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Farming Has Seen Big Changes In the Past Two Decades

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PERSPECTIVES

Major indicators of the financial health of the Nation's farm sector have improved since the late spring forecasts. Prospects for higher food grain receipts, larger Government payments, and moderate expense increases have brightened the 1992 outlook for farm income.

Net farm income (net cash income plus the value of inventory change and nonmoney income) may reach $42-$47 billion, up from the $37-$45 billion forecast in May, reports economist Robert Dubman of USDA's Economic Research Service.

Wheat cash receipts will likely rise substantially in 1992, due to increased marketings and higher prices. Production could reach 2.4 billion bushels, up more than 20 percent from last year, and the all-wheat price is expected to rise 18-22 percent. "Wheat receipts could reach $6-$8 billion, up more than 25 percent from last year's $5.7 billion," says Dubman.

Rice production is also forecast to increase this year, more than offsetting any potential price declines and contributing to an increase of 6-8 percent in receipts.

Increases in planted corn acreage, record yields, and consequently higher production are expected to trim corn prices by nearly 5 percent and cash receipts by 4 percent in 1992 from a year earlier. Nevertheless, corn receipts will still be higher than in all but the past 2 years.

Favorable weather could boost the oilseed crop to 6.8 million tons, the largest in 7 years. "Oilseed cash receipts are forecast at $11-$13 billion, down 2 percent from 1991," Dubman says. Soybean receipts are expected to slip by 1 percent and peanut receipts by 5 percent.

"Both world and U.S. cotton supplies are high this year, depressing prices," Dubman notes. "Cotton cash receipts are forecast at $4-$6 billion in 1992, down 10-15 percent from a year earlier."

In the livestock area, hog prices near breakeven levels will likely lower hog cash receipts 10 percent this year to $9-$11 billion. "Cattle prices are also down," the economist says, "and this could lead to a 6-percent drop in cattle and calf receipts."

So far in 1992, milk prices have been on average 10 percent higher than the dampened prices of the previous 2 years. "If the current trend continues, 1992 dairy receipts will likely be near the 1990 record," Dubman says.

Government payments are forecast to rise 17 percent in 1992 from a year earlier. "The overall increase can be attributed primarily to $1.1 billion in disaster payments for crop losses and $100 million in Conservation Reserve Program payments," Dubman explains.

Production expenses are expected to rise a moderate 2 percent from last year. Input prices have climbed only slightly for 1992. "Expenses are forecast to decrease for feeder livestock (due to lower hog and calf prices) and interest (due to lower rates)," Dubman explains. "Most other expenses will likely climb 2-5 percent, although hired and contract labor costs are expected to rise 8 percent because of higher wage rates and greater seasonal labor demand." ■

FARMLINE

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FEATURES

DEPARTMENTS

Farming Has Seen Seen Big Changes In the Past Two Decades

Although the shift toward fewer but larger farms began to reshape American agriculture in the 1950's and continued in the 1960's, this trend slowed considerably over the next two decades.

"In the 1970's, improved conditions in farming—combined with an increase in rural farm residences—stabilized farm numbers," says economist Donn Reimund of USDA's Economic Research Service. "In fact, small gains in some years reflected the entry of new farmers enticed by favorable economic conditions. Many of the new farmers were born during the baby boom years of the 1950's."

Reimund and a colleague, economist Fred Gale, recently examined changes in the farm sector over the last several decades to produce the 13th annual *Family Farm Report to Congress.*

In the 1980's, the decline in farm numbers accelerated as the recession in farming strained the financial status of many farmers. While more rapid than during the 1970's, the decline in farms was slower than during the 1950's and early 1960's. "The decline in farm numbers during the 1980's appears to have been mostly due to reduced entry into farming rather than to increased farm exits," Gale says.

Part-time farming, off-farm employment, and farm diversity have all increased.

Along with the trends in farm numbers, the report also looks at the growing diversity in agriculture and the increasing importance of off-farm employment.

A Fundamental Fact

The report begins with a fundamental fact, Reimund explains: the size and number of farms are ultimately the result of the decisions of many to enter or leave farming or to expand existing farms.

For example, between 1978 and 1982, for farms of 50 or more acres, fewer new farmers came into the sector than left it. However, these declines were more than offset by more persons entering farming than leaving for farms under 50 acres. Consequently, there was a decrease in average farm size during that time.

"Other tabulations," Reimund says, "show that movement of farms into larger size classes during that period was offset by the nearly equal number of farms moving to smaller size classes."

The phenomenon of part-time farming also became more pronounced in the 1970's and 1980's.

"Growth in local nonfarm economies may have affected the growth of part-time farms," says Reimund. "Off-farm employment and income, by supplementing low or negative farm income, can help farm families who would otherwise not be able to continue farming."

