fruits, dairy cattle and milk products, and vegetables and melons. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts.

The food manufacturing sector created \$700.5 million more in imports than exports. This negative trade balance shows that most of Washoe County food manufacturing commodities were purchased from outside of the county.

### Economic impact analysis of the food and agriculture sector on Washoe County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total Washoe County economy (Table 22).

In 2017, the total economic contribution of the food and agriculture sector on Washoe County economy was \$90.0 million. Given the multiplier impact, the total economic impact generated by Washoe County agriculture production activities was \$19.0 million. The total economic impact generated by agriculture and food manufacturing operations was \$71.0 million. Employment impact was 629 jobs.

**Table 22. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT (\$million)	EMPLOYMENT (Jobs)
Food and agriculture sector	90.0	629
Multipliers	1.5	1.5

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.5, meaning that every dollar invested in Washoe County's food and agriculture sector stimulated another \$0.50 in additional economic activity in other industries in the state. The employment multiplier was 1.5, meaning that every 10 jobs directly related to agriculture supported an additional 5 jobs in the state.

# NEVADA FOOD & AGRICULTURE SECTOR

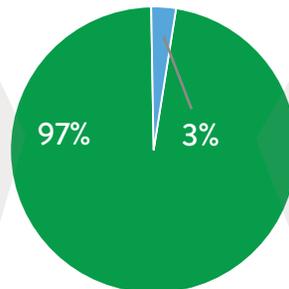
## WHITE PINE COUNTY AGRICULTURE AT A GLANCE

- White Pine County's food & agriculture sector contributed \$45 million to the state's economy in 2017.
- White Pine County's food & agriculture sector accounts for 236 jobs.
- The economic output multiplier was 1.3; meaning that for every \$1 invested in the agriculture sector, an additional \$0.30 in economic activity was stimulated in other industries in Nevada.



### WHITE PINE COUNTY FARM FACTS

- **\$37 million:** Agriculture production output
- **160** farms covering **197,315** acres
- Top 3 agriculture industries:
  - **beef cattle ranching and farming**
  - **animal production**
  - **all other crop farming**



### WHITE PINE COUNTY FOOD FACTS

- **\$1 million:** Total food manufacturing output
- \*Food manufacturing industries did not have a significant presence in White Pine County.*

### WHITE PINE COUNTY SECTOR IN THE GLOBAL MARKET

**\$31 million:** Total exports

- Top 3 export commodities:
- **animal products**
  - **beef cattle**
  - **all other crops**

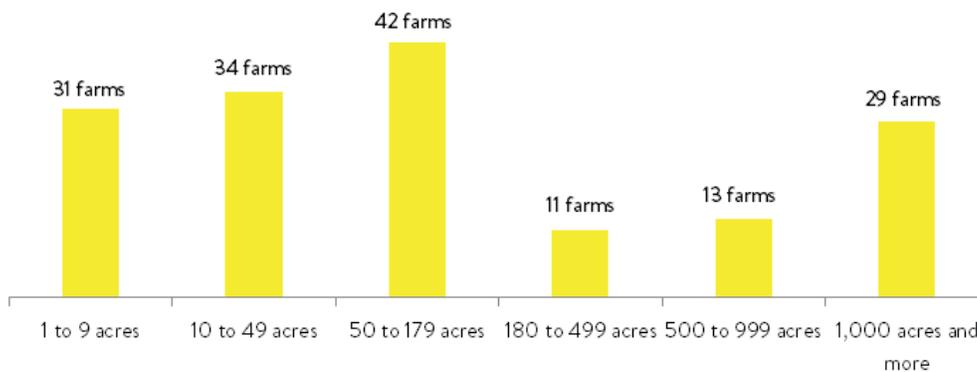
# FOOD AND AGRICULTURE SECTOR IN WHITE PINE COUNTY

## FOOD AND AGRICULTURE SECTOR

### Agriculture land and farms

In 2012, the approximate land area of White Pine County was 5,680,416 acres. There were 160 farms in White Pine County, covering 193,315 acres of land, which accounted for 3.4% of land in farms. Approximately 41%, or 65 farms, were small farms between 1 to 50 acres; 33%, or 53, were mid-size farms between 50 and 179 acres; and 26%, or 42 farms, were large farms with 500 to 1,000 or more acres (Figure 50).

**Figure 50. Farms by size in acres (2012)**



SOURCE: <http://quickstats.nass.usda.gov/>

### Population and farm operators

White Pine County had a population of 9,592 in 2017. A total of 236 people were employed within the food and agriculture sector in White Pine County, and the majority of employees, total of 230 jobs were within agriculture production industries.

## Analysis of food and agriculture sector economic data

From the IMPLAN input-output model databases (2017), there were approximately 143 different industries in White Pine County and 10 were agriculture production industries:

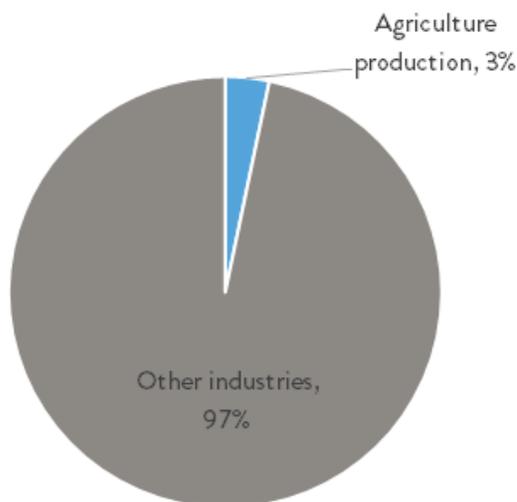
- grain farming
- vegetable and melon farming
- fruit farming
- tree nut farming
- all other crop farming
- beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- poultry and egg production
- animal production, except cattle and poultry and eggs
- commercial hunting and trapping
- support activities for agriculture and forestry

There was no significant presence of food manufacturing industries in White Pine County. Those present and contributing to the county's economy were related to bread and bakery products, frozen pastries and desserts that are part of grocery store chains, and some small breweries.

## Sectorial value of output, employment and labor income

The total value of agriculture production sector output was \$37.4 million, accounting for 3% of the total output value of White Pine County. Food manufacturing industries output value accounted for only 0.1% and did not have big impact on total output (Figure 51).

