

## The Livestock Sector



USDA photo

# Where's the Beef?

## Small Farms Produce Majority of Cattle

It may come as a surprise to many that small operations produce the majority of beef cattle in the U.S., and control 74 percent of the land dedicated to beef cattle production. Three quarters of the nation's beef cattle spend at least some portion of their life on a small farm.

Small beef operations vary substantially in size and in their access to labor and other inputs. Some operators are full-time farmers, while others rely largely on off-farm income. As a result, the needs of these operations may differ—among themselves and compared with large operations—in areas like production, marketing, and land stewardship. Their contributions to the beef industry warrant an effort to better understand the similarities and differences.

### How U.S. Beef Cattle Are Produced

Beef cattle operations take three basic forms: cow-calf, stocker, and fed cattle. All three of these production systems may occur on small farms. On a cow-calf operation, a breeding herd is managed with a small number of bulls, while steer calves (young neutered males), a portion of heifer calves (young females), and non-produc-

tive cows are sold each year to generate income. Traditionally, cow-calf operations have been small-farm operations.

Stocker operations purchase calves from cow-calf operators, and put the animals out to pasture for part of the year to gain weight. Stocker operations then either 1) feed the animals on grain (finishing) and sell them directly to slaughterhouses when they have reached full size, or 2) sell them as yearlings to fed-cattle operations.

Fed-cattle operations place long and short yearlings (14-24 months old and 10-14 months old) on feedlots, where they are fed grain and specially formulated concentrates until they reach optimal slaughter weight and grade. The next step is to sell the cattle to beef packers for processing. Fed-cattle operations are usually larger farms or full-time small farms.

Half of all farms in the U.S. have beef cattle on their operations, including farms classified as feedlots. Beef cattle production is compatible with, and often occurs in conjunction with, other agricultural production such as cash grains. A crop and beef cattle operation is a logical combination, as cattle can graze on residual acreage not suitable for higher value production and can consume post-harvest vegetation

(such as corn stalks) that otherwise has little value. Such a mix also lowers producers' price and other risks that are common to single-commodity operations.

However, on many small farms beef cattle production is the primary enterprise. This is particularly true for those located in areas that are less well suited to crop production and for those run by part-time operators. These farmers can more easily combine off-farm employment with the farm tasks required to raise beef cattle, which are less labor-intensive than crop production.

Cattle lend themselves quite nicely to a low-input production process, which is well suited to many small farms. Except in winter, or other periods of adverse weather conditions when forage may be unavailable, cattle are fairly self-sufficient. Unlike hogs or chickens, cattle can roam freely with little direct supervision except during calving season. Thus, beef cattle require a much smaller labor input than many other competing agricultural products.

Moreover, cattle production, especially on a small operation, is a relatively low-cost pursuit. Variable costs associated with beef cattle (e.g., feed, medicine) are generally lower than those associated with field crops. Fixed costs such as for land, access to water, fencing, and corrals, while constituting the largest costs of cattle operations, nevertheless have a relatively long life. For example, once the investment is made in fencing and corrals, only regular maintenance and repair is required to keep them usable.

### Small Beef Operations: A Range of Characteristics

Analysts from USDA's Economic Research Service (ERS) grouped data from the Agricultural Resource Management Survey (ARMS) using the ERS farm typology, to study the characteristics of small beef cattle operations within each farm category. The analysis provides a picture of the average farm in each category, with some clues to likely needs of these producers.

Small enterprises producing beef cattle in the U.S. can be roughly divided into two

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### Characteristics of Small Operations Raising Beef Cattle

	Limited resource	Retirement	Residential/lifestyle	Farming occupation Lower sales	Higher sales
Farms with beef cattle (1,000)	96	150	451	216	64
	<i>Number</i>				
<b>Average</b>					
Acres operated	130	350	203	746	2,047
Beef cattle and calves	24	49	34	81	172
Beef cows	13	30	18	46	96
	<i>Percent</i>				
<b>Tenure*</b>					
Acreage owned	48	84	61	65	55
Acreage cash leased	29	14	27	32	36
Acreage share leased	11	2	4	4	13
	<i>Number</i>				
<b>Average sold</b>					
Calves under 500 pounds	6	10	7	12	16
Cattle over 500 pounds	3	13	7	24	84
	<i>Percent</i>				
<b>Percent of sales</b>					
Calves under 500 pounds	6	16	31	26	10
Cattle over 500 pounds	1	7	12	19	20
Share of total value of beef cattle production	1	6	12	15	14

\*May not add to 100 due to acreage owned but not operated, or acreage used rent-free.  
Source: 1997 Agricultural Resource Management Survey, USDA.

Economic Research Service, USDA

groups: full-time operations for which agricultural production is a significant source of income, and part-time operations for which it is not.

#### Full-Time Farms with Beef Cattle

**Operations.** Producers on small beef cattle farms who identify themselves as “full time” (farm typology categories farming occupation/low sales, and farming occupation/high sales) hold more than half of all cattle and calves on small farms. Their average herd size is substantially larger than on part-time operations, and includes a higher ratio of cattle to calves. Among small beef cattle operations, full-time farmers and ranchers also sell the largest share of cattle over 500 pounds.

