
A Profile of Agriculture

Westside Fishlake National Forest Counties

Beaver County UT, Millard County UT, Juab County UT

Produced by
Economic Profile System-Human Dimensions Toolkit
EPS-HDT
October 17, 2011

About the Economic Profile System-Human Dimensions Toolkit (EPS-HDT)

EPS-HDT is a free, easy-to-use software application that produces detailed socioeconomic reports of counties, states, and regions, including custom aggregations.

EPS-HDT uses published statistics from federal data sources, including Bureau of Economic Analysis and Bureau of the Census, U.S. Department of Commerce; and Bureau of Labor Statistics, U.S. Department of Labor.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS-HDT.

See www.headwaterseconomics.org/eps-hdt for more information about the other tools and capabilities of EPS-HDT.

For technical questions, contact Ray Rasker at eps-hdt@headwaterseconomics.org, or 406-570-7044.



Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions in the West.



www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of the Interior, administers 249.8 million acres of America's public lands, located primarily in 12 Western States. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.



www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to achieve quality land management under the "sustainable multiple-use management concept" to meet the diverse needs of people while protecting the resource. Significant intellectual, conceptual, and content contributions were provided by the following individuals: Dr. Pat Reed, Dr. Jessica Montag, Doug Smith, M.S., Fred Clark, M.S., Dr. Susan A. Winter, and Dr. Ashley Goldhor-Wilcock.

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The term "farm" in this report describes all forms of agricultural production, including livestock operations.

Note to Users:

This report is one of fourteen reports that can be produced with the EPS-HDT software. You may want to run another EPS-HDT report for either a different geography or topic. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. For further information and to download the free software, go to: www.headwaterseconomics.org/eps-hdt.

This report contains color-coded text. **BLUE TEXT** describes data in figures specific to selected geographies. Blue text appears on report pages next to or below figures. **BLACK TEXT** describes what is being measured and data sources used. Black text appears at the top of study guide pages under the heading "What do we measure on this page?" **RED TEXT** explains methodologies and the importance of the information. Red text appears in the middle of study guide pages under the headings "Why is this important?" and "Methods." **GREEN TEXT** lists Additional Resources that help with interpretation of the information. Green text appears at the bottom of study guide pages under the heading "Additional Resources."

The EPS-HDT software also allows the user to "push" the tables, figures, and interpretive text from a report to a Word document. At that point, you can keep some text (most often blue and black text) and delete other text (most often red and green text). Blue text can serve as a starting point for additional description and interpretation of data unique to specific geographies.

What are the trends in farm employment?

This page describes the number of farm jobs (full and part-time, and by place of work), including proprietors, and farm jobs as a share of total employment. It also shows long-term trends for farm proprietors as a share of all farm jobs and for farm versus non-farm jobs at the regional level.

Farm Employment, 2009

	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
Total Employment	3,629	6,571	4,899	15,099	173,809,200
Farm Employment	546	970	354	1,870	2,632,000
Farm Proprietors Employment	178	606	274	1,058	1,893,000
Non-Farm Employment	3,083	5,601	4,545	13,229	171,177,200

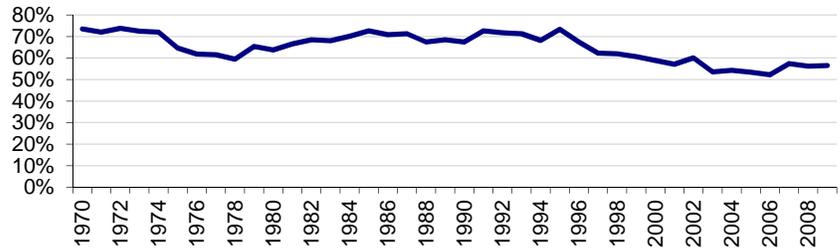
Percent of Total

Farm Employment	15.0%	14.8%	7.2%	12.4%	1.5%
Farm Proprietors Employment	4.9%	9.2%	5.6%	7.0%	1.1%
Non-Farm Employment	85.0%	85.2%	92.8%	87.6%	98.5%

All employment data on this page are reported by place of work.

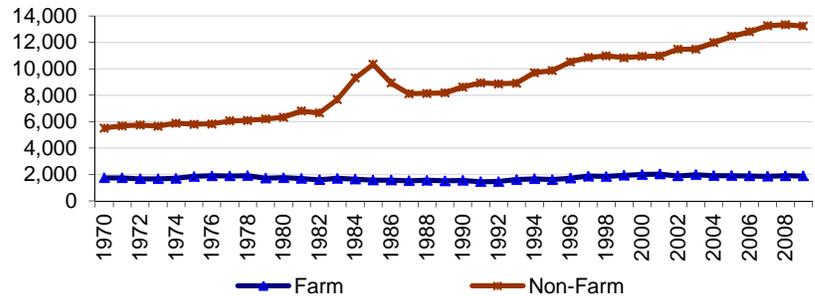
- In 1970, farm proprietors represented 73.6 percent of all farm employment. By 2009, farm proprietors represented 56.6 percent of all farm employment.

Farm Proprietors as a Percent of Farm Jobs, County Region



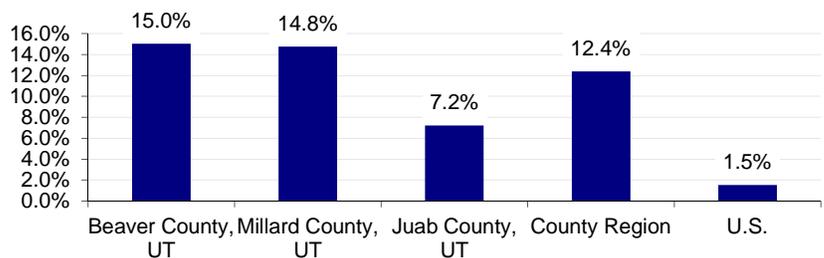
- From 1970 to 2009, farm employment grew from 1,731 to 1,870 jobs, a 8 percent increase.
- From 1970 to 2009, non-farm employment grew from 5,499 to 13,229 jobs, a 140.6 percent increase.

Farm and Non-Farm Jobs, County Region



- In 2009, Beaver County, UT had the largest percent of total farm employment (15.05%), and U.S. had the smallest (1.51%).

Farm Jobs as a Percent of Total Employment, 2009



Study Guide and Supplemental Information

What are the trends in farm employment?

What do we measure on this page?

This page describes the number of farm jobs (full and part-time, and by place of work), including proprietors, and farm jobs as a share of total employment. It also shows long-term trends for farm proprietors as a share of all farm jobs and for farm versus non-farm jobs at the regional level.

Farm: This refers to all forms of agricultural production, including livestock operations.

Total Employment: This is all full and part-time workers, wage and salary jobs (employees), and proprietors (the self-employed).

Farm Employment: This is the number of workers (full and part-time) engaged in the production of agricultural commodities, either livestock or crops. It includes sole proprietors, partners, and hired laborers.

Farm Proprietors Employment: These are people who are self-employed (full and part-time) as non-corporate farm operators. They can be sole proprietors or partners. For the purpose of defining "farm" proprietors, a farm is an establishment that produces, or normally would be expected to produce, at least \$1,000 worth of farm products in a typical year.

Non-Farm Employment: This is full and part-time non-farm wage and salary employment and non-farm self-employment.

Why is it important?

Farming and ranching can be a significant portion of the landscape and the local economy. Some forms of agriculture, such as ranching, may depend on public lands for grazing forage. Others, such as crop production, may rely on upstream public lands that provide water for irrigation.

While nationwide trends show that fewer people are work in farming, the land in farms is still valuable for a number of reasons, including the production of food (with gains in production efficiency, fewer farmers can produce more food than in the past) and the preservation of open space, scenic vistas, and wildlife habitat.

The growth or decline of farm proprietors could indicate new agricultural entrepreneurs and/or the consolidation of agricultural enterprises.