**Figure 51. Food and agriculture sector allocation in total value of output (2017)**



SOURCE: Minnesota IMPLAN Group, Inc., 2017

## Sectorial value of export and import

The food and agriculture sector export value in 2017 was \$31.4 million, of which, \$1.5 million were total exports to international markets. The total value of agriculture production exports was \$30.4 million and the value of imports was \$5.0 million, creating a positive trade balance of \$25.4 million. The commodities with a positive trade balance were beef cattle, animal products except cattle and poultry and eggs and all other crops. Fruits, grains, and greenhouse and nursery products were the largest import commodities within the agriculture production sector. By identifying input-output sector commodities that are imported, the county can target these for import substitution efforts. The agricultural production sector in White Pine County is a positive economic sector in its contribution to the favorable balance of trade. This shows the importance of agriculture production to White Pine County economy. The food manufacturing sector created \$7.9 million more in imports than exports. This negative trade balance shows that most of White Pine County food manufacturing commodities were purchased from outside of the county.

## Economic impact analysis of the food and agriculture sector on White Pine County's economy

The economic impact analysis shows the impact of agriculture production and food manufacturing activities on the total White Pine County economy (Table 23). In 2017, the total economic impact of the food and agriculture sector on White Pine County's economy was \$44.8 million and all the sector activities supported additional 280 jobs within the county's economy.

**Table 23. Economic impact of food and agriculture sector (2017)**

INDUSTRY	TOTAL IMPACT	
	OUTPUT ( <i>\$million</i> )	EMPLOYMENT ( <i>Jobs</i> )
Food and agriculture sector	44.8	280
Multipliers	1.3	1.4

SOURCE: IMPLAN

The ratio of total direct impact to impact value yields a multiplier of 1.3, meaning that every dollar invested in White Pine County's food and agriculture sector stimulated another \$0.30 in additional economic activity in other industries in the state. The employment multiplier was 1.4, meaning that every 10 jobs directly related to agriculture supported an additional 4 jobs in the state.



# FOOD AND AGRICULTURE SECTOR WORKFORCE

## INTRODUCTION

As part of the annual report, the NDA conducted an Agriculture Production and Food Manufacturing Industry Workforce Survey (Appendix B).

The intent of this survey was to collect baseline data from Nevada food producers to increase understanding of the current and future workforce needs, short-term and long-term occupation demand and the skills and certifications needed by industry. The survey was distributed to approximately 400 companies and producers, and 107 responded.

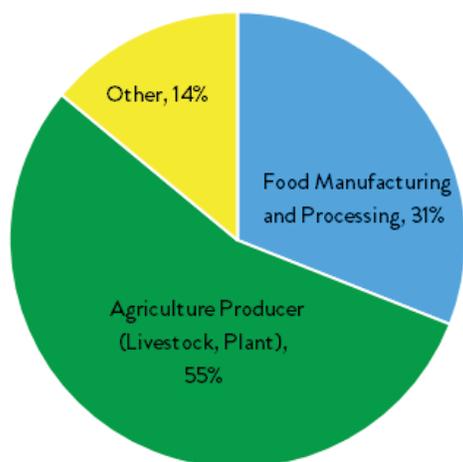
## OVERVIEW

Participating companies were grouped into three main categories:

- agriculture producers
- food manufacturing and processing establishments
- other agriculture companies

Of the total respondents, 31% were food manufacturing and processing establishments, 55% were agriculture producers and 14% were other agriculture companies providing different services to the industry (pesticide control, water management and irrigation consulting services, accounting, marketing, payroll services, etc.).

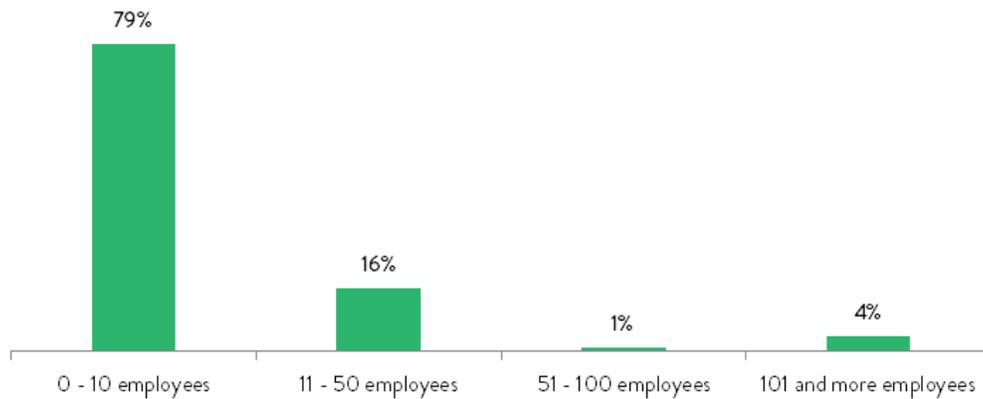
**Figure 52. Allocation of companies participating in the survey by industry**



SOURCE: "Agriculture production and food manufacturing industry workforce survey," NDA, 2018

When it comes to the size (number of employees) of the surveyed companies, 79% of respondents were small operations with 1 to 10 employees. Mid-size companies with employment between 11 and 100 represented approximately 17% of all respondents and 4% of them were large employers with 101 or more employees (Figure 53).

**Figure 53. Number of people food and agriculture sector companies currently employ**



SOURCE: "Agriculture production and food manufacturing industry workforce survey," NDA, 2018

Companies in the food and agriculture sector use full-time and part-time employees (Figure 54).

**Figure 54. Types of employees agriculture sector companies currently employ**



SOURCE: "Agriculture production and food manufacturing industry workforce survey," NDA, 2018

Looking separately at each industry within the food and agriculture sector, more seasonal workers and contractors are employed within the agriculture production industry, than within the food manufacturing industry (Figure 55).

**Figure 55. Types of employees companies currently employ by different type of industry**



SOURCE: "Agriculture production and food manufacturing industry workforce survey," NDA, 2018

## EMPLOYMENT NEEDS

To determine short-term and long-term employment needs within the sector, employers were asked to rank occupations where they saw potential growth in the future. All the occupations were categorized in 6 different subgroups (for a full list of occupations, see Appendix C):

- food processing and manufacturing
- maintenance, repair, installation and machinery
- motor vehicle and agriculture machinery operating
- food science technology
- agriculture production
- animal and plant science

In this section, employers were asked to select those occupations where they anticipated an increase in short-term and long-term demand.