These characteristics reflect the full-time status of the operators who have the time, labor, feed, and land inputs necessary to grow out calves to long yearlings and heavier weights before selling them to feedlots for finishing. The full-time operations control much larger acreage than their part-time counterparts, including a larger share of leased land.

At the same time, the average full-time farmer raising beef cattle receives a larger share of income from crop production than from beef production. On average, less than 50 percent of the total value of production on their operations comes from raising beef.

For the full-time small farmer, beef cattle provide a supplemental income source in the traditional mixed-output agricultural enterprise—these operators generate 29 percent of total value of U.S. beef production. The beef cattle enterprise also provides a hedge against falling crop prices. For example, if market prices of field crops decline, a beef cattle producer can feed cattle with a portion of the harvest instead of selling directly at low prices.

#### Part-Time Farms with Beef Cattle

**Operations.** The most numerous group of beef cattle producers is not actually in the business of farming. This “part-time” group includes small farmers who derive most of their income from other sources (typology categories retirement and residential/lifestyle) and small farmers who have very low incomes and assets overall (limited-resource). These three types of

### Farm Typology & ARMS Shed Light on Small Beef Farms

The farm typology developed by USDA’s Economic Research Service (ERS) provides a useful tool for characterizing the differences among small beef operations. The typology captures differences in both size and organizational structure.

*Nonfamily* owned farms constitute one category in the typology, and large family farms fall into two categories—*very large* farms (sales of \$500,000 or more), and *large* (sales from \$250,000-\$499,999).

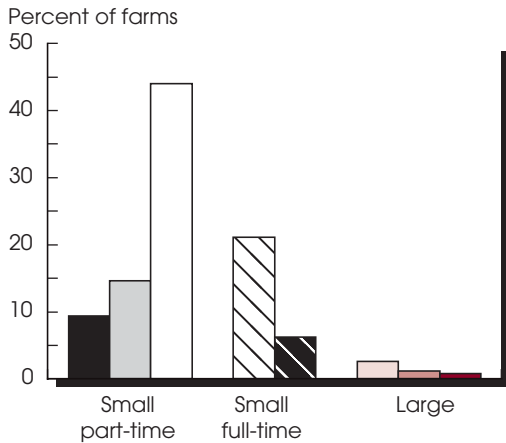
Small family farms are divided into five categories, providing analysts with the opportunity to examine their characteristics more closely. Two categories account for family farms on which the operators work primarily on the farm—*higher sales* (sales of \$100,000-\$249,999) and *lower sales* (sales under \$100,000). Two other categories—*residential/lifestyle* and *retirement*—include farms on which the operators report either that they are retired or that they have primary occupations other than farming. The last category—*limited-resource*—include farms with sales below \$100,000, farm assets of less than \$150,000, and household income under \$20,000.

Using the typology to stratify the data, the Agricultural Resource Management Survey (ARMS) yield a wealth of information on the characteristics of small beef operations. The ARMS, developed jointly by ERS and the National Agricultural Statistics Service, gathers data on production and financial characteristics of all types of operations in an annual sample of U.S. farms. Data here are from the 1997 ARMS.

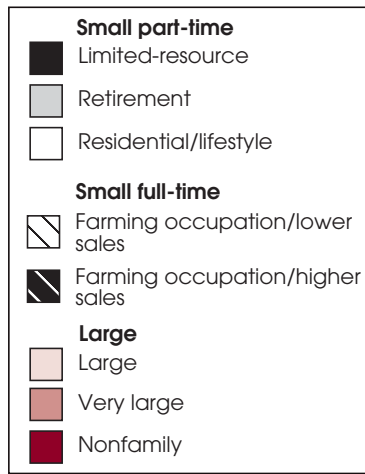
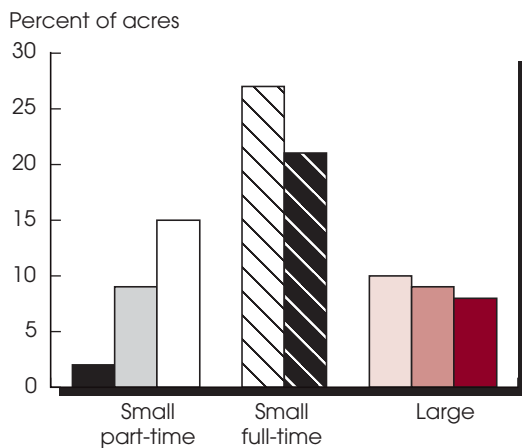
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## Among the Farms Raising Beef Cattle. . .