Methods

Data on this page are from the Bureau of Economic Analysis. We used these data because they provide long-term trends on employment and personal income from people employed in farming. In addition, this source also provides data on long-term trends in production expenses, different sources of crop and livestock income, and net profits, which are presented later in this report. The Census of Agriculture also provides employment information, but does so only every five years, most recently in 2002 and 2007. The Census of Agriculture is used elsewhere in this report because of its detailed information on the size and number of farms by type.

Bureau of Economic Analysis data on this and later pages describe only the employment and personal income from people working directly in agricultural operations, and do not include the subcategory Forestry, Fishing, Related Activities, and Other (BEA line code 100). We do not include BEA line code 100 because it mixes farm related categories (e.g., soil preparation) with non-farm related categories (e.g., hunting). It is not possible to disaggregate BEA line code 100.

Additional Resources

For an online listing of all NAICS codes, see: <http://www.naics.com/search.htm>.

For additional online manuals and definitions of industry codes, see: <http://www.bls.gov/bls/NAICS.htm> and <http://www.census.gov/eos/www/naics>.

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: <http://www.ers.usda.gov/Publications>.

Data Sources

U.S. Department of Commerce. 2011. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA25 & CA25N.

What are the trends in farm income?

This page describes earnings (in real terms and by place of work) derived from farm employment, including farm proprietors, and farm earnings as a share of all labor earnings. It also shows long-term trends in farm proprietors' income as a share of all farm earnings and for farm versus non-farm earnings at the region level.

Personal Income from Farm Employment, 2009 (Thousands of 2010 \$s)

	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
Earnings by Place of Work (\$1000)	138,402	236,633	161,122	536,157	8,955,678,270
Farm Earnings	27,770	24,169	3,201	55,140	69,627,466
Farm Proprietors' Income	-1,411	4,285	-15	2,859	41,563,645
Non-Farm Earnings	110,632	212,464	157,921	481,017	8,886,050,804

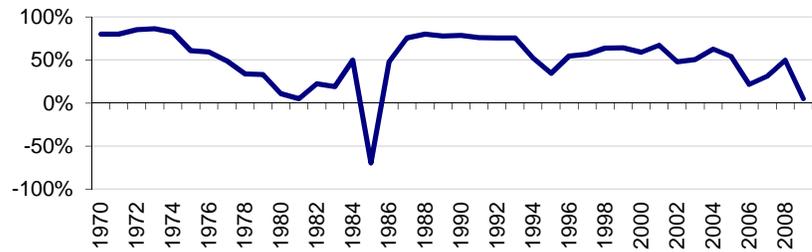
Percent of Total

Farm Employment	20.1%	10.2%	2.0%	10.3%	0.8%
Farm Proprietors Employment	-1.0%	1.8%	0.0%	0.5%	0.5%
Non-Farm Employment	79.9%	89.8%	98.0%	89.7%	99.2%

All income data on this page are reported by place of work. Farm personal income shown here is different than business income shown on the next page.

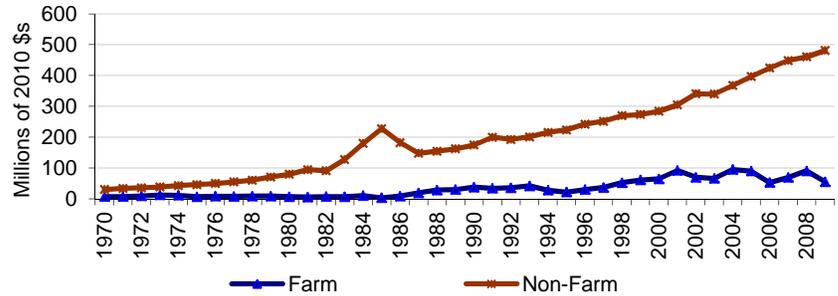
- In 1970, farm proprietors' income represented 80.1 percent of all farm earnings. By 2009, farm proprietors' income represented 5.2 percent of all farm earnings.

Farm Proprietors' Income as a Percent of Farm Earnings, County Region



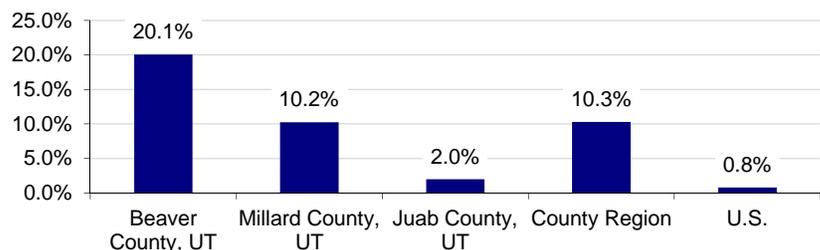
- From 1970 to 2009, farm earnings grew from \$6.8 million to \$55.1 million, a 710.7 percent increase.
- From 1970 to 2009, non-farm earnings grew from \$29.6 million to \$481.0 million, a 1525.9 percent increase.

Farm and Non-Farm Earnings, County Region



- In 2009, Beaver County, UT had the largest percent of total earnings from farm earnings (20.06%), and U.S. had the smallest (0.78%).

Farm Earnings as a Percent of Total Earnings, 2009



Study Guide and Supplemental Information

What are the trends in farm income?

What do we measure on this page?

This page describes earnings (in real terms and by place of work) derived from farm employment, including farm proprietors, and farm earnings as a share of all labor earnings. It also shows long-term trends in farm proprietors' income as a share of all farm earnings and for farm versus non-farm earnings at the region level.

Farm: All forms of agricultural production, including livestock operations.

Earnings by Place of Work: This is the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income (farm and non-farm). It does not include non-labor sources of income.

Farm Earnings: This is net income from sole proprietors, partners, and hired laborers arising directly from the production of agricultural commodities, either livestock or crops. It includes net farm proprietors' income, wages and salaries, pay-in-kind, and supplements to wages and salaries of hired farm laborers. It specifically excludes income from non-family farm corporations.

Farm Proprietors' Income: This is income that is received by sole proprietorships and partnerships in the operation of farms. It excludes income that is received by corporate farms.

Non-Farm Earnings: This is the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income for all industries, excluding farms.

Why is it important?

The farm earnings trends shown on this page can be viewed alongside the employment trends on the previous page of this report. In some cases, farm earnings may decline, in absolute or relative terms, while farm employment stays the same or increases. In other cases, farm earnings may increase, in absolute or relative terms, while farm employment stays the same or declines. These same trends apply to farm proprietors and their income, and point to declining or improving farm wages. For more information on earnings, see the wages portion of this report.

Methods

The personal income information on this page does not include income received by corporate farms. The U.S. Department of Commerce provides farm "business" income data on corporations, in terms of production expenses, sources of income, and net profits. These data are presented in the next section of this report.

Additional Resources

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: <http://www.ers.usda.gov/Publications>.

For the Economic Research Service's outlook on livestock, dairy, and poultry production, see: <http://www.ers.usda.gov/Publications/LDP>.

For the Economic Research Service's outlook on crop production, see: <http://www.ers.usda.gov/publications/outlook>.

Data Sources

U.S. Department of Commerce. 2011. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05 & CA05N.

What are the trends in farm business income?

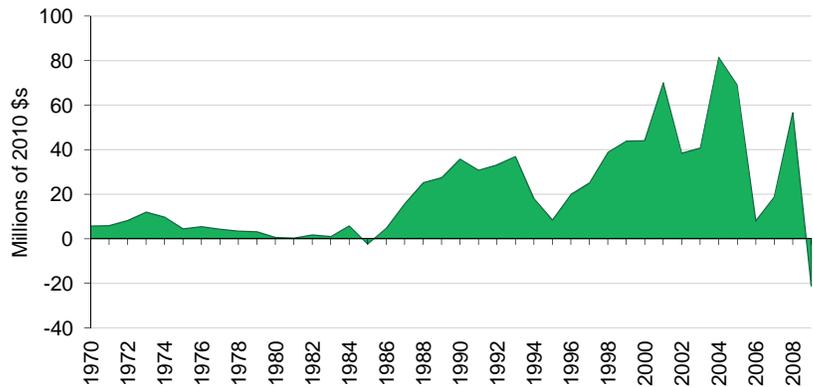
This page describes components of farm business income and expenses (in real terms), and shows a ratio of gross income to production expenses as a measure of profitability. It also shows trends (in real terms) in net farm business income and for crops and livestock cash receipts for the region.