### Food processing and manufacturing occupations

Occupations in food processing and manufacturing include food production and preparation, as well as product packing and moving. These occupations perform functions involving food processing, such as using hands or hand tools to perform routine cutting and trimming of meat or mixing and baking ingredients to produce breads, pastries or other baked goods.

Listed occupations in this sub-group perform different functions that involve packing a wide variety of products and materials by hand or performing other general labor and food preparation. These occupations include all manual laborers.

Short-term and long-term in-demand occupations within this sub-category can be seen in Table 24.

**Table 24. Types of employees companies currently employ by different type of industry**

IN-DEMAND OCCUPATIONS	GROWTH RATE
• hand packers and packagers • laborers/material movers • production line workers	27.8%
	AVERAGE ANNUAL WAGE:
	\$32,793

SOURCE: Nevada Workforce Informer

According to employment statistics from Nevada Workforce Informer, the average annual wage for occupations in this sub-group was \$32,793. Long-term projected growth rate (2014 -2024) for occupations within this sub-group is approximately 27.8%. Most of the expected new jobs are for laborers who operate machinery to prepare consumer products and those who pack the food.

However, most of these new positions will be the result of existing job replacements. This can be explained mostly by the fact that these occupations are usually entry level, low-wage jobs that tend to have significant employee turnover.

When it comes to education, most occupations require no formal education credentials. Some require a high school diploma or equivalent, and do not require previous work experience. They do require mostly short-term to moderate-term on-the-job training. The basic skills in demand for this sub-group based on employer responses are work ethics, positive attitudes and good communication skills.

### Maintenance, repair, installation and machinery occupations

Occupations in this group include installation, maintenance and repair workers, equipment mechanics, as well as landscape and groundskeeping workers.

These occupations perform cleaning duties, activities engaged in landscaping or groundskeeping, and/or mixing or applying pesticides, herbicides, fungicides or insecticides. In addition, they perform the duties of mechanics,

installers and repairers; they may also dismantle or move machinery and heavy equipment.

Short-term and long-term in-demand occupations within this sub-category can be seen in Table 25.

**Table 25. Maintenance, repair, installation and machinery occupations in demand**

IN-DEMAND OCCUPATIONS	GROWTH RATE
<ul style="list-style-type: none"> <li>• general maintenance and repair</li> <li>• building and grounds cleaning</li> <li>• electricians</li> </ul>	28%
	<b>AVERAGE ANNUAL WAGE:</b>
	\$44,976

SOURCE: Nevada Workforce Informer

The average annual wage for this sub-group in 2016 was \$44,976. Long-term projected growth rate (2014 -2024) for occupations within this sub-group is approximately 28%. Most of the job openings within this sub-category are for maintenance and repair workers. According to employment statistics from Nevada Workforce Informer, total expected annual job openings for our top 3 in-demand occupations are 1,606 jobs of which 930 are expected annual openings due to economic growth, while 676 annual openings are expected due to job replacements.

When it comes to education, most of the occupations require a high school diploma or equivalent, and less than 5 years of previous work experience. They do require mostly short-term to moderate-term on-the-job training and some occupations need apprenticeship.

Top basic skills in demand for this sub-group, based on employer responses are work ethics, positive attitudes, and critical and analytical thinking.

### Motor vehicle and agriculture machinery operating occupations

Occupations in this sub-group include mostly drivers and agriculture equipment operators like tractors and trailers. Duties these occupations perform are mainly driving and transportation—driving trucks, a tractor-trailer combination or other vehicles on established routes. They operate industrial trucks or tractors equipped to move materials or animals around a warehouse, storage yard, factory, construction site, ranch or other routes.

Based on the survey responses, the food and agriculture sector long-term and short-term occupations in demand can be seen in Table 26.

**Table 26. Motor vehicle and agriculture machinery operating occupations in demand**

IN-DEMAND OCCUPATIONS	GROWTH RATE
<ul style="list-style-type: none"> <li>• agriculture equipment operators</li> <li>• motor vehicle and heavy machinery operators</li> <li>• truck drivers</li> </ul>	24.6%
	<b>AVERAGE ANNUAL WAGE:</b>
	\$37,410

SOURCE: Nevada Workforce Informer

According to employment statistics from Nevada Workforce Informer, average annual wage for occupations listed in this sub-group in 2016 was \$37,410. Long-term projected growth rate (2014 -2024) for occupations within this sub-group is approximately 24.6%. Most of the expected new jobs will result from economic growth. Total expected annual job openings for the top in-demand occupations are 792 jobs, of which, 461 are expected annual openings due to economic growth, while 331 annual openings are expected due to job replacements.

When it comes to education, most of the occupations require a high school diploma or equivalent, and less than 5 years of previous work experience. They do require mostly short-term to moderate-term on-the-job training. Employers stated that when it comes to basic skills they are looking for work ethics, positive attitudes and critical and analytical thinking.

## Food science technology occupations

Occupations in this subcategory include life science and healthcare-related occupations. These positions also assist in the provision of food service and nutrition programs; they research ways to make processed foods safe, palatable and healthful; and they apply food science knowledge to determine the best ways to process, package, preserve, store and distribute food.

Based on the industry response, top occupations in demand in short-term and long-term periods can be seen in Table 27.

**Table 27. Food science and technology occupations in demand**

IN-DEMAND OCCUPATIONS	GROWTH RATE
<ul style="list-style-type: none"><li>quality control specialists</li></ul>	9.4%
<ul style="list-style-type: none"><li>food scientists</li></ul>	AVERAGE ANNUAL WAGE: \$61,493
<ul style="list-style-type: none"><li>microbiologists</li></ul>	

SOURCE: Nevada Workforce Informer

Based on the statistic from Nevada Workforce Informer, average salary for this sub-group is approximately \$61,493. Long-term projected growth rate (2014 -2024) for occupations within this sub-group is approximately 9.4%. Most of the job openings for these occupations in demand will result from job replacements. Total expected annual job openings for top in-demand occupations is 9 jobs.

When it comes to education, most of the occupations require a bachelor's degree, and no necessary work experience. Most of them do not require on-the-job training, but some will value internships. The basic skills in demand for this sub-group, based on employer responses, are work ethics, critical thinking and good communications skills.

## Agriculture production (farm and ranch) occupations

Occupations in this sub-category include mostly those that live on a farm or ranch, and manually plant, cultivate and harvest vegetables, fruits, nuts, horticultural specialties and field crops or take care of animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, rabbits, finfish, shellfish and bees.

