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# A Profile of Female Farmers in America

Judith Z. Kalbacher

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## **Abstract**

Although the number of U.S. farms is dropping, the number of female farmers is rising. In 1978, about 128,000, or 5.2 percent of all U.S. farmers, were women. They tend to run smaller farms and earn less than their male counterparts. They are also older and more likely to be full owners of the land they farm.

Key words: Female farmers, farm operators, U.S. farmers.

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*Cover photo: John Colwell, Grant Heilman Photography.*

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## SUMMARY

Although the number of U.S. farms is dropping, the number of female farmers is rising. In 1978, about 128,000, or 5.2 percent of all U.S. farmers, were women. They tend to run smaller farms and earn less than their male counterparts. Also they are older and more likely to be full owners of the land they farm. This study, using agricultural census data, finds that:

- The 16 Southern States contain 53 percent of all female-operated farms, while 26 percent are in the Midwest, compared with 40 percent of male-operated farms in the South and 42 percent in the Midwest.
- While most male and female farmers are full owners of their land, more men rent some or all of the land they farm. The high proportion of female farmers as full owners is consistent with the fact that full ownership has become associated with moderate or small-scale U.S. farming.
- Income from farm and off-farm sources is lower on most female-operated farms, and more of them have small volumes of farm-product sales. The average household income on female-operated farms was just over \$16,000 in 1979, compared with \$26,000 on male-operated farms. Also, about 83 percent of all female farmers reported gross farm sales under \$20,000 in 1978, compared with 63 percent of all male farmers.
- Both men and women most often run livestock and cash grain farms. Women not engaged in livestock or cash grain farming most often run tobacco, other field crop, fruit and nut, or animal specialty farms (mostly horse breeding). Men not engaged in livestock and cash grain farming most frequently operate dairy farms, followed by tobacco and other field crop enterprises.
- The median age for female farmers is 59.0 years, compared with 50.5 years for men. The age difference is partly due to the large number of women who inherit farms upon their husbands' deaths; as more women enter farming occupations, their median age should drop.
- Both male and female operators of small-scale farms are more likely than those running large farms to work off the farm, but women are less likely to work off the farm than men, regardless of farm size. Husbands on female-operated farms are less likely than wives on male-operated farms to work off the farm.
- Only 37 percent of female operators reported any farm or nonfarm debt in 1979, compared with 58 percent of male operators. Average debt on all female-operated farms was \$45,000, compared with \$84,000 on male-operated farms.

# A Profile of Female Farmers in America

Judith Z. Kalbacher\*

## Introduction

Nearly 7 million people lived in farm operator households in 1979, or just over 3 percent of the Nation's population.<sup>1</sup> These farm people include about 2.5 million farm operators, 2.1 million spouses, and 2.5 million children and other household members—most of whom perform a variety of farm functions. As of 1978, about 128,000, or 5.2 percent of all U.S. farmers, were women.

This report profiles female farmers, highlighting ways in which their personal and farm characteristics differ from those of male farmers. Limited information on farmers' spouses and other household members is also provided.

Farm women in the past were associated with traditional duties such as running the household or helping with chores during busy times. But awareness of the wide range of farm tasks actually performed by women has increased.<sup>2</sup> Today, more women are involved in farming as sole or primary operators of their farms or as full partners or co-managers of enterprises primarily run by their husbands or other family members. These changes are reflected in the growing literature on farm women.<sup>3</sup> Early studies focused on farm women as wives and homemakers, but emphasis has now shifted to their involvement in farm chores such as record-keeping, decisionmaking, and management. Although research on women in farm operation and management roles is still limited, data from the 1978 Census of Agriculture (the first to publish comprehensive data on farms by sex of operator) and the followup Farm Finance Survey in 1979 permit the first and most re-

cent detailed description of that part of the farm sector run by women. The agricultural census provides statistics on the Nation's farms and ranches. Information focuses largely on farm characteristics, but includes some data on farm operators. As part of the agricultural census, Farm Finance Survey data are collected to obtain detailed financial and related information on the farm operation and household. This source provides additional social and economic data not elsewhere available on farm operators by sex, as well as limited characteristics of their spouses and households.

## Perspective

Like their male counterparts, the 128,000 U.S. female farmers own or lease farmland, make most of the day-to-day decisions about the farm operation, and perform or oversee farmwork, according to the Census. They farm for varied reasons, which commonly involve making a living, independence of running one's own business, love of the land, and enjoyment of working with animals. According to one female farmer, "It is not really the act of farming that makes it worthwhile, but rather what it does for you. Working and owning land gives you something to take pride in, a sense of self-esteem. Farming is a way of life that gives you a closeness with nature and feeling of freedom."

Not all farmers are equally affected by developments in agriculture.<sup>4</sup> To reduce the likelihood of creating programs which are insensitive to the needs of minority segments of the farm sector, public policymakers and firms conducting business with farmers need to consider those who may not have successfully communicated their interests. Female farmers differ from their male counterparts in some important ways and face a different set of problems as a result. In some cases, these problems limit their chances of survival in farming or at least make survival more difficult. Identifying female farmers and their farms and comparing

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<sup>1</sup>Data in this report are taken largely from published and unpublished tabulations of the 1978 agricultural census (24, 25). Italicized numbers in parentheses refer to items in the References.

<sup>2</sup>Farm women's participation in various farm tasks is examined in (10, 18).

<sup>3</sup>An historical perspective and extensive literature review are contained in (2, 13). For an historical analysis and feminist perspective of women's involvement in agricultural production, see (14). Major bibliographies on farm women include (6, 11).

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<sup>4</sup>Detailed analysis of major trends in agriculture is presented in (16, 22). For the current situation in the production and financial structure of U.S. farming, see (8).

them with the majority male operator population can lead to a fuller understanding of women's problems as agricultural producers.

One particularly pressing problem for female farmers is establishing credibility as farmers. Because of the public's reluctance to deal with inexperienced farmers, female operators may encounter obstacles in marketing their products, obtaining credit, hiring farmworkers, or leasing additional farmland. Women not only face the physical rigor and stress associated with operating a farm, but must also prove themselves to a farm community unaccustomed to thinking of women as agricultural producers. Hence, this research will contribute to a greater awareness of women's role in the agricultural community and economy.

Although changes in Federal inheritance tax laws make it financially easier for farmers (especially farm women) to keep their farms after their spouses' deaths, State laws still vary with respect to taxes and property rights.<sup>5</sup> Thus, farm women need to establish their legal status and involvement on the farm to facilitate their assumption of these and various other aspects of the farm operation. Those women with higher visibility and greater involvement in farming with their husbands will, upon widowhood, have less trouble establishing credibility as independent farmers and probably encounter fewer problems conducting their businesses.

Another consideration is that because of physical differences related to their sex and generally older age, farm women may constitute a specialized market for companies which supply goods and services to farmers. Companies could make farm equipment easier to handle or bag supplies in lighter weight packages, for example.

New concerns may surface as more becomes known about women in farm operation and management roles. Since this report identifies ways in which female farmers differ from their male counterparts, it should prove useful in determining farm women's specialized needs in program development.

## Number and Location of Female Farmers

Agricultural census data indicate that more women are becoming involved in farming as sole or primary

operators of farms. Changing attitudes about women's roles in general make women more likely to be identified as farmers than as unpaid family laborers as was the case a decade ago. Reporting procedures, however, still keep the number of female farm operators understated in the Census of Agriculture, the most comprehensive source of information on the agricultural economy.<sup>6</sup> Most farm wives do some farmwork and many fully share the responsibility of running the farm with their husbands, but agricultural census procedures designate only one person per farm as official operator. Farm couples make this designation, and in a husband and wife arrangement, the husband is usually selected. Although the agricultural census does not collect information on all women engaged in farming activities, data on those who operate farms are provided. The 1978 Census of Agriculture, the first to publish data on farms by sex of operator, found that 5.2 percent of the Nation's farms were operated by women. These women have primary responsibility for running their farms, many operating farms alone. They may be widows or have husbands who work off the farm or are retired.

Other sources show that the number of female farmers is increasing. Decennial population censuses, the only historical data available with breakdowns by sex, define farmers and managers to include all persons principally employed as farmers or farm managers during the reference week, regardless of operator status. This category excludes persons with secondary jobs on farms, many small and part-time farmers who also have off-farm employment. This census found that women employed principally as farmers or farm managers increased from about 3 to 10 percent of the total between 1950 and 1980. The greatest gain occurred since 1970, when women accounted for just 5 percent of the total. The doubling of that percentage between 1970 and 1980 represents an increase from 71,000 to slightly over 127,000 female farmers and farm managers. In comparison, the number of male farmers and farm managers fell from about 1.4 to 1.2 million over the same period.

Slightly more than 50 percent of all female-operated farms are located in the South, largely in Texas, Kentucky, and Tennessee, according to the agricultural census (table 1 and app. table 1). Only 26 percent are

<sup>5</sup>The Economic Recovery Tax Act of 1981 (P.L. 97-34) eliminated Federal estate taxes on the transfer of a farm to a surviving spouse.