Other factors also probably boosted entry into farming during the 1970's and early 1980's, he notes. Typically, farm entrants have farming backgrounds and, during the 1970's, the large group of farm youth born during the baby boom reached the prime age to start their own farms.

The use of farming as a tax shelter also contributed to the increase in part-time farms. However, revisions to the income tax laws in 1986 have since reduced tax shelter incentives.

"The effect of these other influences, however, was probably enhanced by the favorable economic climate in the 1970's," says Reimund.

"The stabilizing of farm numbers that appears in the overall count in the late 1970's

and early 1980's did not hold true for all U.S. regions," Gale says. "All regions show rapidly decreasing farm numbers through the 1960's, but farm numbers stabilized in the Northeast and actually increased in the West in the 1970's."

He goes on to say that in the South and the major farming regions of the Midwest and Plains, farm numbers continued to fall, albeit more slowly. In some areas within the South and the Plains, however, farm numbers stabilized or increased.

Many of the new farms in the Northeast and West were small part-time farms, which reduced average farm size. In the Northeast, new farms clustered near metropolitan areas. In the West, new farms boosted rural population growth.

"During the farm crisis in the 1980's, the news media often focused on forced exits from farming through bankruptcy or involuntary liquidation, and observers often assume that such forced exits were primarily responsible for most of the net decline in farm numbers," Gale says. "Actually, farm exit rates during the 1980's were not much higher than in the 1970's. Furthermore, only about half of those exiting during the 1980's did so involuntarily because of financial problems. The decline in farm numbers in the 1980's was brought about primarily by reduced entry into farming."

Fewer New Farmers

Just as adverse economic conditions in farming cause people to leave the sector, they also discourage new people from entering farming, says Reimund. "Low farm earnings, an uncertain financial outlook, reduced farm credit, and high interest rates probably discouraged many people from entering farming and attracted them to enter a nonfarm occupation instead," he notes.

Data from the U.S. Census of Agriculture indicate that the number of persons entering farming fell substantially during the mid-1980's compared with the years from 1978 to 1982, when entry was unusually high.

"In 1982, 18 percent of farmers reported having been on their current farm no more than 4 years," says Gale. "In 1987, that number had dropped to 14.5 percent."

The number of new farms declined from 403,000 in 1982 to 303,000 in 1987, a decrease of nearly 25 percent. The greater fall-off in farm numbers during the 1980's compared with previous years is likely due to greatly reduced entries rather than increased exits, Gale says.

And the drop in the number of persons going into agriculture varied by age group. The number of farmers younger than age 35—the typical age for becoming a full-time farmer—fell the most from 1982 to 1987. Among the reasons were limited economic prospects for farming, restricted credit, and a smaller pool of potential young farmers as a result of dramatic declines in birth rates among farm families in the 1960's.

"The entry of farmers over 65 years of age, however, increased slightly," he says. "Entry of large farms with more than $250,000 in sales also increased, but entry of farms with less than $100,000 in sales fell by 25 to 35 percent. This change was partly due to inflation, but also reflected the trend toward larger farms that resumed during the 1980's after being slowed by the addition of many small farms during the late 1970's."

Greater Diversity

In addition to there being fewer farms and people involved in farming, the diversity of the sector has also increased. Farms have become more specialized along commodity lines, with distinct trends for different commodities.

"Some parts of the sector have maintained an autonomous owner-operator type of farm, and other parts are becoming more like the nonfarm industrial sector," says Reimund. "The 'typical' U.S. farm is hard to describe. When we attempt to evaluate the status of the family farm and how farm households are doing compared with nonfarm households and businesses, we should acknowledge the increasing diversity of U.S. agriculture."

He says that specialization on farms increased after World War II largely because of technological innovations—such as chemical herbicides and single-function machinery—that changed the economics of farm production to favor a single-commodity type of agriculture. Regional specialization also has grown, thanks to improved long-distance transportation, product handling, and storage technology that enhanced interregional trade. Consequently, production of particular commodities is now concentrated in areas of the greatest comparative advantage.

"Vegetable production on the Pacific Coast and poultry production in the South are two examples of this regional concentration," Reimund says. And because of the high degree of farm and regional specialization in U.S. agriculture, the farm sector is really many different industries, each with its own organizational characteristics.

For example, he says, the structure of each agricultural industry derives from commodity characteristics such as perishability, production seasonality, inputs needed, processing required, and final demand for the commodity.