The activities that these occupations typically perform are related to assessment, treatment and care for animals. They also feed, water and care for animals that are raised for consumption and/or produce animal products, such as meat, fur, skins, feathers, eggs, milk and honey. They perform manual labor necessary to develop, maintain or protect areas such as forests, forested areas, woodlands, wetlands and rangelands through such activities as raising and transporting seedlings; combating insects, pests and diseases harmful to plant life; and building structures to control water, erosion and leaching of soil. This includes forester aides, seedling pullers, tree planters, and gatherers of nontimber forestry products such as pine straw.

Top in-demand long- and short-term occupations, based on the survey results can be seen in Table 28.



In 2012 there were 6,757 farm operators. This includes farm owners, hired managers, business managers, or someone who operates the farm, either doing the work or making day-to-day decision about farm operations such as planting, harvesting, feeding or marketing.

**Table 28. Agriculture production (farm and ranch) occupations in demand**

IN-DEMAND OCCUPATIONS	GROWTH RATE
<ul style="list-style-type: none"> <li>ranch workers</li> <li>garden and nursery workers</li> <li>animal caretakers</li> </ul>	10.3%
	AVERAGE ANNUAL WAGE:
	\$46,331

SOURCE: Nevada Workforce Informer

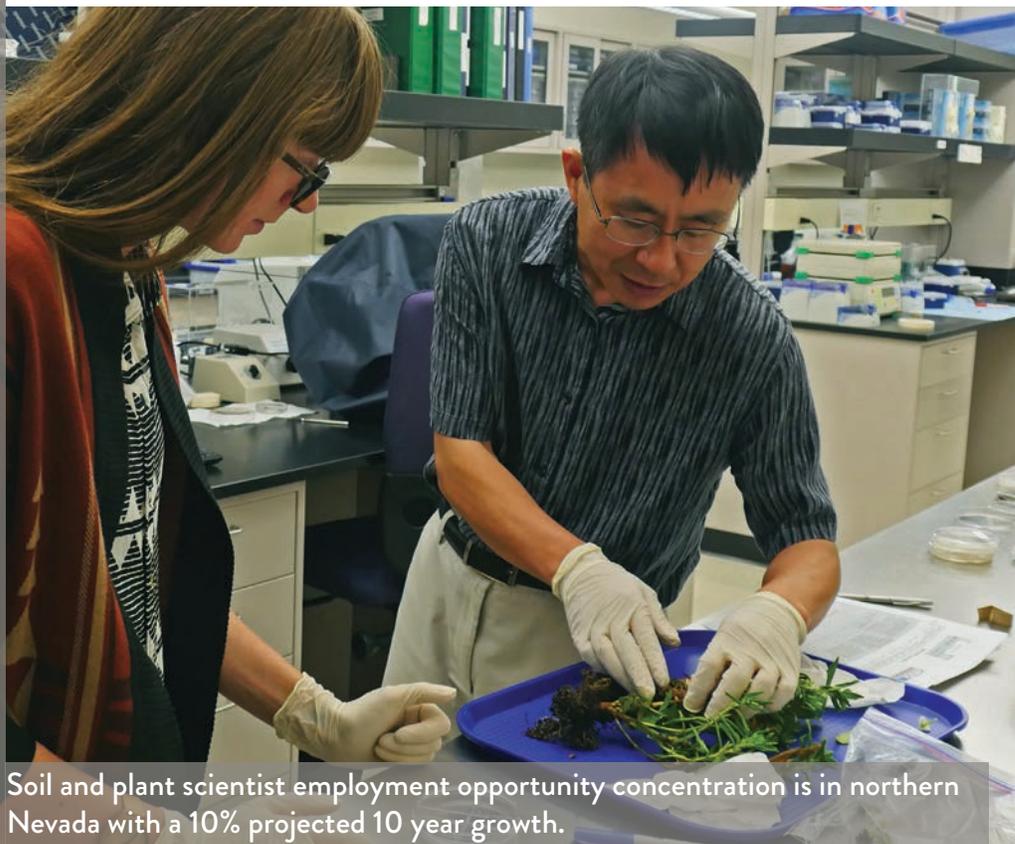
According to employment statistics from Nevada Workforce Informer, average salary for this sub-group is approximately \$46,331. Long-term projected growth rate (2014 -2024) for occupations within this sub-group is approximately 10.3%. Most of the job openings for in-demand occupations will result from job replacements. Total expected annual job openings for the top in-demand occupations is 42 jobs, of which, 36 will be replacements and 6 new jobs will be created because of economic growth. This can be explained with the fact that the average age of farmers and ranchers in Nevada is 59-years-old, and it is expected that the workforce within this sub-category will have a larger number of job openings due to replacements.

When it comes to education, most of the occupations do not require formal education, or they require a high school diploma with short-term to moderate-term on-the-job training. The basic skills in demand for this sub-group, based on the employer’s responses, are work ethics, positive attitudes and critical thinking.

### Animal and plant science occupations

Occupations in this subcategory include scientific occupations that conduct research on the genetics, nutrition, reproduction, growth and development of plants and domestic farm animals.

These occupations specialize in wildlife research and management. They use engineering and other sciences to study the principles underlying the processing and deterioration of foods; analyze food to discover new food sources; conduct research in breeding, physiology, production and yield; research management of crops and agricultural plants, trees, shrubs and nursery stock; and study the origins, behavior, diseases, genetics and life processes of animals and wildlife.



Soil and plant scientist employment opportunity concentration is in northern Nevada with a 10% projected 10 year growth.

They also manage, improve and protect natural resources to maximize their use without damaging the environment. Occupations in this sub-group conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands. They also instruct farmers, agricultural production managers and ranchers in best practices for crop rotation, contour plowing and terracing to conserve soil and water; the number and kind of livestock and forage plants best suited to ranges; and range and farm improvements, such as fencing and reservoirs for stock watering.

Based on the employer responses, the top occupations in demand in short-term and long-term periods can be seen in Table 29.

**Table 29. Animal and plant science occupations in demand**

IN-DEMAND OCCUPATIONS	GROWTH RATE
<ul style="list-style-type: none"><li>• plant geneticist</li><li>• plant pathologist</li><li>• animal scientist</li></ul>	0.4%
	AVERAGE ANNUAL WAGE:
	\$74,237

SOURCE: Nevada Workforce Informer

According to employment statistics from Nevada Workforce Informer, average salary for this sub-group is approximately \$74,237. Long-term projected growth rate (2014 -2024) for occupations within this sub-group is approximately 0.4%. Most of the job openings within this sub-group will result from job replacements. These are high paid positions. Most employees tend to stay at these position for longer periods and the number of companies that will have a need for these positions is small.