<sup>6</sup>For a broader discussion of the classification of women as farmers, see (17).

in the Midwest. In contrast, farms operated by men are more evenly distributed between the Midwest (42 percent of the male total) and the South (40 percent). The Northeast and West together contain only about 18 percent of the Nation's farms.

Women also operate the highest percentage of all farms in the South and the lowest in the Midwest. At the State level, this percentage ranges from a high of 13 percent in Hawaii and 10 percent in Florida and South Carolina, to a low of 2 percent in Minnesota, North Dakota, and Iowa.

There are more female farmers in the South because of:

- Past agricultural practices (southern women have always been actively involved in farming, historically as laborers in cotton and tobacco fields (14));
- Racial composition (a somewhat higher percentage of black and other minority race farmers than white farmers are women and minority farmers are most often located in the South);
- The generally greater propensity for older people to live in rural settings in the South (nearly half of all women operating farms, and over half of those located in the South are 60 years or older);
- The relative importance of livestock and tobacco farming (activities more common among female than male farmers); and

**Table 1—Geographic distribution of female farm operators, by age and race, 1978**

Area	Total	Percentage of each area's total farm operators	Percentage over 60 years of age	Percentage black and minority races
United States	128,170	5.2	47.5	6.0
Northeast	8,852	5.9	37.6	.5
Midwest	33,811	3.3	45.0	.9
South	68,470	6.7	52.2	9.0
West	17,037	5.9	38.6	7.4

Source: (25 and unpublished data from the 1978 Census of Agriculture).

- Availability of off-farm jobs (southern farm husbands are more likely than husbands outside the South to work off the farm, with their wives running the farm).

### Characteristics of Farms Operated by Women

Farms operated by women differ from those operated by men (table 2). Women usually run relatively small-scale operations in terms of acreage and value of agricultural products sold. The majority of both male and female farmers are full owners of their land. However, comparatively more men rent some or all of the land they farm. Livestock and cash grain enterprises are the most common farm types among both men and women.

### Land and Tenure of Operator

Forty-five percent of the Nation's total land area, over a billion acres, is farmland. Female farmers control 4 percent of this land. They own 31 million acres, rent or lease an additional 10 million acres from others, and rent or lease 4 million acres to others. Farms operated by women are usually smaller than those operated by men, averaging 285 acres compared with 423 acres for men (table 2). Thirty-nine percent of female-operated farms are less than 50 acres in size and just 8 percent have more than 500 acres. Twenty-seven percent of male-operated farms have fewer than 50 acres, and 16 percent are over 500 acres. Female-operated farms are smaller than male-operated units in all regions, but the average size of farm operated by women is largest in the West, which contains a disproportionate share of large commercial farms.

The amount of land per farm and the value of agricultural products produced vary greatly by tenure of operator. Operator tenure reflects ownership interest in the land farmed and is commonly summarized by three groupings: full owners own all the land they operate, part owners own some and rent the remainder of their land, and tenants rent all their land or work on shares for others. Because the cost of land may be prohibitive, renting or leasing additional farmland has become a common way for farmers to enlarge their operations. Partly as a result of this development, the part-owner land tenure arrangement accounts for a disproportionately large share of all

farmland and agricultural sales. Part-owner operations have become increasingly associated with commercial farming; full ownership, once considered the "ideal" for a farming operation, is now associated with moderate or small-scale farming (7). Tenant farms are also larger and have greater product sales than full-owner operations:

U.S. farms by tenure of operator, 1978

Item	Full owners	Part owners	Tenants
Farms (percent)	58.5	28.7	12.6
Farmland (percent)	30.6	57.1	12.4
Average farm size (acres)	205	780	384
Average value of agricultural products sold (dollars)	28,135	73,530	46,731

Nearly 80 percent of female farmers are full owners of their land; only 20 percent rent any of the land they operate (table 2). Men operate comparatively fewer full-owner farms and more part-owner and tenant farms. Although the proportion of farms in each tenure category varies geographically, these same basic patterns exist in all four regions.

Part-owner female farmers also tend to run the largest farms with the greatest product sales, followed by tenants (table 3). Regardless of tenure status, however, the value of agricultural products sold is generally lower on female than male operations.

More female than male farmers may be full owners because female farmers generally are older.<sup>7</sup> Age, in fact, explains many differences in farm characteristics.<sup>8</sup> Older farmers, regardless of sex, generally reduce their farming activities and are not likely to rent additional land. Thus, they are more likely to be full owners of their land, run smaller operations, and receive lower

<sup>7</sup>The median age of female farmers is just under 60, which will be used as a basis for separating the group into younger and older components. The median for male farmers is just over 50 years.

<sup>8</sup>A recent report based on data from a 1978 USDA survey of farmland owners, which include owners of farmland regardless of operator status, also notes the importance of age in terms of farmland ownership (7).

farm incomes—all typical of female farmers. Only 16 percent of the women age 60 and over, compared with 27 percent of those under age 60, rent any farmland from others (table 3). Accordingly, the proportion of full owners is higher for the older group.

Female farmers are more likely than their male counterparts to rent some of their land to other farmers (19 percent compared with 11 percent). The practice of renting farmland to others is especially attractive to older retired and semi-retired farmers as a means of supplementing retirement income. Twenty-three percent of female farmers over 60 rent some land to other farmers, compared with about 15 percent of younger female farmers. The older group accounts for 60 percent of the farmland rented to others by female farmer landlords.

Differences in farm size and product sales between older and younger female farmers are shown in table 3. The larger average farm owned by older women may reflect the inheritance of relatively large holdings. The average values of land and buildings and agricultural sales show that younger female farmers are more production oriented than their older counterparts.

### Value of Agricultural Products Sold

Value of agricultural products sold, widely used to measure agricultural output, relates to gross market value of all farm product sales before taxes and production expenses in the reporting year. Farms are commonly classified by sales to form groups of similar size and characteristics for analytical purposes. As shown in table 2, farms operated by women are concentrated in lower sales classes. About 83 percent of female-operated farms reported less than \$20,000 in gross farms sales in 1978; only 63 percent of male-operated farms fell into this smaller farm category.<sup>9</sup> Conversely, about 22,000 female farmers reported sales over \$20,000.

Comparatively more female- than male-operated farms are in lower sales classes nationwide, although the distribution varies geographically. For both males and females, the proportion of larger farms is greatest in the Midwest; smaller farms are most dominant in the South.

<sup>9</sup>\$20,000 worth of agricultural sales is used in this report as the dividing line between large and small farming operations.



Table 2—Selected characteristics of farm operators, by region and sex, 1978

Item	United States		Northeast		Midwest		South		West	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	<i>Number</i>									
Farms	2,350,472	128,170	140,294	8,852	993,912	33,811	946,834	68,470	269,432	17,037
Average size of farm (acres)	423	285	170	114	360	241	314	226	1,166	701
	<i>Percent</i>									
Operators by tenure: <sup>1</sup>										
Full owners	57.5	78.7	61.8	78.9	52.0	76.8	61.0	80.5	63.0	74.8
Part owners	29.6	13.1	30.1	15.5	33.2	14.2	27.0	11.7	25.6	15.5
Tenants	12.9	8.2	8.1	5.6	14.9	9.0	12.0	7.8	11.4	9.7
Type of farm: <sup>1</sup>										
Cash grain	24.5	13.9	8.3	6.0	40.5	30.4	13.7	8.7	12.2	6.4
Cotton	1.3	.8	—	—	—	—	2.8	1.3	1.4	.7
Tobacco	5.6	8.6	.4	.2	.6	1.2	13.2	15.4	—	—
Other field crops	5.5	6.0	14.7	16.4	4.0	6.6	4.5	4.1	10.3	7.4
Vegetable and melon	1.4	1.4	4.5	4.1	.8	1.0	1.4	1.0	2.4	20.1
Fruit and nut	3.5	5.5	5.2	6.3	.9	1.4	2.2	3.7	16.9	20.1
Livestock	41.7	45.4	25.0	26.0	36.8	41.2	49.7	51.0	40.2	41.2
Dairy	7.0	3.9	25.3	12.7	9.4	7.2	2.6	1.6	3.8	1.7
Poultry	2.0	3.5	3.0	5.3	.9	1.3	3.2	4.7	1.3	1.8
Animal specialty	1.9	4.7	2.8	10.0	1.3	3.8	1.5	2.9	4.8	10.9
Horticulture	1.3	2.4	4.4	6.2	.6	1.3	1.2	2.0	2.3	4.4
General	4.3	4.0	6.4	6.5	4.3	4.6	4.0	3.6	4.5	3.3
Value of agricultural products sold: <sup>1</sup>										
\$40,000 or more	24.4	9.4	26.7	10.0	32.0	11.2	15.4	7.9	26.9	11.7
\$20,000 to \$39,999	12.6	7.7	10.7	7.2	17.0	11.8	8.7	5.6	11.2	8.4
\$10,000 to \$19,999	12.6	11.0	9.5	8.9	14.4	15.0	11.6	9.3	10.9	11.1
\$2,500 to \$9,999	26.4	33.9	24.2	28.1	22.0	34.9	32.3	35.0	22.8	30.5
Less than \$2,500	24.0	38.0	28.9	45.8	14.5	27.2	32.0	42.3	28.3	38.3

— = Zero or a percentage which rounds to less than 0.1.