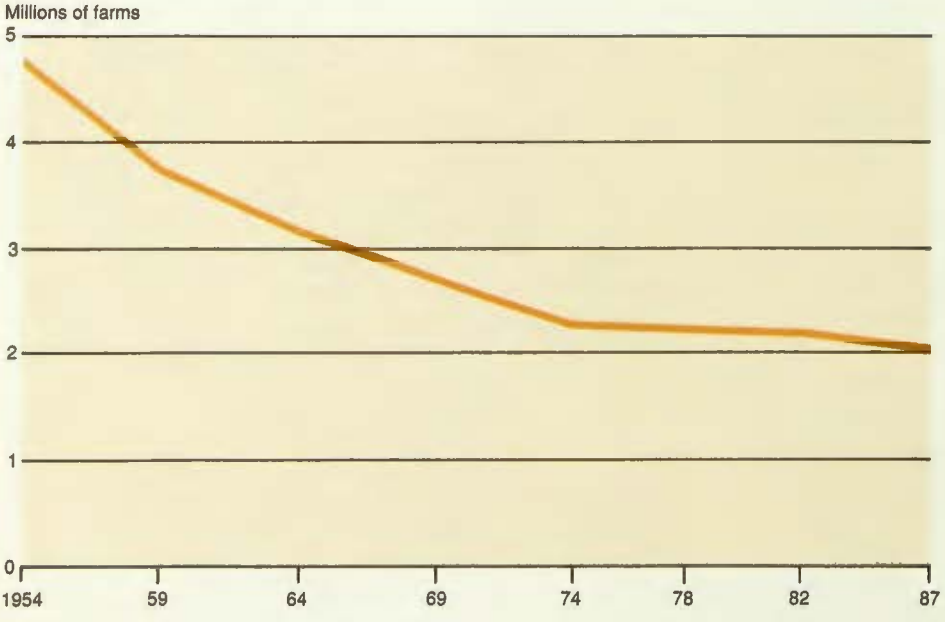
"These factors affect both the concentration of production—number and size of farms—and how farming is linked with other stages of the production-marketing system," says Reimund.

In fact, he says, some parts of U.S. agriculture now closely resemble the nonfarm industrial sector, in which the producer is directly tied to the processing and distribution system through contractual arrangements, or multi-stage ownership.

"Other producers, of course, operate relatively independently, buying and selling on an open market," Reimund says.

The diversity of the farm sector can be seen by looking at three different types of commodity farms: cash grain, beef cattle, and poultry.

Number of U.S. Farms, 1954-87



Source: U.S. Census of Agriculture, various years.

Popular Image

"Cash grain farms come very close to the way most people think of agriculture," says Reimund, "in that they are mostly moderate-sized, family-owned operations. Fifty percent of all cash grain farms have sales of less than $25,000, compared with about 65 percent of all farms."

There are nearly 460,000 cash grain farms that specialize in the production of feed grain, food grain, and oilseed crops. The 1987 sales class distribution shows a lower proportion of cash grain farms in both the smaller-than-commercial and very large farm classes. Accordingly, cash grain production is concentrated on small and mid-sized commercial farms. Just 4.5 percent of cash grain farms had annual production valued at $250,000 or more in 1987.

Unlike cash grain farmers, those raising cattle own most of the land they use. And operations here (excluding cattle feedlots)

are generally unlike the popular image of cattle raising as the large-scale ranch of the Southwest, consisting of several thousand acres of rangeland and a herd of several hundred beef cows, worked by a crew of 10 to 15 cowboys on horses.

"Although such large ranches do exist, they are the exception rather than the rule," says Reimund. "The cattle raising industry consists of nearly 650,000 farms or ranches, most of which are very small, specializing in cow-calf and feeder cattle production."

The vast majority of farms in the cattle raising business—some 85 percent—have annual product sales of less than $25,000, and the cattle on these small farms make up more than 30 percent of the U.S. beef cow herd. Beef cattle farms with product sales of $250,000 or more account for only 1.4 percent of all beef cattle farms.

Poultry Farms

And then there's the poultry industry, which consists of about 38,000 farms that specialize in producing broiler chickens, turkeys, or eggs.

"If cash grain production is typical of a commercial family farm, and beef cattle raising represents a small-scale, part-time farm, poultry production represents a large-scale, vertically integrated one," says Reimund. "Poultry, especially broiler production, is the most highly industrialized farm industry. When you consider its production technology, financial arrangements, and methods of coordinating farm production with the input supply and marketing stages, it more nearly resembles a manufacturing industry than a typical farm operation."

Poultry production is concentrated on large commercial farms. Nearly 36 percent of poultry farms had production valued at $250,000 or more in 1987.

"Cash grain farmers and cattle producers operate independently of the nonfarm stages of their industries," says Reimund. "But a very different relationship exists between poultry producers and the nonfarm stages of their industry."

Virtually all poultry is produced under contract, with the contractor retaining title to the product throughout the production process. Typically a major agribusiness firm, the contractor coordinates the entire production-marketing process—all the way from the setting of hatching eggs through the final processing and distribution to retail food outlets.