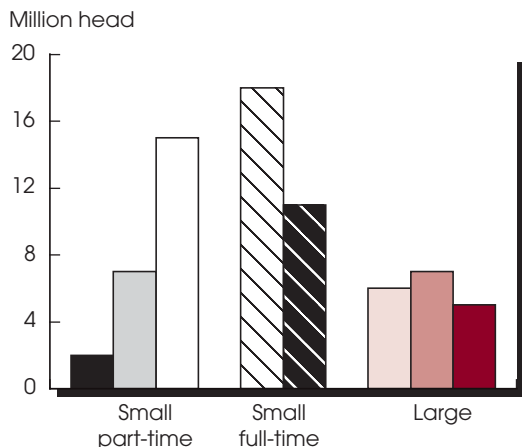
### . . .Most are part-time



### Small Operations Control Most of the Land. . .



### . . .and Account for the Largest Number of Cattle



Source: 1997 Agricultural Resource Management Survey, USDA.  
Economic Research Service, USDA

small “part-time” operations together account for 68 percent of all operations producing beef cattle. And although agricultural production is not the primary source of income for these farms, in aggregate they produce 34 percent of all beef cattle and calves in the U.S., despite smaller average herd sizes and acreage devoted to beef production.

*Retirement and residential/lifestyle producers* may operate farms because they enjoy a rural lifestyle, or they may view their operations as an investment and place to spend time. Retired farmers’ part-time operations may be a final stage in a life of agricultural production. For these small farmers, beef cattle production is a logical choice since it requires lower inputs of time and labor for a steady (if smaller) income stream than labor-intensive agriculture such as field crop production. In fact, for both these categories of part-time beef cattle operations, well over half the value of agricultural production comes from cattle: 58 percent for residential/lifestyle farms and 66 percent for retirement farms.

Lower use of inputs needed to raise beef cattle also likely accounts for the relatively large number (96,000) of *limited-resource* farms that produce beef cattle. These operations still generally derive a larger share of their value of production from crops (54 percent), however.

### Implications for Policy

The characteristics of the various types of beef operations suggest several likely areas in which program or policy needs may vary among small operations or differ from those of large operations. Full-time operations produce a significant number of cattle, accounting for nearly 30 percent of the value of total beef cattle production, and nearly 60 percent of the value of beef cattle production on small farms. These full-time operations also sold more cattle than calves, at a ratio of over 2 to 1, indicating they are concentrating their production on heavier yearling cattle, rather than on providing calves for stocker enterprises. These operations, on which the owners devote the bulk of their time to farming, might be helped by production and marketing assistance tailored to smaller operations, to help them

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improve their competitiveness as cattle producers.

Full-time operations also receive a higher percentage of the value of their farm's production from crops, in part because they have the time and labor necessary to devote to field crop production. These operators may benefit from assistance with crop production, to help them diversify risk, increase their own production of feed needs for their cattle, and balance downturns in the beef cattle market.

Part-time operations, on the other hand, produce a much lower proportion of the value of beef cattle. Their sales of cattle and calves are about equal, indicating they may be focusing on production of calves for sale, rather than growing out stocker calves or feeding cattle themselves. Part-time operations generally have limited access to labor and other inputs, making concentration on producing calves a good choice, since cow-calf pairs are essentially self sufficient and require little outside monitoring or labor input. These operations provide an important input for large stocker operations that concentrate on the grow-out phase of cattle production.

Full-time farmers and ranchers, because their livelihoods are dependent on agricultural production, may benefit most from programs that provide production-related assistance. Both full- and part-time operations, however, may benefit from programs and policies focused on land use. In aggregate, small beef operations control 74 percent of all acreage on which U.S. beef cattle are produced, making them de facto pasture and rangeland managers.

Even though many small farms and ranches with beef cattle are on environmentally fragile land, only 2 percent of this land, a total of 10.9 million acres, is enrolled in either of the major Federal land retirement programs—the Conservation Reserve and Wetland Reserve Programs. But small beef operators might benefit from *working lands* conservation programs tailored to pasture and rangeland use. Given the sizable combined landholdings of these beef producers, the effects of such tailored land use and conservation policies could be quite large on a national scale. **AO**

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### Upcoming Reports—USDA's Economic Research Service

The following reports are issued electronically at 4 p.m. (ET) unless otherwise indicated.

[www.ers.usda.gov](http://www.ers.usda.gov)

#### December

- 2** *Outlook for U.S. Agricultural Trade*\*\*
- 10** *World Agricultural Supply and Demand Estimates (8:30 a.m.)*
- 11** *Oil Crops Outlook*\*\*  
*Cotton and Wool Outlook*\*\*  
*Rice Outlook*\*\*
- 12** *Feed Outlook (9 a.m.)*\*\*  
*Wheat Outlook (9 a.m.)*\*\*
- 13** *Livestock, Dairy, and Poultry Situation and Outlook*\*\*
- 16** *Vegetables and Melons Outlook*\*\*
- 18** *Tobacco Yearbook*\*
- 19** *U.S. Agricultural Trade Update*\*\*

\*Release of summary.

\*\*Electronic newsletter.

**2002**  
CENSUS OF  
AGRICULTURE

## The Census of Agriculture is Coming

The 2002 Census of Agriculture will appear in farmers' and ranchers' mailboxes in late December. Response is due February 3, 2003.

The census will provide the official facts representing all U.S. producers and commodities.

Data will be released at [www.usda.gov/nass/](http://www.usda.gov/nass/) on February 3, 2004.

**AGRICULTURE COUNTS!**



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National Agricultural Statistics Service