<sup>1</sup>Excludes 2,268 male-operated and 34 female-operated abnormal farms (institutional farms, experimental and research farms, and Indian reservations).

Source: (25).

The differences in average market value of products sold, value of land and buildings, and number of acres per farm indicate that female-operated farms with sales of \$20,000 or more are significantly more production oriented than those in lower sales classes (table 4). These larger operations accounted for only 17 percent of all female-operated farms in 1978, but for 80 percent of female-produced items going to market.

Data on female-operated farms by sales classes clearly show the effects of tenure arrangements. A much higher proportion of women who operate large farms are part owners or tenants, while more women whose

farms are in the lower two sales classes are full owners. Full owners generally have fairly small operations, and many full owners work part time or are semi-retired. This finding is supported by the greater proportion of women of retirement age or older who operate farms in the lower sales classes and the relatively high proportion of these small-scale farmers who have off-farm employment.

### Type of Farm

Value of sales data are used to classify farms by type based on the importance of various commodities pro-

**Table 3—Selected characteristics of female farm operators, by tenure and age, 1978**

Item	Unit	Tenure of operator			Age of operator	
		Full owners	Part owners	Tenants	Under 60 years	60 years and over
Farms	No.	100,822	16,823	10,525	67,332	60,838
Average farm size	Acres	178	930	285	263	311
Average value of land and buildings <sup>1</sup>	Dollars	119,833	335,194	160,328	154,860	149,053
Average value of agricultural products sold	do.	14,126	39,658	19,859	20,119	15,545
Land rented by operator:						
Rent or lease land from others	Percent	.3	100.0	100.0	26.5	16.2
Rent or lease land to others	do.	21.4	11.2	5.6	14.6	23.3
Tenure of operator:						
Full owners	do.	100.0	NA	NA	73.7	84.1
Part owners	do.	NA	100.0	NA	16.1	9.8
Tenants	do.	NA	NA	100.0	10.2	6.1

NA = Not applicable.

<sup>1</sup>Data are based on a sample of farms.

Source: (25 and unpublished data from the 1978 Census of Agriculture).

**Table 4—Selected characteristics of female farm operators, by value of agricultural products sold, 1978**

Item	Unit	Value of agricultural products sold		
		Less than \$2,500	\$2,500 to \$19,999	\$20,000 or more
Farms	No.	48,692	57,531	21,947
Average size of farm	Acres	88	186	984
Average value of land and buildings <sup>1</sup>	Dollars	76,034	121,920	394,593
Average value of agricultural products sold	do.	1,130	7,357	83,022
Tenure of operator:				
Full owners	Percent	85.2	79.4	62.2
Part owners	do.	6.6	12.8	28.5
Tenants	do.	8.2	7.8	9.3
Age of operator:				
Under 60 years	do.	52.5	50.0	59.3
60 years and over	do.	47.5	50.0	40.7
65 years and over	do.	35.3	35.8	24.9
Median age	Years	59	60	57

<sup>1</sup>Data are based on a sample of farms.

Source: (25 and unpublished data from the 1978 Census of Agriculture).

duced.<sup>10</sup> According to these data, a large share of both men and women specialize in livestock farming (table 2). This farm type constitutes 42 percent of all farms operated by men, 45 percent of those run by women, and is by far the single leading type. Although the relative importance of farm type varies from region to region, livestock farms are most common in all regions.

The second largest farm class is cash grain. This type, largely concentrated in the Midwest, accounts for about 25 percent of all farms operated by men and 14 percent of those operated by women. Women not engaged in livestock or cash grain farming most often run tobacco, other field crop, fruit and nut, or animal specialty farms (mostly horse breeding). On the other hand, men not engaged in livestock and cash grain farming most frequently operate dairy farms, followed by tobacco and other field crop enterprises.

Farm types vary among female farmers (table 5). The percentage operating livestock farms, for instance, is greater among women who are older, full owners of their land, and run smaller operations. Cash grain

<sup>10</sup>See "Definitions and Explanations" in Appendix A of the 1978 Census of Agriculture (25).

farming is more common among part owners and tenants, and becomes more prevalent with increasing farm sales. There is no distinguishable age difference in the likelihood of operating a cash grain farm. Although only a relatively small number of women operate dairy farms, such farms tend to be more common among part-owner and larger operations. The greatest difference by age among female farmers is in operation of animal specialty farms, about 90 percent of which are horse breeding and other equine establishments. Overall, larger farms operated by women have the most diverse distribution by type, with cash grain, dairy, and poultry farms predominant. Livestock farming, on the other hand, clearly dominates small-scale farming among women.

Farm types depend on soil type and quality, moisture, climate, and other factors associated with producing different farm products; operator experience and preference; and existing agricultural activity. This last factor especially pertains to women, many of whom inherit farms from their husbands or other family members and may be locked into an established operation. Data collected in the 1979 Farm Finance Survey on how farmers acquired their land show that women inherited a significantly greater proportion of their farmland than did men. Forty-three percent of the land

owned by female farmers who reported how they obtained their land was inherited or acquired as a gift, compared with just 16 percent for males. Thus, a large proportion of female farmers may have inherited not only the land they operate but also the type of activity in which they engage.

### Characteristics of Female Farmers

In comparison with their male counterparts, female farmers are usually older, belong to smaller households, are more likely to be of a minority race, and have a lower economic status.

#### Age

Farmers in general are older than their nonfarm counterparts and women who farm are even older than men. Opportunities for potential young farmers are limited by the cost of getting started in farming and the availability of good farmland. Also, because of the nature of farming, older operators often reduce their activities and farm part time, thus delaying full retirement. This practice limits the number of farming opportunities for younger people who desire to become farm operators.

**Table 5—Type of farms operated by females, by tenure, value of agricultural products sold, and age, 1978**

Type of farm	Tenure of operator			Value of agricultural products sold			Age of operator	
	Full owners	Part owners	Tenants	Less than \$2,500	\$2,500 to \$19,999	\$20,000 or more	Under 60 years	60 years and over
	<i>Number</i>							
Farm	100,822	16,823	10,525	48,692	57,531	21,947	67,332	60,838
	<i>Percent</i>							
Cash grain	12.2	19.6	21.7	8.3	16.6	19.5	13.2	14.7
Cotton	.6	1.6	1.6	.2	.8	1.9	.7	.9
Tobacco	8.5	6.8	11.7	8.2	10.0	5.4	7.2	10.0
Other field crops	6.4	5.2	3.7	7.4	6.2	2.6	5.9	6.2
Vegetable and melon	1.4	1.3	1.5	1.2	1.5	1.2	1.6	1.1
Fruit and nut	6.5	1.6	2.3	5.8	4.6	7.1	5.1	5.9
Livestock	46.8	42.5	36.8	52.0	46.8	26.9	42.1	49.1
Dairy	3.1	9.0	2.9	.4	2.8	14.4	4.5	3.2
Poultry	3.7	1.7	4.1	2.2	.9	13.2	4.5	2.3
Animal specialty	4.2	6.1	7.4	5.8	4.7	2.0	8.1	.9
Horticulture	2.6	.7	2.8	1.7	2.8	2.8	3.1	1.6
General	4.1	3.8	3.4	6.7	2.2	2.9	4.0	4.0

Source: (25 and unpublished data from the 1978 Census of Agriculture).