Farm Business Income, 2009 (Thousands of 2010 \$s)

	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
Total Cash Receipts & Other Income (\$1000)	183,759	144,740	22,758	351,258	341,577,440
Cash Receipts from Marketings	181,058	134,755	18,843	334,657	306,793,775
Livestock & Products	168,365	79,912	8,780	257,057	139,789,596
Crops	12,694	54,843	10,063	77,600	167,004,179
Other Income	2,701	9,985	3,915	16,601	34,783,665
Government Payments	792	4,027	1,961	6,779	12,463,695
Imputed Rent & Misc. Income	1,909	5,958	1,955	9,821	22,319,969
Total Production Expenses	208,150	138,951	22,581	369,682	297,383,835
Realized Net Income (Receipts - Expenses)	-24,391	5,789	177	-18,424	44,193,605
Value of Inventory Change	-1,207	-1,207	-356	-2,771	3,902,785
Total Net Income Including Corporate Farms	-25,598	4,582	-179	-21,195	48,096,390
Ratio: Total Cash Receipts & Other Income/Total Production Expenses	0.88	1.04	1.01	0.95	1.15

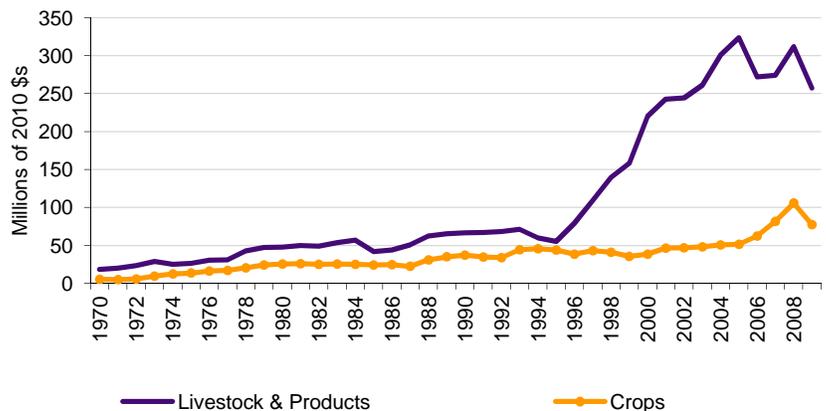
Farm business income shown here is different than farm personal income shown on the previous page.

Total Net Income Including Corporate Farms, County Region



- From 1970 to 2009, net income including corporate farms shrank from \$5.7 million to (\$21.2) million, a 473 percent decrease.

Cash Receipts from Marketings, County Region



- From 1970 to 2009, cash receipts from livestock and products grew from \$18.5 million to \$257.1 million, a 1288.3 percent increase.
- From 1970 to 2009, cash receipts from crops grew from \$5.2 million to \$77.6 million, a 1378.2 percent increase.

Study Guide and Supplemental Information

What are the trends in farm business income?

What do we measure on this page?

This page describes components of farm business income and expenses (in real terms), and shows a ratio of gross income to production expenses as a measure of profitability. It also shows trends (in real terms) in net farm business income and for crops and livestock cash receipts for the region.

Farm: This refers to all forms of agricultural production, including livestock operations.

Total Cash Receipts & Other Income: This is a measure of the gross cash receipts of all farms. It consists of the following items: the cash receipts from farm marketing of crops and livestock; the cash receipts from other farm-related activities, including recreational services, sales of forest products, and custom-feeding services performed by farm operators; the payments to farmers under several Federal Government farm subsidy programs; the imputed value of home consumption, which is the value of the farm productions produced and consumed on farms; and the imputed gross rental value of farm dwellings.

Total Production Expenses: These are expenditures incurred by farm operators in the production of agricultural commodities, including livestock and crops. The major categories of production expenses are intermediate product expenses, which provide inputs to the production process (feed, livestock and poultry, seed, fertilizer, etc.), labor expenses (cash wages, employer contributions to social security, perquisites, and contract labor expenses), and other expenses (interest, net rent paid to non-operator landlords, capital consumption, property taxes, etc.).

Realized Net Income: This consists of total cash receipts and other income less total production expenses.

Value of Inventory Change: This is the estimated value of the net change in the farm inventories of livestock and crops that are held for sale during a given calendar year. This estimate is added to the estimate of realized net income so that the estimate of farm proprietors' income for a given year will include only the farm income from production during that year, or from "current" production. This estimate is added to Realized Net Income to calculate Total Net Income Including Corporate Farms.

Total Net Income Including Corporate Farms: This is the net income that is received by the sole proprietorships, partnerships, and corporations that operate farms. It is Realized Net Income plus the Value of Inventory Change.

Ratio (Total Cash Receipts & Other Income divided by Total Production Expenses): This is not an official Bureau of Economic Analysis calculation but is another measure of farm business profitability.

Why is it important?

This page helps answer important questions concerning the long-term health of the farm economy. In many places, farm business profits have been highly volatile, and rising expenses and/or declining cash receipts have narrowed profitability.

In the early 1970s there was a period of high profitability in the agricultural sector, followed by a period of rapid decline (partly due to an embargo that prevented farmers from selling grain to Russia, and to rising production costs in subsequent years despite stagnant prices). For many geographies, this represented a unique, one-time high point in net profits. As a result, in the figures on this page, it can appear that farm business profits have declined since the early 1970s. It may be helpful to examine agricultural business income and expense trends, including volatility, in more recent years to grasp a more common range of profitability.

Methods

The data on this page are from the U.S. Department of Commerce and provide detailed information on the sources of farm business income and expenses, as well as total net income. This dataset was used because of its high level of detail and because it provides long-term trends. The table on this page is an abbreviated version of REIS Table CA45, which contains additional information that is available on specific expenditures, such as how much is spent on hired farm labor, feed, fertilizer, petroleum products purchased, etc.

Farm business income shown on this page is not the same as farm personal income shown earlier in this report.

Additional Resources

Detailed tables on farm income and expenses are available from the U.S. Department of Commerce at: <http://www.bea.gov/regional/reis/default.cfm?selTable=CA45>.

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: <http://www.ers.usda.gov/Publications>.

Data Sources

U.S. Department of Commerce. 2011. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA45.

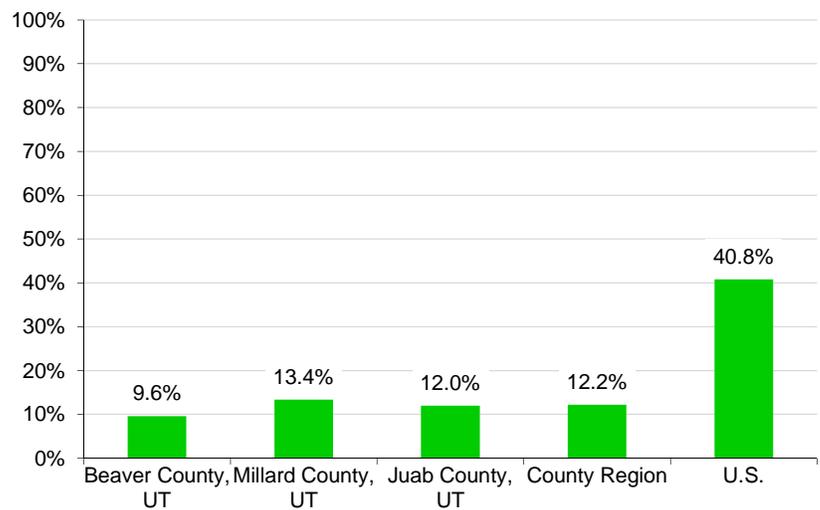
How much land is occupied by farms?