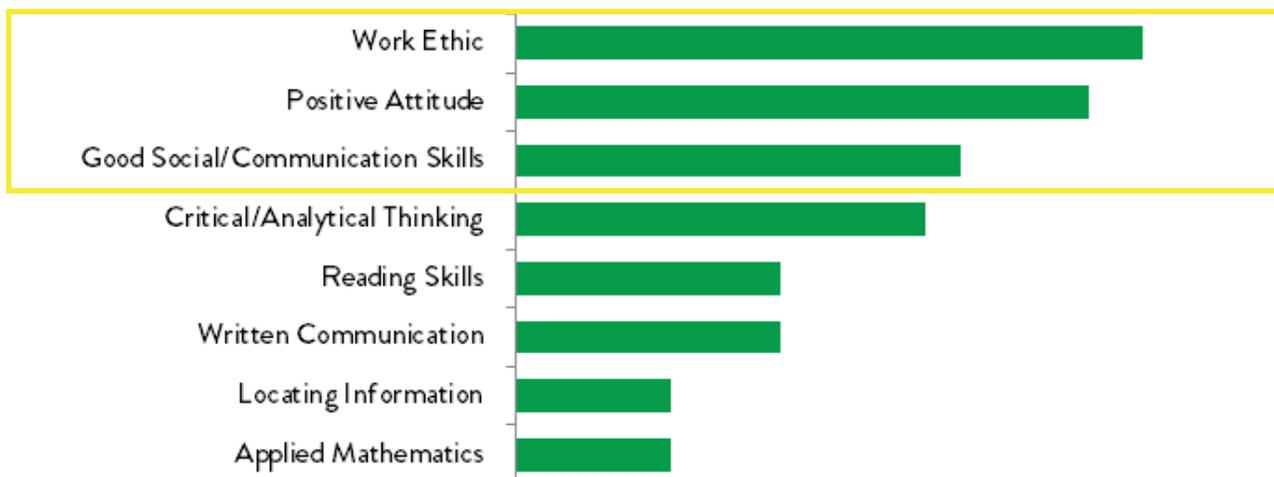
When it comes to education, most of these occupations require a bachelor’s degree (minimum), with some requiring the completion of a post-doctoral program. The top 3 basic skills in demand for this sub-group, based on the employer’s responses are work ethics, critical thinking and good communication skills.

## WORKFORCE SKILLSETS, COMPETENCIES AND INDUSTRY RECOGNIZED CERTIFICATIONS

### WORKFORCE BASIC AND OCCUPATIONAL SKILLS IN DEMAND FOR THE FOOD AND AGRICULTURE SECTOR

Food and agriculture sector industry representatives were asked in a survey to list basic occupational skills that are of importance. Most respondents stated that they are looking for work ethics, positive attitude and good social and communication skills (Figure 56).

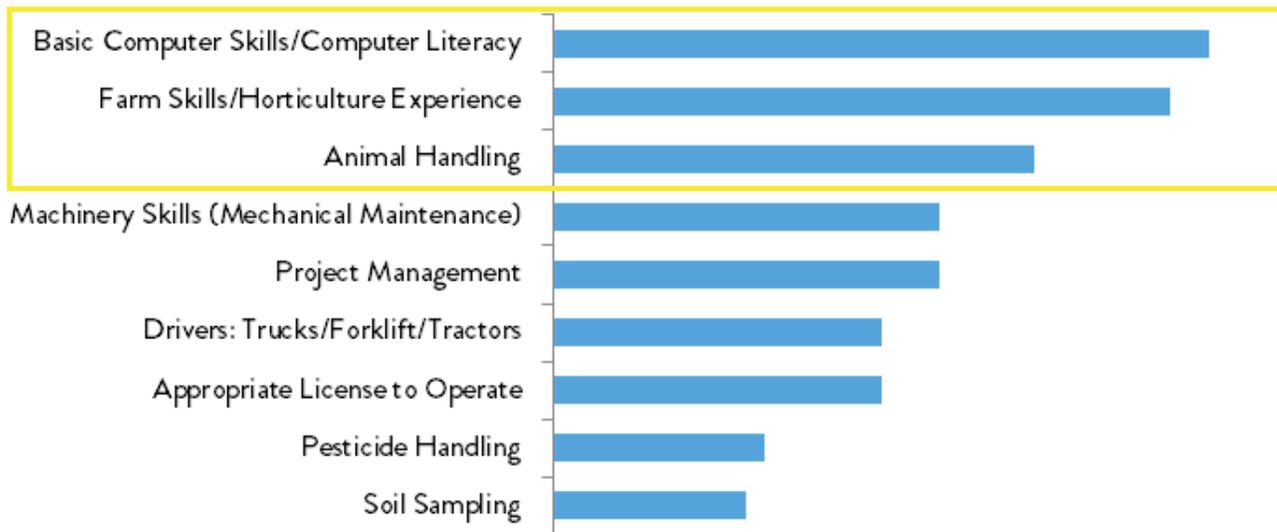
**Figure 56. Employee basic skills in demand**



SOURCE: “Agriculture production and food manufacturing industry workforce survey,” NDA, 2018

A necessary occupational skill within the food and agriculture sector is basic computer literacy. Considering that agriculture production is a very specific industry and requires practical knowledge and experience, farm and horticulture skills are also necessary for the field (Figure 57).