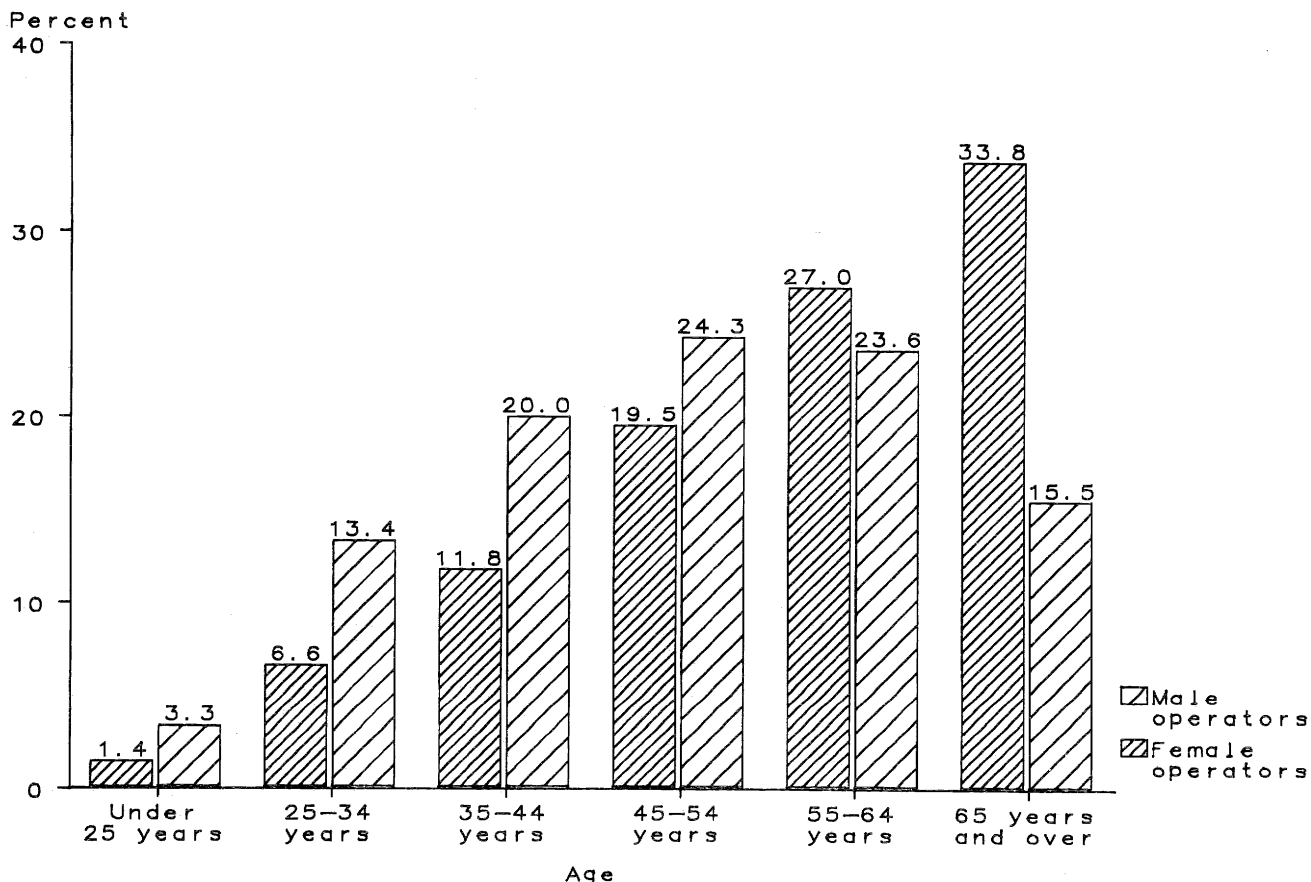
Comparison of age distributions shows that female farmers as a group are much older than male farmers—a higher percentage of women are in the over-55 categories and a lower percentage are in each of the younger categories (fig. 1). The age structure of farm women is undoubtedly affected by the large number who inherit their farms and become operators after their husbands die, usually late in life. Life expectancy in the United States is currently 7.4 years longer for women than for men (31). Added to a 2.2-year difference in their median age at first marriage, a wife can expect to survive her husband by nearly 10 years (30). Although recent marital data on female farmers are not available, a study of persons receiving farm self-employment income—a group basically synonymous with farm operators—found that half of the

women and just 2 percent of the men were widowed, and that these women were also much older than their male counterparts (1).

Regardless of region, female farmers are usually older than their male counterparts, with the greatest difference in the South and Midwest (table 6). The median age of southern female farmers is 60.7 years, compared with 57.0 for those in other regions. This finding, together with data on farms by value of sales, supports the theory that upon retirement southern women are more likely to stay on their farms and continue farming on a part-time, small-scale basis. The geographic distribution of female-operated small-scale farms (those with less than \$20,000 of agricultural sales annually) shows that over half are located in the

Figure 1

### Farm Operators by Age and Sex, 1978



Source: (25).

Table 6—Age distribution of farm operators, by region and sex, 1978

Age	United States		Northeast		Midwest		South		West	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	<i>Number</i>									
All ages	2,350,472	128,170	140,294	8,852	993,912	33,811	946,834	68,740	269,432	17,037
Under 25 years	3.3	1.4	2.0	1.3	4.4	1.9	2.7	1.0	2.0	2.1
25 to 34 years	13.4	6.6	12.9	9.4	14.9	7.0	12.0	5.1	12.8	10.5
35 to 44 years	20.0	11.8	21.8	19.1	19.9	12.4	19.5	9.5	21.1	15.8
45 to 54 years	24.3	19.5	25.4	22.1	24.0	19.6	24.0	18.8	25.5	20.5
55 to 64 years	23.6	27.0	23.1	23.4	23.4	27.8	23.6	27.5	24.1	25.4
65 years and over	15.5	33.8	14.8	24.6	13.4	31.4	18.1	38.1	14.5	25.6
	<i>Years</i>									
Median age	50.5	59.0	50.2	54.1	49.5	58.3	51.6	60.7	50.5	55.4

Source: (25).

South. Small-scale farms account for 87 percent of all female-operated southern farms, 54 percent of which are run by women 60 or older. In other regions, however, a majority are run by younger women:

#### Female small-scale operators by age, 1978

Region	Under age 60	60 and over
United States	54,328	51,895
Northeast	4,605	2,719
Midwest	13,900	12,140
South	27,329	31,918
West	8,494	5,118

Data presented earlier suggested that some differences in farm characteristics may be more closely related to the age rather than the sex of the operator. For example, women over 60 years old were less likely than those under 60 to rent additional farmland; the incidence of full ownership was correspondingly greater among the older group. Older female farmers accounted for a disproportionately large share of the farmland rented to others by female farmer landlords. While the majority of older and younger female farmers ran farms with fairly low sales, farms operated by older women were even more concentrated in the lowest sales categories.

The average age of female farmers should gradually become younger, as more women choose farming as a career. The number of young women receiving self-employment income from farming has already increased. Between 1970 and 1980, the median age of women self-employed in farming declined from 56.2 to 46.5 years; the proportion under age 35 increased from 11 to 21 percent of the total (32, 33). In addition, agricultural colleges reported substantial increases during the seventies in the enrollment of women—many in production-related courses (4, 5, 12). Also, because of changes in inheritance tax laws making it easier for farm widows to keep their farms, more young widows can now economically make careers in farming (9). These developments, the wider acceptance in society as a whole of women in nontraditional careers, and improved availability of credit to women should contribute to an increase in the number of young women entering farming during their prime labor force ages.

#### Size of Farm Households

Farm households account for about 3 percent of all U.S. households. They are about average in size with 2.94 members, compared with 2.78 members nationally (27). Farm households are likely to include the farm operator, the operator's spouse, and in many cases a child or one other household member. However, households on female-operated farms are usually smaller than those on male-operated farms (table 7).

Table 7—Size of farm operator households, by sex of operator and value of agricultural products sold, 1979

Item	Male-operated farms			Female-operated farms		
	Total	Less than \$20,000	\$20,000 or more	Total	Less than \$20,000	\$20,000 or more
	<i>Number</i>					
Households	2,232,308	1,350,336	881,972	121,917	95,965	25,952
Persons in households	6,642,427	3,769,178	2,873,249	281,633	212,684	68,949
Average household size	2.98	2.79	3.26	2.31	2.22	2.66
	<i>Percent</i>					
Farm households by size:						
One person	14.8	17.9	9.9	39.5	43.4	25.0
Two persons	35.1	36.8	32.5	28.0	27.2	30.9
Three persons	17.5	16.8	18.6	14.8	13.0	21.2
Four persons	16.4	14.9	18.5	8.9	7.7	13.5
Five persons	9.3	8.0	11.4	3.9	4.2	2.7
Six persons	3.9	3.1	5.2	2.2	2.2	2.3
Seven persons or more	2.9	2.3	3.8	2.7	2.2	4.3

Source: (24 and unpublished data from the 1979 Farm Finance Survey).

The smaller female-operator household size reflects the relatively low proportion of female farmers with husbands (only 65 percent of the women compared with 90 percent of the men report having a spouse) or children (for every 10 households there are only 4 members under 16 years of age; the comparable figure for male-operator households is 7). Female-farmers' older age structure accounts for most of these differences.

The distribution of farms by household size indicates that women are more likely than men to live alone—nearly 40 percent of female farmers but just 15 percent of the men are in single-person households.<sup>11</sup> Male farmers most often have two people in their households, but three or even four members are not uncommon. Although many female farmers live in two-person households, larger units are not characteristic.

Household size generally increases with farm size, but even on larger farms there are fewer household members on female-run operations (table 7). One implication of the smaller average household size is that fewer people are on hand to perform farmwork. Female farmers, however, are no more likely to hire farm

workers to compensate for the lower number of household members. This finding is consistent with the relatively low output on most farms operated by women and the less labor-intensive activities in which they may engage.

### Race

Female farmers are more prevalent among black and other minority race farmers (10 percent of all minority farmers) than among white farmers (5 percent of all white farmers). This finding is partly due to differences in marital status—black and other minority women are less likely than white women to be married and living with their husbands. Recent marital statistics on female farmers by race are not available, but related data on farm residents show that in 1979, 45 percent of black and other minority farm women were married with husband present, compared with 68 percent of white women (28). Because relatively few of their husbands are present, more minority women are officially designated operators. Long-term racial differences may also be involved. Black farm women (who constitute 74 percent of all minority female farmers) commonly worked in the fields during times of slavery and sharecropping, so their performing farmwork has always been widely accepted. The early activities of white farm women were more restricted by tradition to the farm household (14).