This page describes the number of farms, acres in farms, average farm size, total acres, and percent of total acres in farms.

Number of Farms and Land in Farms (Acres), 2007

	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
Number of Farms	229	703	335	1,267	2,204,792
Land in Farms (Acres)	158,323	566,692	260,444	985,459	922,095,840
Average Farm Size (Acres)	691	806	777	2,274	418
Approximate Land Area (Acres)	1,657,570	4,217,046	2,170,739	8,045,355	2,260,994,361
Approximate Percent of Land Area in Farms	9.6%	13.4%	12.0%	12.2%	40.8%

Approximate Percent of Land Area in Farms, 2007



- In 2007, the U.S. had the largest percent of land area in farms (40.8%), and Beaver County, UT had the smallest (9.6%).

Study Guide and Supplemental Information

How much land is occupied by farms?

What do we measure on this page?

This page describes the number of farms, acres in farms, average farm size, total acres, and percent of total acres in farms.

Farm: This refers to all forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

Why is it important?

Even when agriculture is a small component of the economy, the industry can represent a large portion of the land base. Farms and ranches on private lands can also have important implications for the management of public lands. For example, agricultural operations often rely on public lands for summer grazing pasture and irrigation water.

Many areas are experiencing the conversion of private agricultural lands to other uses, including residential development. This shrinks the farm and ranch land base, and can change the relationship between agricultural operations and public lands. The conversion of farm and ranch land is important to public land managers for a number of reasons: (1) the growth of the wildland-urban interface and the cost of protecting homes from wildfires; (2) the spread of weeds onto public lands; (3) the loss of access to public lands for recreation; (4) the loss of wildlife habitat and wildlife movement corridors that cross private-public land boundaries; and (5) the potential for conflict among user groups.

In places where agriculture increasingly operates alongside a larger, non-agricultural economy and greater range of adjacent land uses, farms and ranches continue to be important. They contribute to local economic diversity, the scenery they provide can be part of the mix of amenities that attract and retain people and businesses across a range of industries, and they are often an important part of local culture and community vitality.

Methods

Information on this page comes from the U.S. Department of Agriculture's Census of Agriculture. The Census of Agriculture is conducted every five years, the last two in 2002 and 2007. The advantage of the Census of Agriculture is that it provides a high level of detail that makes it possible to see what role farms play in the local economy and landscape, and to compare differences between geographies. The disadvantages of this data source is that, like all forms of census, the accuracy of the data depends on the survey methods used and the quality of the responses given to the survey. Also, with this data source it is not possible to display continuous long-term trends.

Additional Resources

The Census of Agriculture can be viewed online: <http://www.agcensus.usda.gov>.

A useful portion of the Census of Agriculture web site allows for searches by state and county:
http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/index.asp.

Several sources are available to help explain trends in land use:

The Economic Research Service of the U.S. Department of Agriculture provides a web site on Urban Development, Land Use, and Agriculture:
<http://www.ers.usda.gov/features/sprawl>.

To browse Economic Research Service publications by topic, see: <http://www.ers.usda.gov/Browse>.

A useful Economic Research Service publication is "Major Uses of Land in the United States, 1945-2002":
<http://www.ers.usda.gov/data/majorlanduses>.

To see how land is being converted to residential development, consult the EPS-HDT Land Use report.

Data Sources

U.S. Department of Agriculture. 2009. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 8.

What are the major types of farms by land area?

This page describes how much farm land (in acres) is used for different production purposes.

Land in Farms According to Use (Acres), 2007

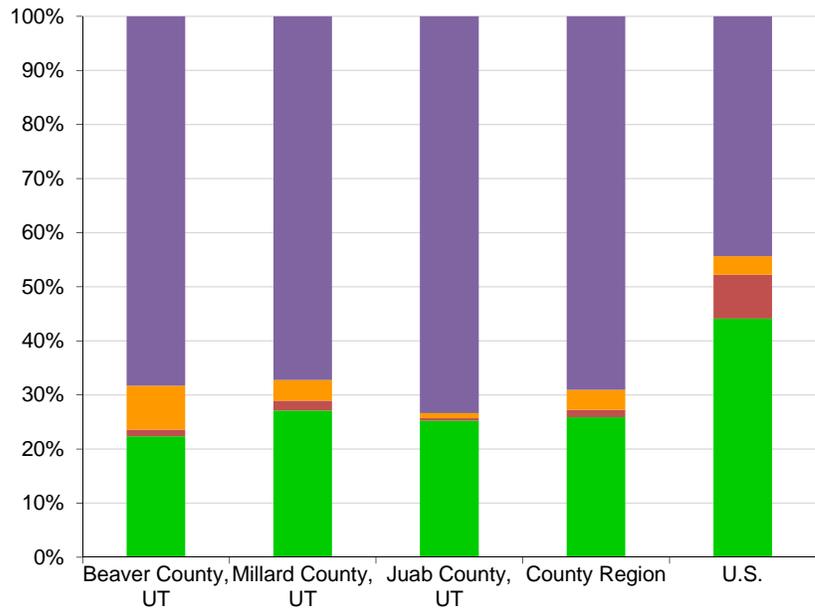
	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
Land in Farms	158,323	566,692	260,444	985,459	922,095,840
Total Cropland	35,394	153,728	65,702	254,824	406,424,909
Total Woodland	1,973	10,105	1,253	13,331	75,098,603
Land in Farmsteads & Buildings	12,807	21,697	2,347	36,851	31,740,212
Permanent Pasture & Rangeland	108,149	381,162	191,142	680,453	408,832,116

Percent of Total

Total Cropland	22.4%	27.1%	25.2%	25.9%	44.1%
Total Woodland	1.2%	1.8%	0.5%	1.4%	8.1%
Land in Farmsteads & Buildings	8.1%	3.8%	0.9%	3.7%	3.4%
Permanent Pasture & Rangeland	68.3%	67.3%	73.4%	69.0%	44.3%

- In 2007, the U.S. had the largest percent of land area in cropland (44.1%), and Beaver County, UT had the smallest (22.4%).
- In 2007, the U.S. had the largest percent of land area in woodland (8.1%), and Juab County, UT had the smallest (0.5%).
- In 2007, Beaver County, UT had the largest percent of land area in farmsteads and buildings (8.1%), and Juab County, UT had the smallest (0.9%).
- In 2007, Juab County, UT had the largest percent of land area in permanent pasture and rangeland (73.4%), and the U.S. had the smallest (44.3%).

Land Area in Farms According to Use, 2007



Study Guide and Supplemental Information

What are the major types of farms by land area?

What do we measure on this page?

This page describes how much farm land (in acres) is used for different production purposes.

Farm: This refers to all forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

There are four main categories of farm land use: cropland, woodland, farmsteads and buildings, and permanent pastureland.

Cropland: This includes harvested cropland, cropland used only for pasture and grazing, and "other cropland" (i.e. idled cropland or cropland used for cover crops or soil improvement).

Woodland: This includes natural or planted woodlots or timber tracts, for wood products and woodland pasture.

Farmsteads and Buildings: This includes livestock facilities, ponds, roads (private access roads and driveways but not public roads), and wasteland (e.g., ditches).

Permanent Pastureland and Rangeland: This includes permanent pasture and rangeland, other than cropland and woodland, and encompasses grazable land that does not qualify as woodland pasture or cropland pasture.

Why is it important?

Even when agriculture is a small component of the economy, the industry can represent a large portion of the land base. Farms and ranches on private lands can also have important implications for the management of public lands.