**Figure 57. Employee occupations skills in demand**



SOURCE: "Agriculture production and food manufacturing industry workforce survey", NDA, 2018

## INDUSTRY RECOGNIZED CERTIFICATIONS IN DEMAND

When it comes to relevant industry recognized certifications, survey respondents listed several they value when making decisions regarding new employment. These certifications can be grouped into the following categories:

### Administrative certifications

- Project Management Institute: PMP & CAPM
- Logistic Management: Supply Chain Management Certificate
- Scrum Master Certification

### Food quality and safety

- Food safety certificates (Food Handlers Card, Food Protection Manager Certification)
- Sanitation Certificate
- Beef Quality Assurance
- SCAA Roaster Certificate
- UC Davis Winemaking Certificate
- Hazard Analysis Critical Control Point (HACCP)

### Engineers and Industry Certificates

- American Society of Landscape Architects (ASLA)
- American Society of Civil Engineers (ASCE)
- US Green Building Council – LEED Certificate
- OSHA Forklift Certificate
- Six Sigma Certification

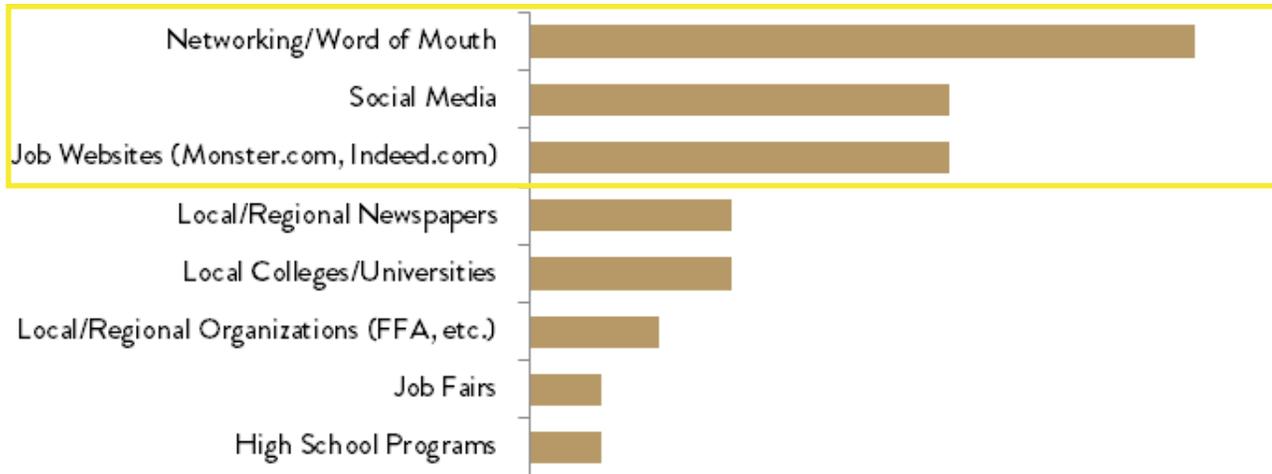
### IT Certifications

- Information Technology Infrastructure Library (ITIL)
- Information Security Certifications

## SOURCE OF EMPLOYMENT WITHIN THE INDUSTRY

Most of survey respondents stated that many new employees are hired based on referrals and recommendations from networking. Job sites like Monster.com and Indeed.com, as well as social media outlets, are a secondary source of new employment. Job fairs and high schools are the least popular source when industry is looking for new employees (Figure 58).

**Figure 58. Source of new employment for industry**



SOURCE: "Agriculture production and food manufacturing industry workforce survey", NDA, 2018

## CONCLUSION

In general, the food and agriculture sector is defined by food and manufacturing industries and agriculture production industries. Agriculture production jobs are mainly those in crop production, animal production and related supporting functions. Food manufacturing jobs cover a larger span of occupations, from basic production jobs, maintenance and repair to financial, administrative, science and IT occupations. Food science and technology and global trade is becoming an important segment of agriculture as reflected in the future occupational needs of food and agriculture sector employers.

When it comes to employment, businesses within these industries, will be looking for different types of employees. For example, the food manufacturing industry will be looking mainly for full-time or part-time employment, while the agriculture producers will be looking for a seasonal and contracted workforce.

Based on our survey results, occupations in short-term demand are mainly food manufacturing occupations like production line workers, maintenance and repair workers, agriculture machinery operators and farm and ranch workers with industry experience. Long-term demand occupations are focused more on food science, safety, and product development and control and those occupations are quality control specialists, food scientist, dietitians and nutritionists, as well as plant geneticists, animal scientist, botanists, etc.

Occupational skills in demand are mainly computer-related skills, as well as project management and mechanical maintenance skills. However, most employers highly valued soft skills, like work ethic, positive attitudes and communication skills.

Overall trend in agriculture sector will be moving towards more scientific, information and technology-oriented occupations and technology application in agriculture and food production.





# APPENDICES

## APPENDIX A - NEVADA AGRICULTURE SECTOR INDUSTRIES

### Agriculture production

- Grain farming
- Vegetable and melon farming
- Fruit farming
- Tree nut farming
- Greenhouse, nursery and floriculture production
- All other crop farming
- Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
- Dairy cattle and milk production
- Poultry and egg production
- Animal production, except cattle and poultry and eggs
- Commercial logging
- Commercial fishing
- Commercial hunting and trapping
- Support activities for agriculture and forestry

## Food manufacturing

- Bread and bakery product, except frozen, manufacturing
- All other food manufacturing
- Bottled and canned soft drinks and water
- Ice cream and frozen dessert manufacturing
- Frozen specialties manufacturing
- Spice and extract manufacturing
- Fluid milk manufacturing
- Confectionery manufacturing from purchased chocolate
- Frozen fruits, juices and vegetables manufacturing
- Coffee and tea manufacturing
- Mayonnaise, dressing and sauce manufacturing
- Meat processed from carcasses
- Canned fruits and vegetables manufacturing
- Cookie and cracker manufacturing
- Breakfast cereal manufacturing
- Frozen cakes and other pastries manufacturing
- Tortilla manufacturing
- Dog and cat food manufacturing
- Breweries
- Other snack food manufacturing
- Nonchocolate confectionery manufacturing
- Canned specialties
- Manufactured ice
- Other animal food manufacturing
- Soybean and other oilseed processing
- Dry pasta, mixes and dough manufacturing
- Dry, condensed and evaporated dairy product manufacturing
- Distilleries
- Seafood product preparation and packaging
- Rendering and meat byproduct processing
- Dehydrated food products manufacturing
- Poultry processing
- Cheese manufacturing
- Flavoring syrup and concentrate manufacturing
- Animal, except poultry, slaughtering
- Wineries
- Chocolate and confectionery manufacturing from cacao beans
- Tobacco product manufacturing