<sup>11</sup>Single-person households may include some married persons with spouse absent.

Despite a high representation of women among black and other minority farmers, the majority are white (table 8). Minority women account for only 6 percent of all female farmers, while females of Spanish origin, who may be of any race, account for 1 percent. In comparison, minority males account for just 3 percent of male farmers.

As a result of the decline in farm numbers, minorities account for an ever-decreasing share of the Nation's farmers. Technological progress placed small farmers in general at a competitive disadvantage, and many with marginal operations, including a disproportionately large share of minority farmers, left farming. There were nearly a million minority farmers in 1920, accounting for 15 percent of all farmers; by 1978 the number had fallen to 80,000, just over 3 percent of the total (29).

Blacks have been most affected by the decrease in minority-operated farms over time, but have remained the largest minority farm group. Although other minorities have made relative gains because of lower rates of farm loss, their numbers are still significantly

lower.<sup>12</sup> Just over 28 percent of all minority farmers are of races other than black: only 2,000 women and 21,000 men make up this group.

Three-fourths of all minority farmers live in the South, where they account for 6 percent of all male farmers and 9 percent of female farmers. This concentration is largely an extension of past geographic patterns. Nine of every 10 minority farmers in the South are black, and black farmers have always been disproportionately located in the South (table 8). Other minority groups are more important in other regions. Asians and Pacific Islanders are heavily concentrated in the West, where they constitute the largest minority farm component. American Indians are more geographically dispersed than other minority groups, although over half live in the South. These regional patterns exist among both male and female farmers, although minority women are somewhat more concentrated in the South.

<sup>12</sup>A discussion of minority-operated farms is presented in (20). Concern over the drastic decline in black-operated farms is summarized in a recent report by the U.S. Commission on Civil Rights (21).

**Table 8—Racial distribution of farm operators, by region and sex, 1978**

Item	United States		Northeast		Midwest		South		West	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	<i>Number</i>									
All races	2,350,472	128,170	140,294	8,852	993,912	33,811	946,834	68,470	269,432	17,037
White	2,278,305	120,421	139,709	8,811	989,919	33,505	891,648	62,321	257,029	15,784
Black and other	72,167	7,749	585	41	3,993	306	55,186	6,149	12,403	1,253
Black	51,549	5,722	263	24	1,582	138	49,115	5,501	589	59
American Indian	7,466	881	111	7	1,446	104	4,020	503	1,889	267
Asian and Pacific Islander	7,736	409	109	4	232	29	206	24	7,189	352
All other races	5,416	737	102	6	733	35	1,845	121	2,736	575
	<i>Percent</i>									
All races	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
White	96.9	94.0	99.6	99.5	99.6	99.1	94.2	91.0	95.4	92.6
Black and other	3.1	6.0	.4	.5	.4	.9	5.8	9.0	4.6	7.4
Black	71.4	73.8	45.0	58.5	39.6	45.1	89.0	89.5	4.7	4.7
American Indian	10.3	11.4	19.0	17.1	36.2	34.0	7.3	8.2	15.2	21.3
Asian and Pacific Islander	10.7	5.3	18.6	9.8	5.8	9.5	.4	.4	58.0	28.1
All other races	7.5	9.5	17.4	14.6	18.4	11.4	3.3	2.0	22.1	45.9

Source: (25 and unpublished data from the 1978 Census of Agriculture).

### Principal Occupation

Information on the principal occupation of farm operators is widely used to separate full-time from part-time farmers. Those farmers who report that 50 percent or more of their worktime is spent farming are considered principally employed in farming. For male and female farmers, this designation is closely related with farm size, measured by value of agricultural sales, as shown for 1978:

Operators principally employed in farming

Sex	Total	Percent of operators with agricultural sales—	
		Less than \$20,000	\$20,000 or more
<i>Percent</i>			
Male	53.8	35.0	85.6
Female	49.3	43.7	76.4

Overall, female farmers are somewhat less likely than male farmers to report farming as their principal occupation, but this differs by size of operation. On small-scale farms, men are less likely to be principally employed in farming, but on larger operations are more likely than women to be so employed. The number of women principally employed in farming is probably affected by the large number of older female farmers, many of whom may consider themselves retired and do not have other work. Farmers are most likely to report principal employment in farming after age 65, but even then the likelihood is still lower for women (56 percent) than for men (72 percent).

### Off-Farm Work

Off-farm work has become increasingly important as a source of income to farmers. The average farmer today is twice as likely as his or her counterpart of 50 years ago to work off the farm.<sup>13</sup> Many have spare-time jobs to supplement their farm income, but others are employed primarily in nonfarm jobs and farm only on a part-time basis. Earlier research found off-farm work

<sup>13</sup>In 1978, about 58 percent of those reporting had some off-farm work. In 1929, the first year for which data are available, 30 percent reported off-farm work (26).

most prevalent among operators of small farms, those living in the South, and those under 45 years of age (3). More recent data from the Census of Agriculture and the Farm Finance Survey also support these findings (24, 25).

Patterns of off-farm work among female farmers differ from those among male farmers. Even though most female operators run small farms and the majority live in the South, age seems to be an overriding factor. Only 42 percent of the women compared with 59 percent of the men reported any off-farm work in 1978. For women under age 60, however, 55 percent did some off-farm work.

Both male and female operators of smaller farms are more likely than those running larger enterprises to work off the farm (table 9). For 1979, nonfarm employment was reported by 63 percent of the men and 41 percent of the women operating farms with agricultural sales under \$20,000, compared with about 25 percent of the men and 18 percent of the women on larger farms. Comparatively more spouses who live on smaller farms operated by men work off the farm, but on female operations there is no apparent difference by size of farm. An estimated one of five husbands of female farmers and one of three wives of male farmers work off the farm.

When farmers and/or their spouses work off the farm, they are most likely to work full time all year at their nonfarm jobs, as indicated by the high percentages reporting such work 35 hours or more per week 50 to 52 weeks per year. The extent of off-farm work is greater on smaller farms operated by men. Spouses on smaller farms operated by women also spend more time than their counterparts on larger farms at non-farm work, but farm size has little effect on the amount of time female operators spend working off their farms.

Both operators and their spouses most commonly work off the farm as employees of private business; they are least likely to work on another farm or ranch, or be self-employed in a farm-related business (fig. 2). The greatest differences among activities occur between farmers' spouses. A larger proportion of the wives than husbands are employed by private business, and a lower proportion are self-employed in a nonfarm business or profession.



Although the types of off-farm activities at which male and female farmers work are similar, occupational data indicate that the nature of their work differs somewhat. The off-farm jobs of female farmers are, in comparison, more evenly distributed among various occupations, with women more often than their male counterparts working in the professional and technical group (fig. 3). This category includes service positions and traditionally female-dominated occupations such as teaching and nursing.<sup>14</sup> Male farmers are more like-

ly to be employed in crafts or managerial positions. An equally large proportion of both groups work as operatives, but the kinds of operative positions held may also vary between men and women. The husbands most frequently work in service positions and the wives in clerical jobs. Relatively few farmers or their spouses work as laborers or supervisors on other farms.

**Income of Farm Households by Source**

The average farm household had just over \$25,000 total income in 1979 from both farm and nonfarm sources. The average farmer earned only about \$11,000 from farming. Off-farm income received by the operator and members of his or her household makes a significant contribution to improving overall

<sup>14</sup>Analyses of survey findings which included more occupational detail found farm women typically employed in such jobs (10, 19). Although these findings do not relate solely to female farmers, 55 percent of the group surveyed considered themselves one of the main operators of their farms. A related report examines farm women's contributions to the farm household through their labor force participation (15).

**Table 9—Off-farm work of farm operators and their spouses, by sex of operator and value of agricultural products sold, 1979**

Item	Male-operated farms			Female-operated farms		
	Total	Less than \$20,000	\$20,000 or more	Total	Less than \$20,000	\$20,000 or more
	<i>Number</i>					
Total operators reporting	2,106,560	1,258,476	848,084	109,703	84,789	24,914
Off-farm work by:						
Operator	999,089	789,762	209,327	38,907	34,526	4,381
Spouse	634,393	428,225	206,168	16,878	13,304	3,574
	<i>Percent<sup>1</sup></i>					
Hours per week at off-farm work:						
Operator	100.0	100.0	100.0	100.0	100.0	100.0
Less than 15 hours	5.9	3.8	13.9	7.6	6.4	20.1 <sup>2</sup>
15 to 34 hours	7.8	6.0	14.3	15.8	17.4	
35 hours or more	86.3	90.2	71.8	76.6	76.2	79.9
Spouse	100.0	100.0	100.0	100.0	100.0	100.0
Less than 15 hours	10.1	8.7	13.0	7.7	23.9 <sup>2</sup>	29.0 <sup>2</sup>
15 to 34 hours	22.4	20.9	25.4	17.2		
35 hours or more	67.5	70.4	61.6	75.1	76.1	71.2
Weeks at off-farm work:						
Operator	100.0	100.0	100.0	100.0	100.0	100.0
26 weeks or less	11.7	8.3	24.1	11.4	11.6	34.1 <sup>2</sup>
27 to 49 weeks	25.6	26.0	24.4	26.1	26.4	
50 to 52 weeks	62.7	65.7	51.5	62.5	62.0	65.9
Spouse	100.0	100.0	100.0	100.0	100.0	100.0
26 weeks or less	14.2	12.0	18.5	11.7	9.8	64.0 <sup>2</sup>
27 to 49 weeks	32.2	31.4	33.8	24.8	19.5	
50 to 52 weeks	53.6	56.6	47.7	63.5	70.7	36.0

<sup>1</sup>Percentage distribution of those who indicated hours or weeks worked at off-farm work.