Not all agricultural land is used in the same manner. How farm and ranch lands are used can have important economic, environmental, and policy implications. For example, cropland may require water from surrounding public lands; woodland can provide important habitat and store water; and pasturelands may be associated with public lands grazing and can provide open vistas that are important for attracting tourists and new migrants. Some lands may be less valuable (e.g., pastureland) and therefore more vulnerable to conversion for urban and suburban uses than other lands (e.g., cropland).

In places where agriculture increasingly operates alongside a larger, non-agricultural economy and greater range of adjacent land uses, farms and ranches continue to be important. They contribute to local economic diversity, the scenery they provide can be part of the mix of amenities that attract and retain people and businesses across a range of industries, and they are often an important part of local culture and community vitality.

Additional Resources

The Census of Agriculture can be viewed online: <http://www.agcensus.usda.gov>.

A useful portion of the Census of Agriculture web site allows for searches by state and county: http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/index.asp.

Several sources are available to help explain trends in land use:

The Economic Research Service of the U.S. Department of Agriculture provides a web site on Urban Development, Land Use, and Agriculture: <http://www.ers.usda.gov/features/sprawl>.

To browse Economic Research Service publications by topic, see: <http://www.ers.usda.gov/Browse>.

A useful Economic Research Service publication is "Major Uses of Land in the United States, 1945-2002": <http://www.ers.usda.gov/data/majorlanduses>.

To see how land is being converted to residential development, consult the EPS-HDT Land Use report.

Data Sources

U.S. Department of Agriculture. 2009. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 8.

What are the major types of farms by production?

This page describes the number and percent of all farms according to what they produce.

Number of Farms by Type, 2007

	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
All Farms	229	703	335	1,267	2,204,792
Oilseed & Grain Farming	0	20	11	31	338,237
Vegetable & Melon Farming	0	3	4	7	40,589
Fruit & Nut Tree Farming	3	2	2	7	98,281
Greenhouse, Nursery, etc.	0	2	4	6	54,889
Other Crop Farming	75	347	141	563	519,893
Beef Cattle Ranch. & Farm.	87	189	102	378	656,475
Cattle Feedlots	3	6	9	18	31,065
Dairy Cattle & Milk Prod.	13	21	3	37	57,318
Hog & Pig Farming	16	4	4	24	30,546
Poultry & Egg Production	4	5	1	10	64,570
Sheep & Goat Farming	4	22	9	35	67,254
Animal Aquaculture & Other Animal Prod	24	82	45	151	245,675

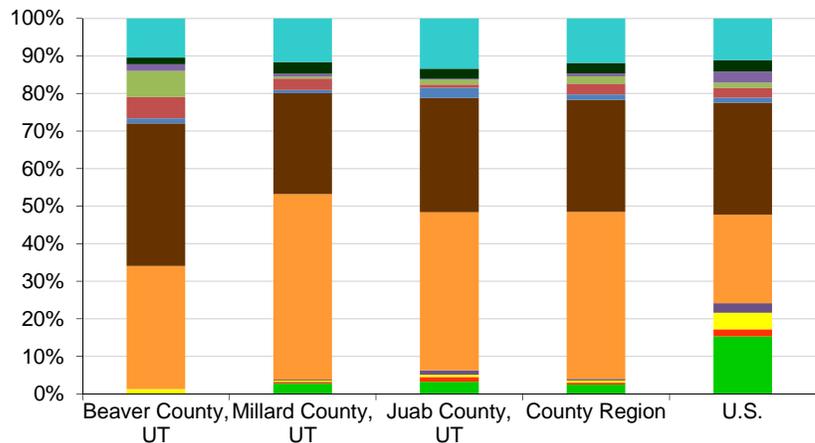
Percent of Total

Oilseed & Grain Farming	0.0%	2.8%	3.3%	2.4%	15.3%
Vegetable & Melon Farming	0.0%	0.4%	1.2%	0.6%	1.8%
Fruit & Nut Tree Farming	1.3%	0.3%	0.6%	0.6%	4.5%
Greenhouse, Nursery, etc.	0.0%	0.3%	1.2%	0.5%	2.5%
Other Crop Farming	32.8%	49.4%	42.1%	44.4%	23.6%
Beef Cattle Ranch. & Farm.	38.0%	26.9%	30.4%	29.8%	29.8%
Cattle Feedlots	1.3%	0.9%	2.7%	1.4%	1.4%
Dairy Cattle & Milk Prod.	5.7%	3.0%	0.9%	2.9%	2.6%
Hog & Pig Farming	7.0%	0.6%	1.2%	1.9%	1.4%
Poultry & Egg Production	1.7%	0.7%	0.3%	0.8%	2.9%
Sheep & Goat Farming	1.7%	3.1%	2.7%	2.8%	3.1%
Aquaculture & Other Prod.	10.5%	11.7%	13.4%	11.9%	11.1%

Land Area in Farms According to Use, 2007

- In 2007, the U.S. had the largest percent of oilseed and grain farming (15.3%), and Beaver County, UT had the smallest (0%).

- In 2007, Beaver County, UT had the largest percent of beef cattle ranching and farming (38%), and Millard County, UT had the smallest (26.9%).



Study Guide and Supplemental Information

What are the major types of farms by production?

What do we measure on this page?

This page describes the number and percent of all farms according to what they produce.

Farm: This refers to all forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

Beef Cattle Ranching & Farming: This category (NAICS code 112111) comprises establishments primarily engaged in raising cattle (including cattle for dairy herd replacements).

Other Animal Production: This category (NAICS code 1129) comprises establishments primarily engaged in raising animals and insects (except cattle, hogs and pigs, poultry, sheep and goats, and aquaculture) for sale or product production. These establishments are primarily engaged in one of the following: bees, horses and other equine, rabbits and other fur-bearing animals, etc, and producing products such as honey and other bee products. Establishments primarily engaged in raising a combination of animals with no one animal or family of animals accounting for one-half of the establishment's agricultural production are included in this industry group.

Why is it important?

Some forms of agricultural production are more closely associated with the use of public lands (e.g., cattle and sheep ranches that rely on public lands forage) or can be affected by activities on public lands (e.g., crop production using irrigation water that originates on higher elevation public lands). In areas where livestock production is significant, public lands grazing resources may be especially important to the agricultural economics of an operation or class of operations.

Methods

The Census of Agriculture data on farms by type are only reported by the number of farms. They are not reported by employment, income, or acreage.

Additional Resources

A description of the form used in the Census of Agriculture, and definitions of terms, is available at: http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_US/usappxb.pdf.

No published federal database exists that accurately describes how dependent ranchers are on public lands grazing and what the trends have been in grazing over time. Because public lands grazing is an activity that requires a permit, both the Bureau of Land Management and Forest Service keep records of grazing activity. Additional information on these sectors may be available by contacting local offices. (The Census of Agriculture maintained data on the number of permittees on public lands until 2002, but these data were generally unreliable.)

The Forest Service hosts an online "Rangelands" resource, available at: <http://www.fs.fed.us/rangelands>.

One way to understand long-term trends in public lands grazing is to track grazing-related payments that are returned to county governments. To see these trends at the county level, run the EPS-HDT County Payments report.

Data Sources

U.S. Department of Agriculture. 2009. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 45.

How do farm wages compare to wages in other sectors?

This page describes wages (in real terms) from farm employment, including sub-sectors, compared to wages from non-farm employment combined. It also describes the percent of jobs in each category. These are shown together to illustrate the relative wage levels in farming, including sub-sectors, and how many people are employed in each sub-sector.

Average Annual Wages, 2010 (2010 \$s)

	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
Total Private & Public	\$29,504	\$34,393	\$29,795	\$31,751	\$46,742
Total Private	\$28,948	\$35,102	\$30,892	\$32,339	\$46,451
Farm	\$33,779	\$26,665	\$24,666	\$26,855	\$26,551
Crop Production	\$33,382	na	na	\$33,779	\$25,103
Animal Production	na	\$26,703	\$24,552	\$26,480	\$29,954
Non-Farm	\$20,022	\$24,397	\$30,496	\$26,066	\$46,594

This table shows wage data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on previous pages of this report.