## APPENDIX B - AGRICULTURE PRODUCTION AND FOOD MANUFACTURING INDUSTRY WORKFORCE SURVEY

1. Please select the type of the industry your company/organization is in:
  - Food and beverage Processing and Manufacturing
  - Agriculture producers (Livestock, Plant)
  - Other: \_\_\_\_\_
2. Please select the number of employees your organization/company currently employs within Nevada:
  - 0 – 10
  - 11 – 50
  - 51 – 100
  - 101 +
3. Please select the type of the employee(s) your company/organization is employing (select all that apply):
  - Full Time
  - Part time
  - Casual/Seasonal
  - Contractors
4. Do you currently have employment vacancies?
  - Yes
  - No
5. Please select all the Food Manufacturing occupations your company will need in the short term (1 - 5 years). Please use the “Other” box to provide occupations not listed.
  - Production Line Workers
  - Hand Packers and Packagers
  - Packaging and Filling Machine Operators
  - Mixing and Blending Machine Setters, Operators, and Tenders
  - Inspectors, Testers, Sorters, Samplers, and Weighers
  - Laborers and Freight, Stock, and Material Movers, Hand
  - Chefs and Head Cooks
  - Cooks and Food Preparation Workers
  - Bakers
  - Bakery Assistants & Staff
  - Other (please specify) \_\_\_\_\_
6. Please select all the Maintenance, Repair, Installation and Machinery occupations your company will need in the short term (1 - 5 years). Please use the “Other” box to provide occupations not listed.
  - Janitors and Cleaners, except Maids and Housekeeping
  - Building and Grounds, Cleaning and Maintenance Workers
  - Maintenance and Repair Workers, General
  - Electricians
  - Welders
  - Industrial Machinery Mechanics
  - Vehicle and Mobile Equipment Mechanics, Installers
  - Other (please specify)

7. Please select all the Motor Vehicle and Agriculture Machinery Operating occupations your company will need in the short term (1 - 5 years). Please use the "Other" box to provide occupations not listed.
- Motor Vehicle Operators (forklift and heavy machinery)
  - Truck Drivers, Heavy and/or Tractor-Trailer
  - Truck Drivers, Light or Delivery Services
  - Agriculture Equipment Operators
  - Other (please specify)
8. Please select all the Food Science Technology occupations your company will need in the short term (1-5 years). Please use the "Other" box to provide occupations not listed.
- Food Scientist
  - Food & Drug Inspector
  - Quality Control Specialist
  - Dietitians and Nutritionist
  - Toxicologist
  - Biochemist
  - Chemist
  - Microbiologist
  - Other (please specify)
9. Please select all the Agriculture Production (Farm & Ranch) occupations your company will need in the short term (1 - 5 years). Please use the "Other" box to provide occupations not listed.
- Ranch Workers
  - Ranch and Farm Managers (not owners)
  - Animal Caretakers & Service Workers
  - Veterinarians
  - Veterinarian Technician
  - Fishing & Forestry Managers
  - Ranch/Farm Labor Contractors & Crew Leaders
  - Fish & Game Officers
  - Non-Farm Animal Caretakers
  - Farm Workers; Growers
  - Garden & Nursery Workers
  - Gardener & Sorters of Agriculture Products
  - Turf Farm Managers
  - Fruits & Vegetables Pickers & Sorters
  - Floral Production Workers
  - Other (please specify)

10. Please select all the Animal and Plant Science occupations your company will need in the short term (1 - 5 years). Please use the "Other" box to provide occupations not listed.
- Biotechnology Lab Technician
  - Biotechnology Engineer
  - Animal Genetics Engineer
  - Animal Scientist
  - Embryo Transfer Technician
  - Botanist
  - Plant Pathologist
  - Plant Breeder and Genetics
  - Arborist
  - Tree Surgeon
  - Landscape Architect and Designer
  - Park Managers
  - Other (please specify)

Question 11 – Question 16 - Same occupations but long-term demand (10 years)

17. Which basic skills does your company looks for when hiring new employees? (check all that apply):
- Applied Mathematics
  - Written Communication
  - Locating Information
  - Reading Skills
  - Work Ethic
  - Positive Attitude
  - Good Social/Communication Skills
  - Critical/Analytical Thinking
  - Other (please specify)

18. Which basic skills does your company looks for when hiring new employees? (check all that apply):
- Basic Computer Skills/Computer Literacy
  - Project Management
  - Farm Skills/Horticulture Experience
  - Animal Handling
  - Machinery Skills (Mechanical Maintenance)
  - Appropriate License to Operate
  - Drivers: Trucks/Forklift/Tractors
  - Soil Sampling
  - Pesticide Handling
  - Other (please specify)

19. What Industry recognized Certificates does your organization consider beneficial when hiring new employees? List all that apply:

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20. Where does your organization go to source new employment:
- Local Colleges/Universities
  - High school programs
  - Job websites (Monster.com, Indeed.com)
  - Local/Regional Newspapers
  - Local/Regional Organizations (FFA, etc.)
  - Job Fairs
  - Social Media
  - Networking/Word of mouth
  - Other (please list):

## APPENDIX C - OCCUPATIONS FOR AGRICULTURE PRODUCTION AND FOOD MANUFACTURING INDUSTRY WORKFORCE

This is the list of occupations offered to survey participants to select from based on their short-term and long-term in-demand occupation needs.

### Food manufacturing occupations

- Production Line Workers
- Hand Packers and Packagers
- Packaging and Filling Machine Operators
- Mixing and Blending Machine Setters, Operators, and Tenders
- Inspectors, Testers, Sorters, Samplers, and Weighers
- Laborers and Freight, Stock, and Material Movers, Hand
- Chefs and Head Cooks
- Cooks and Food Preparation Workers
- Bakers
- Bakery Assistants and Staff
- Other (please specify)

### Maintenance, repair, installation and machinery occupations

- Janitors and Cleaners, except Maids and Housekeeping
- Building and Grounds, Cleaning and Maintenance Workers
- Maintenance and Repair Workers, General
- Electricians
- Welders
- Industrial Machinery Mechanics
- Vehicle and Mobile Equipment Mechanics, Installers
- Other (please specify)

### Motor vehicle and agriculture machinery operating occupations

- Motor Vehicle Operators (forklift and heavy machinery)
- Truck Drivers, Heavy and/or Tractor-Trailer
- Truck Drivers, Light or Delivery Services
- Agriculture Equipment Operators
- Other (please specify)

### Food science occupations

- Food Scientist
- Food and Drug Inspector
- Quality Control Specialist
- Dietitians and Nutritionist
- Toxicologist
- Biochemist
- Chemist
- Microbiologist
- Other (please specify)

## Agriculture production (farm and ranch) occupations

- Ranch Workers
- Ranch and Farm Managers (not owners)
- Animal Caretakers and Service Workers
- Veterinarians
- Veterinarian Technician
- Fishing and Forestry Managers
- Ranch/Farm Labor Contractors and Crew Leaders
- Fish and Game Officers
- Non-Farm Animal Caretakers
- Farm Workers; Growers
- Garden and Nursery Workers
- Gardener and Sorters of Agriculture Products
- Turf Farm Managers
- Fruits and Vegetables Pickers and Sorters
- Floral Production Workers
- Other (please specify)

## Animal and plant science occupations

- Biotechnology Lab Technician
- Biotechnology Engineer
- Animal Genetics Engineer
- Animal Scientist
- Embryo Transfer Technician
- Botanist
- Plant Pathologist
- Plant Breeder and Genetics
- Arborist
- Tree Surgeon
- Landscape Architect and Designer
- Park Managers
- Other (please specify)



# GLOSSARY

**Agriculture production** – Agriculture production describes a specific group of establishments primarily engaged in the activities of cultivating soil; planting, raising and harvesting crops; rearing, feeding and managing animals.