<sup>2</sup>Categories combined because of insufficient data.

Source: (24 and unpublished data from the 1979 Farm Finance Survey).

income (table 10). Off-farm income means a 118-percent increase in average income per male-operated farm and a 213-percent increase per female-operated farm. Eight percent of the Nation's farm households were solely supported by farm and farm-related activities in 1979, but only 6 percent of the farms were operated by women. Many other farms also receive rental income, interest, or dividends stemming from savings generated by the farm. Although off-farm income may provide a means of expanding the farming operation, for many small operations, such income is an economic necessity.

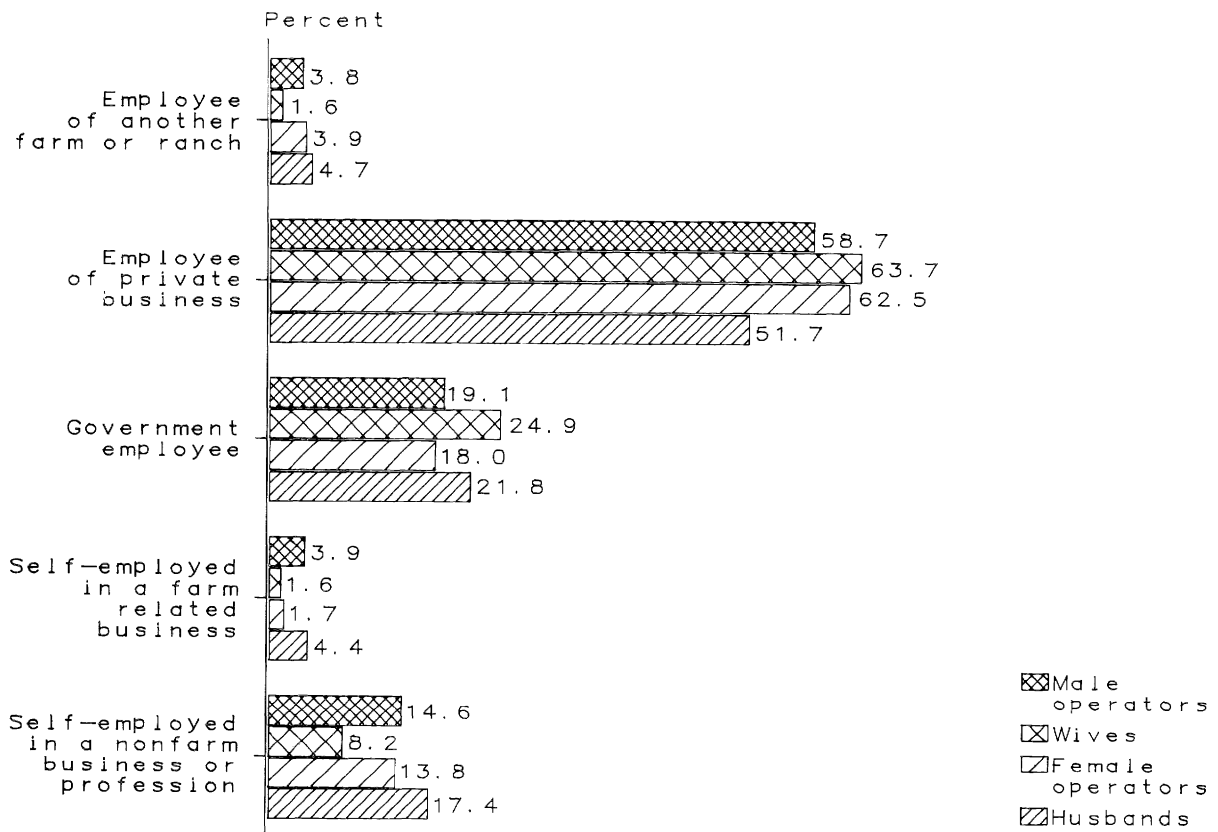
Income on farms operated by women is consistently lower than on those operated by men. The average

household income on female-operated farms was approximately \$16,000 in 1979; it was \$26,000 on male-operated farms. Female operators' lower financial standing is also reflected in their poverty rate of 25 percent, which is 7 percentage points higher than that for male-operator households.

Income derived from both farm and off-farm sources is lower on most female-operated farms than on male operations. The lower farm income reflects the smaller scale of women's farms and possibly lower returns to management and labor. Differences in off-farm income may be the result of women's lower wages (the most important off-farm income source) and smaller households (fewer members to earn off-farm income).

Figure 2

### Type of Off-farm Work of Farm Operators and Their Spouses by Sex, 1979



Data relate only to persons reporting their type of off-farm activity. Source: Unpublished data from the 1979 Farm Finance Survey.

Income data show that 68 percent of total net cash income received by female farmers and members of their households comes from off-farm sources, compared with 54 percent for males (table 10). Of these sources, income from wages and salaries, retirement, and interest contribute most to total income of female-operator households. For male-operator households, wage and salary income also ranks first, but there is less difference in the proportion obtained from other sources.

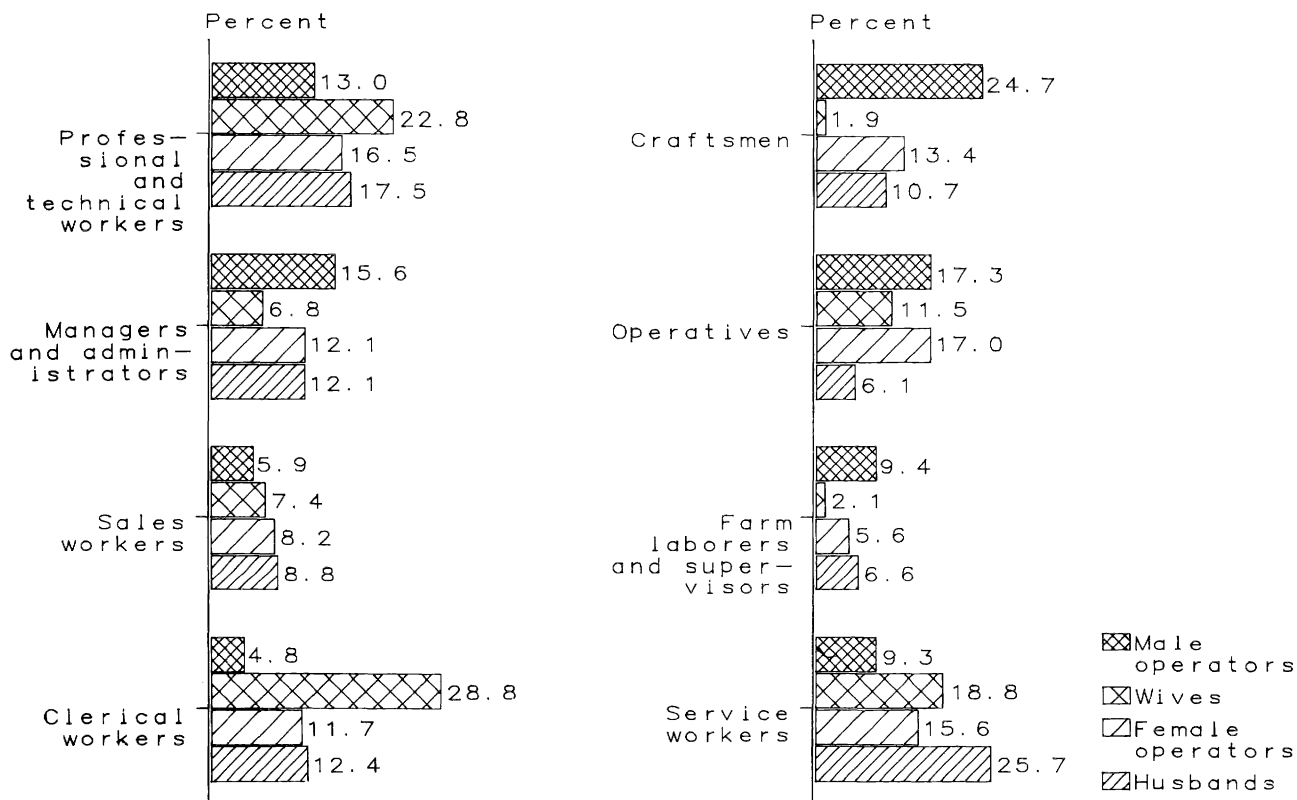
The highest average income for all farm households is found in the West, which is noteworthy because farm income is relatively more important in this region (app. table 2). The high farm income average may be related

to the proportionately large number of commercial farms in the region, but why farm households also earn so much from their nonfarm sources is unclear. In all regions, female-operated farms derive less income from farming than from their nonfarm sources. On both male and female operations, off-farm income accounts for the highest percentage of total farm income in the Northeast and South, where wage and salary jobs contribute most. The large number of older retired or semi-retired female farmers is reflected in the high percentage of retirement income reported in the South.