Percent of Total Employment, 2010

	Beaver County, UT	Millard County, UT	Juab County, UT	County Region	U.S.
Total Private	70.4%	76.4%	77.0%	75.2%	83.1%
Farm	0.9%	8.1%	1.1%	4.1%	0.6%
Crop Production	0.9%	na	na	0.2%	0.4%
Animal Production	na	8.1%	1.1%	3.9%	0.2%
Non-Farm	22.1%	38.7%	43.1%	36.1%	82.5%

This table shows employment data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on previous pages of this report.

Study Guide and Supplemental Information

How do farm wages compare to wages in other sectors?

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The primary purpose of this page is to compare the average annual wages between sectors, and to investigate the relative number of people employed in high and low-wage sectors.

Farm: This refers to all forms of agricultural production, including livestock operations.

Why is it important?

Farm employment often pays below average wage rates, but this can vary by farm sub-sector and by geography. Some important issues to consider are how farm industry wages compare to wages in other sectors, whether crop and animal production pay different wages, and if there are significant wage differences between geographies.

Methods

The wage and employment data on this page are from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.

What we show as Farm in the tables on this page is the sum of the following NAICS codes: crop production (111) and animal production (112). It does not include NAICS code 115 (support activities for agriculture and forestry) because this category mixes farm and non-farm services.

Depending on the geographies selected, some data may not be available due to disclosure restrictions.

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses custom data aggregations calculated from various NAICS codes. Occasionally, one or more data values underlying these aggregations are non-disclosed. These are indicated in *italics* in tables.

Additional Resources

For an overview of how the Bureau of Labor Statistics treats employment, see: <http://www.bls.gov/bls/employment.htm>.

For an overview of how the Bureau of Labor Statistics treats pay and benefits, see: <http://www.bls.gov/bls/wages.htm>.

Employment and wage estimates are also available from the Bureau of Labor Statistics for over 800 occupations. Looking at farming by occupation, rather than by sector or industry, is helpful since wages can vary dramatically across occupations. For more information on the most recent employment and wage estimates for Agriculture, Forestry, Fishing and Hunting (NAICS 11) by occupation, see: <http://www.bls.gov/oes>.

The Census of Agriculture web site provides county-level farm data for counties, available at: http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/index.asp.

For more information on employment and wages in non-farm industries, run the EPS-HDT Socioeconomic Measures report.

Data Sources

U.S. Department of Labor. 2011. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

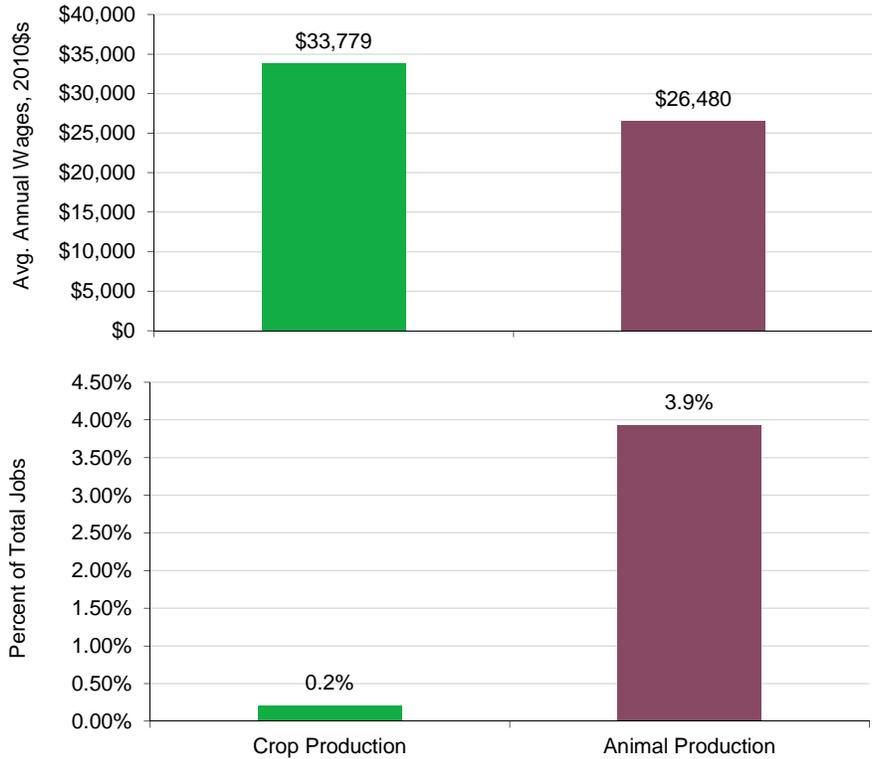
How do farm jobs and wages compare?

This page describes average wages (in real terms) and employment levels in crop and animal production. It also shows average wage trends (in real terms) for these farm sectors.

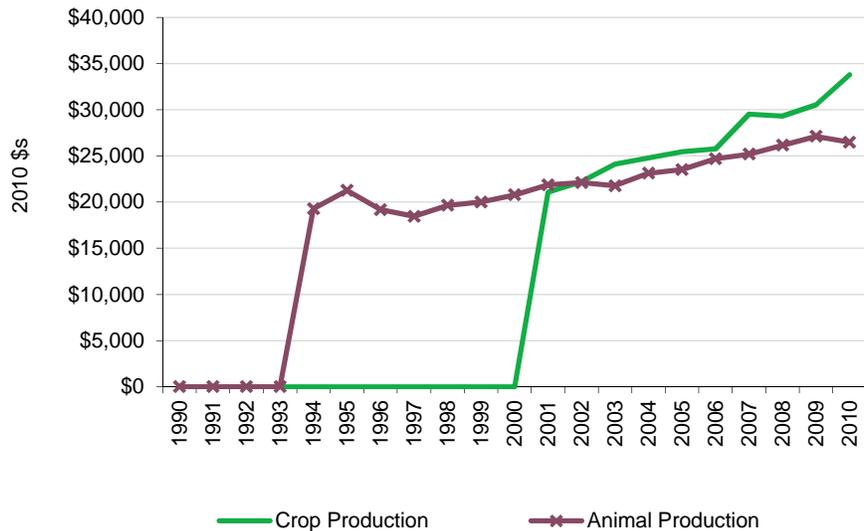
Avg. Annual Wages and Percent of Total Employment in Crop and Animal Production, County Region, 2010

- In 2010, average annual wages in crop production were \$33,779 and average annual wages in animal production were \$26,480.

- In 2010, crop production jobs were 0.2 percent of total employment and animal production jobs were 3.9 percent of total employment.



Avg. Annual Wages in Crop and Animal Production, County Region



Data Sources: U.S. Department of Labor. 2011. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

Study Guide and Supplemental Information

How do farm jobs and wages compare?

What do we measure on this page?

This page describes average wages (in real terms) and employment levels in crop and animal production. It also shows average wage trends (in real terms) for these farm sectors.

The figure *Avg. Annual Wages and Percent of Total Employment in Crop and Animal Production* is useful for describing how many people are working in relatively high and low-wage farm sectors. The figure *Avg. Annual Wages in Crop and Animal Production* is useful for comparing wage trends by farm sector.

Farm: This refers to all forms of agricultural production, including livestock operations.

Why is it important?

Not all components of the farm industry pay the same wages or employ the same number of people. Some important issues to consider are how farm industry wages compare to wages in other sectors, whether crop and animal production pay different wages, and if there are significant wage differences between geographies.

A significant increase in farm jobs that pay below the average for all industries will decrease overall average earnings per job. On the other hand, a significant increase in farm jobs that pay above the average for all industries will increase overall average earnings per job. A modest change in farm employment, especially when this industry is a small share of total employment, will not likely affect average earnings in a local area.

Methods

The wage and employment data on this page are from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.

The components of farm on this page (NAICS 111 crop production and NAICS 112 animal production) do not include agricultural services (NAICS 115 support activities for agriculture and forestry) because this category mixes farm and non-farm services.