**All other crop production** – This industry group is comprised of establishments primarily engaged in growing hay alfalfa, grass, hay and sorghum sudan seeds, hop farming, herbs and spices, etc.

**Animal production, except cattle and poultry** - This industry group is comprised of establishments primarily engaged in raising bees for honey, farmed fish, aquaculture (finfish, shellfish, crawfish), dairy goats, sheep, lambs, hogs and pigs, horses and other equines, and other fur-bearing animals.

**Direct impacts** - Direct impacts are the economic impacts of an industry due to changes to front end businesses that receive expenses or operating revenue as a direct consequence of an industry. Direct impacts are related to original purchases or direct sales from primary suppliers.

**Economic contribution** – Economic contribution is defined as the gross changes in a region’s existing economy that can be attributed to a given industry, event or policy. The contribution analysis looks at the actual regional data and the current linkages that exist within the economy.

**Employment** - A job in IMPLAN equals the annual average of monthly jobs in that industry. This is the same definition used by Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics (BLS), and Bureau of Economic Analysis (BEA). A job can be either full-time or part-time.

**Employment multipliers** - Input-output multipliers used to estimate the total number of jobs (both full-time and part-time) throughout the economy that are needed, directly and indirectly, to deliver \$1 million of final demand for a specific commodity (BEA).

**Food manufacturing** – Food manufacturing industries transform livestock and raw agricultural products into products for consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products.

**Food and agriculture sector** – Food and agriculture sector refers to a larger segment of the economy comprised of large group of establishments primarily engaged in agriculture production and food manufacturing. The sector provides products and services to, and purchase products and services from, other industries.

**Indirect impacts** - Indirect impacts are the economic impacts of an industry due to changes in the activity of an industry’s suppliers. Indirect impacts include the spending that cattle producer’s suppliers make when purchasing goods and services from their own suppliers (i.e. secondary suppliers) to meet the demand generated by the cattle industry.

**Induced impacts** - Induced impacts are the economic impacts of an industry due to shifts in spending on goods and services because of the payroll of the directly and indirectly affected businesses. In the case of cattle production, induced impacts reflect the additional spending by the employees of the cattle producers' suppliers (primary suppliers) and their suppliers' suppliers (secondary suppliers).

**Labor income** - All forms of employment income, including employee compensation (wages and benefits) and proprietor income.

**Major destination (animal shipment)** - Major destinations are U.S. states where more than 10,000 animals were shipped to from Nevada.

**Minor destination (animal shipment)** - Minor destinations are U.S. states that received between 2,000 to 10,000 animals shipped from Nevada.

**Output** - Output represents the value of industry production. In IMPLAN, these are annual production estimates for the year of the data set and are in producer prices. For manufacturers, this would be sales plus/minus change in inventory. For service sectors, production equals sales. For retail and wholesale trade, output equals gross margin and not gross sales.

**Output multipliers** - The output multipliers show the amount of output required to satisfy a given level of final-use expenditures. For the commodity-by-commodity total requirements table, it is the production required both directly and indirectly of the commodity at the beginning of each row per dollar of delivery to final use of the commodity at the top of the column. For the industry-by-commodity total requirements table, it is the industry output required to deliver a dollar of a commodity to final users. For the industry-by-industry total requirements table, it is the industry output required to deliver a dollar of industry output to final users.

**Support activities for agriculture and forestry** - These industries provide support services essential to agriculture and forestry production. These support activities may be performed by the agriculture or forestry producing establishment or conducted independently as an alternative source of inputs required for the production process for a given crop, animal or forestry industry.



## DATA SOURCES

- <http://www.bea.gov/itable/index.cfm>
- <http://www.angus.org/Commercial/Links/CommFeedlotRpt.aspx#NV>
- <http://www.census.gov/manufacturing/exports/>
- <http://www.ctre.iastate.edu/marketsize/about.html#limitations>
- <http://nercrd.psu.edu/publications/rdppapers/rdp26.pdf>
- [http://www.statsamerica.org/innovation/reports/aggregated\\_cluster\\_definitions.pdf](http://www.statsamerica.org/innovation/reports/aggregated_cluster_definitions.pdf)
- [http://www.santabarbaracountywib.org/uploadedFiles/wib/SB%20Industry%20Cluster%20Report%202012\\_%20Final%2002.24.12%281%29.pdf](http://www.santabarbaracountywib.org/uploadedFiles/wib/SB%20Industry%20Cluster%20Report%202012_%20Final%2002.24.12%281%29.pdf)
- <http://www.nortec.org/mc/NoRTEC%20Natural%20Res%20Cluster%20060612%20FINAL.pdf>
- [http://www.coeccc.net/environmental\\_scans/ag\\_scan\\_cv\\_11.pdf](http://www.coeccc.net/environmental_scans/ag_scan_cv_11.pdf)
- [http://education.vermont.gov/new/pdfdoc/pgm\\_teched/pubs/educ\\_teched\\_pubs\\_sustainable\\_food\\_systems\\_cluster\\_study.pdf](http://education.vermont.gov/new/pdfdoc/pgm_teched/pubs/educ_teched_pubs_sustainable_food_systems_cluster_study.pdf)
- Nevada Department of Agriculture - Brand Inspection database
- Nevada Department of Agriculture - Certified Producers
- Quarterly Census of Employment and Wages (QCEW)
- Nevada Workforce Informer - Nevada Employer Directory
- Nevada Workforce Informer - Find a Business in Nevada
- USDA – NASS Stats



Nevada Department  
of Agriculture