Dependence on off-farm income closely relates to size of the farming operation: the smaller the operation

Figure 3

### Off-farm Occupation of Farm Operators and Their Spouses by Sex, 1979



Data relate only to persons reporting their off-farm occupations.  
Source: Unpublished data from the 1979 Farm Finance Survey.

and income generated, the greater the dependence on off-farm income. A ratio of net farm to total household income was derived to measure the importance of this relationship. Male and female operators of small-scale farms are very dependent on off-farm income, whereas operators of larger farms rely more on farm income (fig. 4).

Wage and salary income is especially important on small-scale operations, whether run by men or women (table 10). Retirement and/or disability income also makes up a high percentage of the total on smaller farms, which may reflect part-time, part-retirement farming. The low average farm income on smaller farms is undoubtedly also affected by farm losses. Of the 750,000 farms reporting negative net income from

agricultural sales in 1979, 81 percent were small-scale operations. Off-farm income was sufficient to offset farming losses on a majority of these operations. Income is substantially higher on larger farms which are more dependent on income derived from farming.

### Assets and Liabilities

An assessment of farmers' economic situations must consider their assets and liabilities as well as income. Farm assets—particularly farm real estate—have become an increasingly important component of farm wealth (16). In 1979, farmers reported \$642 billion of assets (94 percent of which were farm assets) and \$110 billion of liabilities. The average farmers' net worth (assets minus liabilities) was \$276,000.

**Table 10—Sources of income of farm operators and household members, by sex of operator and value of agricultural products sold, 1979**

Item	Male-operated farms			Female-operated farms		
	Total	Less than \$20,000	\$20,000 or more	Total	Less than \$20,000	\$20,000 or more
<i>Number</i>						
Farms by income source:						
All sources	2,232,308	1,350,336	881,972	121,917	95,965	25,952
Farm only	183,477	43,274	140,203	6,977	3,985	2,992
Farm and off-farm	2,048,831	1,307,062	741,769	114,940	91,980	22,960
<i>Dollars</i>						
Average income by source:						
Total net cash income	25,985	17,728	38,626	16,213	12,052	31,600
Farm	11,914	968	28,673	5,186	982	20,734
Off-farm	14,071	16,760	9,953	11,027	12,052	10,866
<i>Percent</i>						
Income by source:						
Total net cash income	100.0	100.0	100.0	100.0	100.0	100.0
Farm	45.9	5.5	74.2	32.0	8.1	65.6
Off-farm	54.1	94.5	25.8	68.0	91.9	34.4
Wages and salaries	37.1	69.5	14.3	39.8	55.9	17.0
Retirement and/or disability	4.6	8.9	1.5	11.0	15.2	5.1
Interest	4.3	5.0	3.8	6.7	8.0	4.8
Nonfarm business or professional practice	4.8	7.4	2.9	5.0	6.5	2.7
Dividends, estates, trusts, nonfarm property, royalties and mineral rights	3.0	3.1	3.0	3.9	3.9	4.0
All other sources	.4	.6	.3	1.7	2.3	.7

Source: (24 and unpublished data from the 1979 Farm Finance Survey).

Assets on female-operated farms totaled nearly \$23 billion in 1979. Debt claims against these assets amounted to just over \$2 billion, a much lower ratio of debts to assets than found among male farmers (table 11). The average female farmer's net worth was \$171,000. Farm real estate accounts for the largest share of their assets—just as for men. Further examination of asset composition reveals that women have fewer production-related assets and more financial assets than their male counterparts.

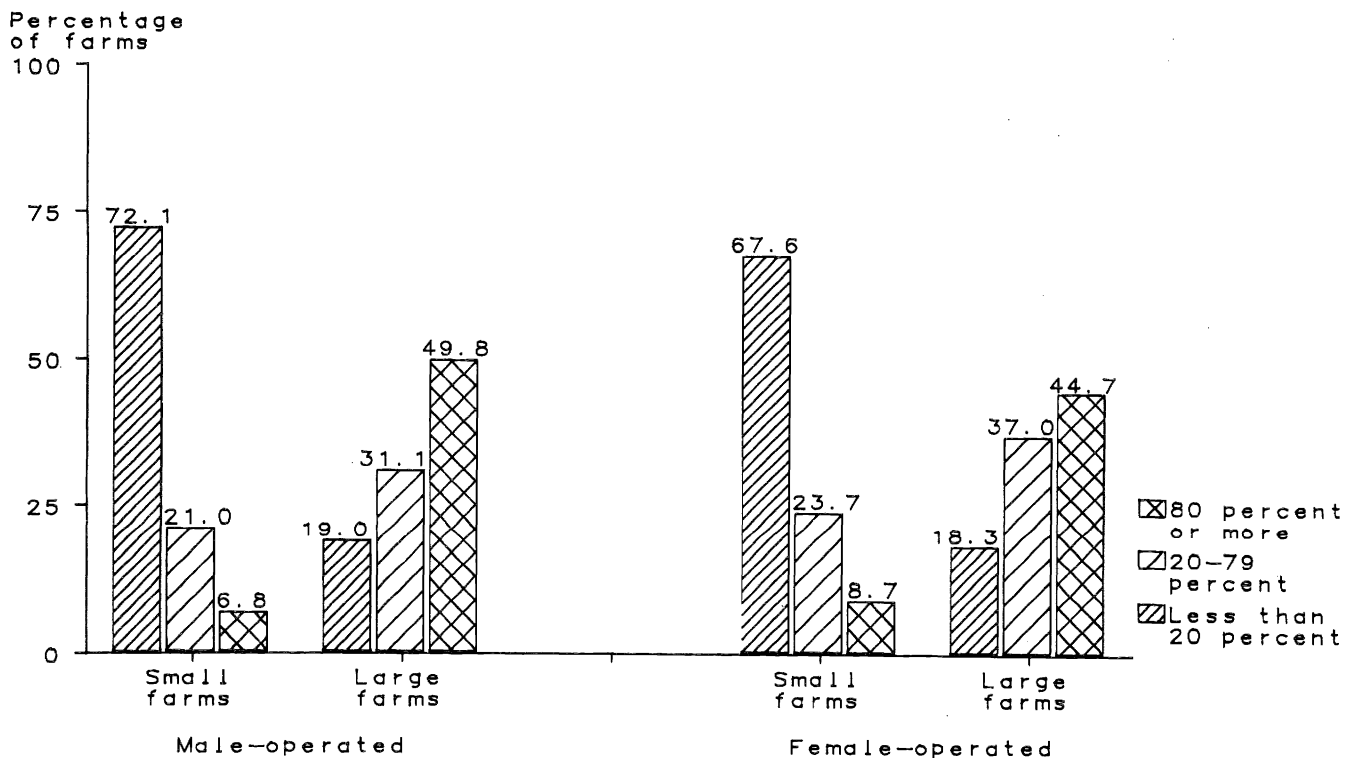
Only 37 percent of female operators reported any farm or nonfarm debt, compared with 58 percent of male operators. Debt on the average female-operated farm is approximately half that on the average male operation (\$45,000 as compared with \$84,000). Relatively

low debt would be expected since women usually operate smaller farms, generally have lower credit needs, and thus have less debt. The average farm with less than \$20,000 of agricultural sales in 1979 had about \$13,000 in debt claims, compared with an average of \$101,000 for larger operations.

As indicated by the debt/asset ratio, women obligate a much smaller share of their assets to obtain credit. The debt/asset ratio, commonly used as a measure of farmers' financial positions, has implications of financial security (8). Female farmers would seem to be good credit risks, yet they use fewer financial resources to expand or upgrade their farming operations. To further measure the use of resources for farm purposes, a ratio of farm debt claims against assets was computed

Figure 4

### Dependence on Farm Income, by Sex of Operator and Value of Agricultural Products Sold, 1979



Dependence on farm income is the ratio of net cash farm to net cash total income of farm operators and family members.

Source: Unpublished data from the 1979 Farm Finance Survey.