The figure *Avg. Annual Wages in Crop and Animal Production* starts in 1990 because this is the first year these wage data are available from the Bureau of Labor Statistics.

Depending on the geographies selected, some data may not be available due to disclosure restrictions.

Additional Resources

For an overview of how the Bureau of Labor Statistics treats employment, see: <http://www.bls.gov/bls/employment.htm>.

For an overview of how the Bureau of Labor Statistics treats pay and benefits, see: <http://www.bls.gov/bls/wages.htm>.

If there are significant undisclosed data on this page, options for ascertaining wages data for farm sectors include:

The Bureau of Labor Statistics' Quarterly Census of Employment and Wages data for industries at the state level is available at: <http://data.bls.gov:8080/PDQ/outside.jsp?survey=en>.

The Bureau of Labor Statistics' Occupational Outlook Handbook, 2010-2011 Edition, which has detailed industry earnings and wages data at the national level, is available at <http://www.bls.gov/oco>.

The Bureau of the Census' County Business Patterns database, which reports industry-level employment and payroll and can be used to estimate earnings, is available at <http://www.census.gov/econ/cbp/index.html>.

Data Sources

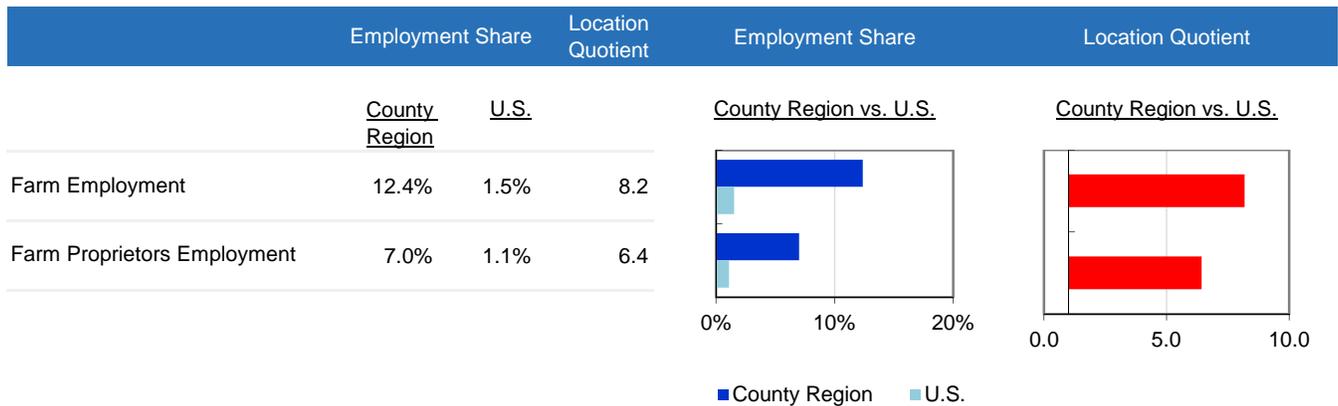
U.S. Department of Labor. 2011. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

How does regional farm employment compare to the U.S.?

This page describes how the region is specialized (or under-specialized) in farm employment. The figure illustrates the difference between the region and the U.S. by comparing farm jobs, including proprietors, as a share of total employment and with location quotients.

Location quotient: A ratio that compares an industry's share of total employment in a region to the national share. More precisely, it is the percent of local employment in a sector divided by the percent of employment in the same sector in the U.S. In other words, it is a ratio that measures specialization, using the U.S. as a benchmark. A location quotient of more than 1.0 means the local area is more specialized in that sector relative to the U.S. A location quotient of less than 1.0 means it is less specialized.

Percent of Total Farm Jobs, County Region vs. U.S., 2009



- In 2009, farm employment had the highest location quotient score (8.2) and farm proprietors employment had the lowest (6.4).

Study Guide and Supplemental Information

How does regional farm employment compare to the U.S.?

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Farm: This refers to all forms of agricultural production, including livestock operations.

The term "benchmark" in this report should not be construed as having the same meaning as in the National Forest Management Act (NFMA).

Why is it important?

Agricultural employment in most parts of the U.S. has been declining, largely as a result of mechanization and other efficiencies of scale, for most of the last century. Nevertheless, it is still an important source of jobs in many places. This page shows a measure of importance (employment share) relative to the U.S.

A useful way to think about location quotients is as a measure of whether a place or geography produces enough goods or services from an industry to satisfy local demand for those goods or services. Results above or below the 1.0 standard indicate the degree to which a place or geography may import or export a good or service. Although there is no precise cutoff, location quotients above 2.0 indicate a strong industry concentration (and that an area is likely exporting goods or services) and those less than .5 indicate a weak industry concentration (and that an area is likely importing goods or services).

A few caveats: (1) A large location quotient for a particular sector does not necessarily mean that sector is a significant contributor to the economy. (2) LQs greater than 1.0 only suggest potential export capacity when compared to the U.S. and do not take into account local demand. Local demand may be greater than a national average, and therefore all goods and services may be consumed locally (i.e., not exported). (3) LQs can change from year to year. (4) LQs can vary when income or wage data are used rather than employment.

Methods

$LQ = (e_i/e) \text{ divided by } (E_i/E)$

Where: e_i = Local employment in industry i ; e = Total local employment; E_i = U.S. employment in industry i ; E = Total U.S. employment.

Additional Resources

For a review of literature on economic diversity, see Sterling, Andrew. 1998. "On the Economics and Analysis of Diversity." Electronic Working Papers Series, University of Sussex, available at: www.sussex.ac.uk/Units/spru/publications/imprint/sewps/sewp28/sewp28.pdf; and Malizia, E. E. and K. Shanzai. 2006. "The Influence of Economic Diversity on Unemployment and Stability." *Journal of Regional Science*. 33(2): 221-235.

A useful book on the evolving competitive environment for commodity industries in rural areas is: Gaston, William A., and Karen J. Baehler. 1995. *Rural Development in the United States: Connecting Theory, Practice, and Possibilities*. Washington: Island Press.

A succinct definition of a location quotient is offered by Florida State University's Department of Urban and Regional Planning: <http://mailer.fsu.edu/~tchapin/garnet-tchapin/urp5261/topics/econbase/lq.htm>.

For an example of location quotients used in a regional economic study, see: [http://wwjobcenter.org/2009%20SOW%20Report\(FINAL\).pdf](http://wwjobcenter.org/2009%20SOW%20Report(FINAL).pdf).

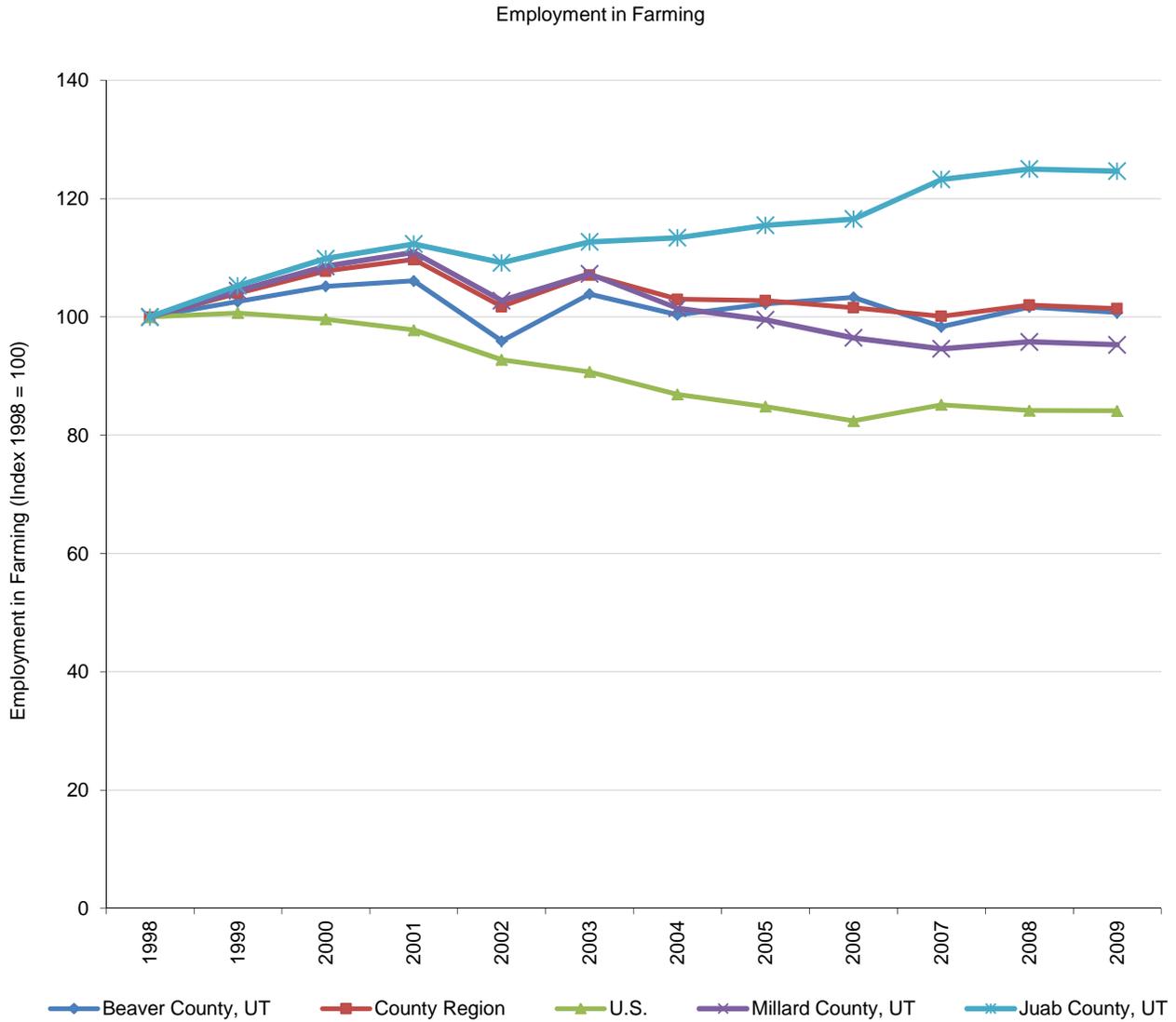
The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: <http://www.ers.usda.gov/Publications>.

Data Sources

U.S. Department of Commerce. 2011. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25N.

How does farm employment change compare across geographies?

This page compares the change in farm employment for the geographies selected and the U.S. The information is indexed (1998=100) so that data from geographies with different-size economies can be compared and to make it easier to understand the relative rate of growth or decline of services employment over time.



- From 1998 to 2009, Juab County, UT had the fastest rate of change in farm employment and Beaver County, UT had the slowest.

Study Guide and Supplemental Information

How does farm employment change compare across geographies?

What do we measure on this page?

This page compares the change in farm employment for the geographies selected and the U.S. The information is indexed (1998=100) so that data from geographies with different size economies can be compared and to make it easier to understand the relative rate of growth or decline of services employment over time.

Index: Indexed numbers are compared with a base value. In the line chart, employment in 1998 is the base value, and is set to 100. The employment values for subsequent years are expressed as 100 times the ratio to the base value. The indexing used in the line chart enables easier comparisons between geographies over time.

Farm: This refers to all forms of agricultural production, including livestock operations.

The term "benchmark" in this report should not be construed as having the same meaning as in the National Forest Management Act (NFMA).

Note: If many geographies are selected, it may be difficult to read the figure on this page.

Why is it important?

Agricultural employment in most parts of the U.S. has been declining, largely as a result of mechanization and other efficiencies of scale, for most of the last century. However, this is not the case everywhere. In addition, not all geographies have lost or attracted farm employment at the same rate. An index makes it clear where the rate of farm decline or growth has been the fastest. Lines below 100 indicate absolute decline while those above 100 show absolute growth. The steeper the curve, the faster the rate of change.

It may be helpful to look for large year-to-year rises or dips in figure lines to identify rapid employment changes. If the reasons behind these fluctuations are not evident, it may be helpful to talk with regional experts or locals to learn more about what caused abrupt changes.

Methods

This line chart begins in 1998 in order to be consistent with other EPS-HDT sector reports which use data from the Census Bureau's County Business Patterns.

Additional Resources

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: <http://www.ers.usda.gov/Publications>.

For the Economic Research Service's outlook on livestock, dairy, and poultry production, see: <http://www.ers.usda.gov/Publications/LDP>.

For the Economic Research Service's outlook on crop production, see: <http://www.ers.usda.gov/publications/outlook>.

The Bureau of Labor Statistics provides an overview and outlook of the farm industry (as part of agriculture, forestry, and fishing). See: <http://www.bls.gov/oco/cg/cgs001.htm>.

A useful book on the evolving competitive environment for commodity industries in rural areas is: Gaston, William A., and Karen J. Baehler. 1995. Rural Development in the United States: Connecting Theory, Practice, and Possibilities. Washington: Island Press.

Data Sources

U.S. Department of Commerce. 2011. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA25 & CA25N.

Data Sources & Methods

Data Sources

The EPS-HDT Agriculture report uses published statistics from government sources that are available to the public and cover the entire country. All data used in EPS-HDT can be readily verified by going to the original source. The contact information for databases used in this profile is:

- **Regional Economic Information System**
Bureau of Economic Analysis, U.S. Department of Commerce
<http://bea.gov/bea/regional/data.htm>
Tel. 202-606-9600
- **Quarterly Census of Employment and Wages**
Bureau of Labor Statistics, U.S. Department of Labor
<http://www.bls.gov/cew>
Tel. 202-691-6567
- **Census of Agriculture**
Nat. Agricultural Statistics Service, U.S. Dept. Agriculture
<http://www.agcensus.usda.gov>
Tel. 800-727-9540

Methods

EPS-HDT core approaches

EPS-HDT is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers.

EPS-HDT displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time.

EPS-HDT employs cross-sectional benchmarking, comparing smaller geographies such as counties to larger regions, states, and the nation, to give a sense of relative performance.

EPS-HDT allows users to aggregate data for multiple geographies, such as multi-county regions, to accommodate a flexible range of user-defined areas of interest and to allow for more sophisticated cross-sectional comparisons.

SIC to NAICS

For over sixty years, starting in the 1930s, the Standard Industrial Classification (SIC) system has served as the structure for the collection, aggregation, presentation, and analysis of the U.S. economy. Under SIC, which employed a four-digit coding structure, an industry consists of a group of establishments primarily engaged in producing or handling the same product or group of products or in rendering the same services. As the U.S. economy shifted from a primary emphasis on manufacturing to a more complex services economy, SIC became less useful as a tool for describing the economy's changing industrial composition.

The North American Industry Classification System (NAICS), developed using a production-oriented conceptual framework, groups establishments into industries based on the activity in which they are primarily engaged. NAICS uses a six-digit hierarchical coding system to classify all economic activity into twenty industry sectors. Five sectors are mainly goods-producing sectors and fifteen are entirely services-producing sectors.

County Business Patterns started organizing their data using NAICS in 1998, Census in 2000, and Bureau of Economic Analysis' Regional Economic Information System in 2001. Because the methods underlying SIC and NAICS are fundamentally different (what was sold vs. how it was produced), NAICS is not backward compatible with SIC. There are a few circumstances where it is acceptable to show uninterrupted trends across the SIC-NAICS discontinuity. Total personal income, total labor income, and non-labor income can all be plotted continuously without a problem. In addition, a few industries can also be plotted without a break, although this is not the case for services.

Adjusting dollar figures for inflation

Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS-HDT are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.