**Table 11—Assets and liabilities of farm operators, by sex, 1979**

Item	Male	Female
<i>Number</i>		
Farms	2,232,308	121,917
<i>Million dollars</i>		
Assets	618,794	22,844
Farm physical	526,128	18,899
Real estate	396,837	15,867
Nonreal estate	129,291	3,031
Financial	57,523	2,742
Nonfarm	35,143	1,203
Liabilities	107,731	2,044
Farm debt	99,107	1,816
Real estate	63,789	1,302
Nonreal estate	35,317	514
Nonfarm debt	8,624	228
Net worth	511,063	20,800
<i>Percent</i>		
Debt as percentage of assets	17.4	8.9
Percentage of farms with debt	57.5	36.9

Source: (24).

for small-scale and large farms. Farm debt/asset ratios are much lower on smaller scale farms operated by either sex, but regardless of farm size women obligate fewer of their resources to farming:

Farm debt/asset status by value of agricultural products sold, 1979

Item	Less than \$20,000	\$20,000 or more
<i>Percent</i>		
Male-operated farms:		
With debt	42.0	74.4
Debt/asset ratio	7.6	19.5
Female-operated farms:		
With debt	28.7	59.8
Debt/asset ratio	4.0	12.1

Female farmers as a group have not maintained the same level of activity or expanded or upgraded their operations as fully as their male counterparts. In this assessment, however, female farmers' older age structure must be taken into account. Older farmers typically reduce, not expand, their operations. In addition, the debt level of widows may be reduced by their husbands' life insurance payments. The large number of older female farmers may significantly affect the data on assets and liabilities, but comparable data by age are not available to measure to what extent. Data from the 1978 agricultural census, however, show that the value of land and buildings (the major component of farm assets) is lower on farms operated by women 60 or older than on farms operated by more production-oriented younger women. In 1978, the average value of land and buildings held by older female farmers was \$149,000 per farm and \$481 per acre; the averages for younger women were \$155,000 per farm and \$582 per acre.

## Conclusions

Two dominant operator-types emerge from the data analysis. One is women who farm on a part-time/part-retirement basis. Among this group are women who inherit their farms late in life or become operators upon their husbands' retirement or disability. Often they are semi-retired, farming on a small-scale, part-time basis. They sometimes rent some of their land to other farmers to generate supplemental retirement income.

The other, more production-oriented group is characterized by women who farm either full or part time. They may farm alone or with partners, possibly their husbands who also work off the farm. These women tend to operate larger farms than those in semi-retirement, but their average production level is still lower than that of male farmers.

Household income from farm and off-farm sources was generally lower on farms operated by women than by men. In fact, one of four female-operator households fails to earn enough money to rise above poverty. These households would benefit from government assistance to improve their income level. Because the value of agricultural products sold is so low on most female-operated farms, female farmers need to raise

their family income by increasing farm production, and thus, farm income.

This study describes differences in the nature and scale of farms operated by men and women; it does not establish gender as the fundamental cause of these differences, nor does it establish the need for special program assistance for women. Since female farmers are concentrated in the types of enterprises most needing government assistance, however, program administrators should be sensitive to the requirements of equal access to their programs regardless of sex.

Discussions with female farmers suggest that women may have special gender-related problems gaining access to farm credit. While this has not been shown statistically, it suggests that female farm operators encounter special problems. At issue is women's ability to obtain sufficient working capital to expand their farming operations. Female-operated farms generally have a low ratio of debts to assets, indicating that female farmers should be good credit risks. Yet as a group, female farmers have not expanded as fully or even maintained the same level of activity as their male counterparts. Whether this is due to female farmers having difficulty gaining equal access to credit markets or to their older age structure is unclear. Older farmers, regardless of their sex, are likely to run smaller farms and receive lower farm income. The older age of many female farmers may affect their desire as well as their ability to obtain credit. On the

other hand, female farmers' inability to obtain working capital may force them, regardless of age, into smaller scale operations. Data demonstrate that even after adjustments for their age, production/income levels are comparatively low on the majority of female-operated farms. If women (and other operators of small farm units) were helped to use their agricultural resources more effectively, they could possibly raise their farm income and improve their economic situation.

In general, programs which benefit male operators should also benefit their female counterparts. Assurance must be made, however, that women, because of their gender, are not denied equal access to assistance, particularly credit programs. Also, commodity price support programs have been most beneficial to very large farms, and thus have not greatly improved the farm income of female operators, with their typically smaller farms (23). Further, a larger proportion of female than male farmers are engaged in types of agriculture for which support programs are not available.

Female farmers are a minority, but unlike most minority farmers are increasing in number. Programs beneficial to this growing group include information programs on leveraging farm assets to obtain essential farm supplies and equipment, renting farmland, farming on a part-time/part-retirement basis, and adapting a farm operation to an individual's skills and physical abilities (especially for farm widows).

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Appendix table 1—Geographic distribution of female farm operators, by age and race, 1978

Area	Total	Percentage of each area's total farm operators	Percentage over 60 years of age	Percentage black and minority races
United States	128,170	5.2	47.5	6.0
Northeast	8,852	5.9	37.6	.5
Maine	558	6.8	28.5	.7
New Hampshire	257	7.8	28.4	—
Vermont	592	8.1	30.1	.3
Massachusetts	453	7.7	40.6	.2
Rhode Island	50	5.8	38.0	—
Connecticut	393	8.6	45.8	.3
New York	2,917	5.9	32.4	.3
New Jersey	754	7.6	42.6	1.1
Pennsylvania	2,878	4.8	44.0	.6
Midwest	33,811	3.3	45.0	.9
Ohio	4,045	4.2	43.2	.5
Indiana	2,816	3.2	50.1	.7
Illinois	3,286	3.0	48.7	.7
Michigan	2,636	3.9	40.6	1.1
Wisconsin	3,163	3.5	38.2	.2
Minnesota	2,208	2.1	36.9	.8
Iowa	3,048	2.4	46.3	.8
Missouri	6,079	5.0	48.1	.6
North Dakota	927	2.3	40.3	2.3
South Dakota	1,098	2.8	44.1	5.5
Nebraska	1,702	2.6	45.0	1.6
Kansas	2,803	3.6	50.5	1.7
South	68,470	6.7	52.2	9.0
Delaware	230	6.3	39.1	2.6
Maryland	1,475	7.9	40.8	4.1
Virginia	4,668	8.2	51.7	5.5
West Virginia	1,557	7.6	56.6	1.2
North Carolina	5,580	6.2	50.4	14.6
South Carolina	3,304	9.9	55.8	27.1
Georgia	3,736	6.4	48.4	12.3
Florida	4,441	10.1	46.1	4.4
Kentucky	7,750	7.0	58.1	1.5
Tennessee	6,585	6.8	56.0	4.0
Alabama	3,514	6.1	44.7	17.5
Mississippi	3,681	6.8	51.7	30.4
Arkansas	3,408	5.8	43.1	7.5
Louisiana	2,112	5.4	51.5	11.6
Oklahoma	4,584	5.8	50.9	8.0
Texas	11,845	6.1	56.3	3.9
West	17,037	5.9	38.6	7.4
Montana	1,261	5.2	43.4	2.9
Idaho	818	3.1	43.5	6.8
Wyoming	478	5.6	45.0	1.0
Colorado	1,475	5.0	37.1	3.1
New Mexico	894	6.3	51.5	12.5
Arizona	467	6.1	33.0	7.3
Utah	375	2.7	48.0	1.1
Nevada	206	7.2	41.3	6.3
Washington	2,065	5.5	35.8	2.3
Oregon	2,187	6.3	36.3	1.2
California	6,204	7.6	36.4	6.0
Alaska	28	7.3	14.3	—
Hawaii	579	13.4	39.9	86.0

— = Zero or a percentage which rounds to less than 0.1.

Source: (25 and unpublished data from the 1978 Census of Agriculture).

Appendix table 2—Income of farm operators and household members, by source, region, and sex of operator, 1979

Item	Northeast		Midwest		South		West	
	Male	Female	Male	Female	Male	Female	Male	Female
<i>Number</i>								
Farms by income source:								
All sources	139,091	10,395	943,163	35,560	902,249	58,796	247,805	17,166
Farm only	6,623	158	101,223	2,464	58,091	3,448	17,540	907
Farm and off-farm	132,468	10,237	841,940	33,096	844,158	55,348	230,265	16,259
<i>Dollars</i>								
Average income by source:								
Total net cash income	25,207	14,968	24,186	16,388	23,950	14,433	40,675	22,701
Farm	9,953	1,061	12,585	5,895	8,594	4,224	22,552	9,513
Off-farm	15,255	13,907	11,601	10,493	15,356	10,209	18,123	13,188
<i>Percent</i>								
Income by source:								
Total net cash income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Farm	39.5	7.1	52.0	36.0	35.9	29.3	55.4	41.9
Off-farm	60.5	92.9	48.0	64.0	64.1	70.7	44.6	58.1
Wages and salaries	43.3	60.4	33.9	36.6	44.0	40.6	27.3	34.5
Retirement and/or disability	4.2	10.9	3.6	9.0	6.1	13.5	3.5	8.7
Interest	4.3	7.1	4.1	6.1	4.2	6.8	4.7	6.9
Nonfarm business or professional practice	5.8	6.0	3.7	7.4	5.4	3.8	5.7	3.4
Dividends, estates, trusts, nonfarm property, royalties and mineral rights	2.6	6.8	2.2	2.6	4.1	4.5	2.8	3.7
All other sources	.3	1.7	.4	2.3	.4	1.6	.5	.9

Source: (24 and unpublished data from the 1979 Farm Finance Survey).

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