"At the farm production stage, the contractor provides chicks or pullets, feed, veterinary and medical needs, and overall management," says Reimund. "The farmer's contribution is to provide housing, labor, and day-to-day supervision."

Off-Farm Work

Another significant change in the farm sector over the past two decades is the substantial increase in off-farm work by farm operators.

From 1974 to 1987, for instance, the number of farm operators whose main occupation was something other than farming rose from 37 to 46 percent.

"Off-farm income provides over half of farm operator household income," says Reimund. "Farmers overall, and particularly those with smaller operations, depend less on income from farming and have greater opportunity for allocating labor between farm and nonfarm jobs than in the past."

Although farm household income fluctuates, the average income of farm operator households is now on a par with that of all U.S. households. The net worth and income distributions, though, are quite different. Farm operator households represent a higher proportion of both high- and low-income groups than do U.S. households as a whole. Median farm operator household net worth is almost five times that of all U.S. households.

"The greater wealth of farm households is due, in part, to the capital-intensive nature of today's farming and the consolidation of the farm household and the farm business ledgers," says Reimund. "Households that operate farms require large amounts of capital to generate adequate household incomes. A composite farm profile developed from 1988 survey data suggests that to generate net business income comparable to U.S. average annual household income, a farm business would need total assets of about $750,000." Asset and sales levels needed to obtain this income vary by type of farm.

Currently, farms comprise about one-fourth of all sole proprietorships, less than 10 percent of all partnerships, and only 2 percent of all corporations in the United States. Generally, too, farms are smaller than other businesses.

"In terms of assets, sales, and employment, even the largest corporate farms are tiny compared with the average U.S. corporation," says Gale. "The very limited data available suggest that farms, on average, earn returns comparable to those earned by most other small businesses with the same dollar value in assets." ■

For more information on this topic, call 1-800-999-6779, or write to ERS-NASS, 341 Victory Drive, Herndon, VA 22070 to order *Structural Change in the U.S. Farm Sector, 1974-87.*

Based primarily on information provided by economists Donn Reimund and Fred Gale, Agriculture and Rural Economy Division, Economic Research Service.

U.S. Exports of Dry Beans Increased During Fiscal 1991

Between 1988 and 1991, world trade in dry beans increased from 1.4 million metric tons to more than 2 million. Economist John Parker of USDA's Economic Research Service (ERS) has analyzed this market, the U.S. role in it, and the prospects for increased U.S. sales in the future. Economist Gary Lucier, also of ERS, contributed information on the domestic dry bean market.

U.S. exports of dry beans increased 32 percent from fiscal 1990 to fiscal 1991 to 524,000 metric tons, valued at $276 million, with gains in sales to Mexico, France, Italy, Yugoslavia, Algeria, the Caribbean, and South Korea.

Exports to most countries, including a number of new or small markets, increased in 1991. The declines that occurred were related to political situations or improved domestic output. The biggest market loss was Iraq, which purchased 14,000 tons (largely Great Northern beans) for $10 million in 1990.

Canada had a larger crop in 1991 than the previous year and reduced its purchases of U.S. dry beans by half. Some interesting new markets emerging in 1991 included Albania, Czechoslovakia, and Hungary. Relief shipments to Sudan and Somalia went up sharply.

During the first 8 months of fiscal 1992, despite larger sales to Africa and some new markets, U.S. exports of dry beans were down 27 percent. The average price dropped 14 percent to $459 a ton. The major loss was Mexico's 83-percent reduction in purchases—to 20,000 tons, down from 120,000 tons during the same period a year earlier.

After good crops for 2 years in a row in North America, both the United States and Canada have more dry beans to export this year, and Mexico needs fewer imports.

About one-third of U.S. production is sold abroad.

Mexico usually produces nearly as many dry beans as the United States, but has a much higher per capita consumption—41 pounds compared with 6 pounds. Dry beans are a good source of protein without the fat and cholesterol.

The United States exports about one-third of its dry beans. Production in 1991 was a record 1.5 million metric tons, up slightly from 1990.

Northern States Lead Production

Dry beans are grown mainly in the upper Midwest and Northern Plains. North Dakota is now the leading State, followed by Michigan.

Navy pea beans predominate in Michigan and are gaining importance in Minnesota and North Dakota. The leading State for Great Northern beans is Nebraska, while North Dakota and Colorado are major pinto bean producers. California specializes in several types of beans, including limas, grown under irrigation. California also has been the leading producer of blackeye peas (a type of bean).

In 1992, U.S. farmers planted 17 percent less acreage to dry beans because of weak prices following two bumper crops.

Between 1988 and 1991, world trade in dry beans increased from 1.4 million metric tons to more than 2 million metric tons. The United States and China, the leading exporters, together account for about half of world sales.

During the 1980's, the United States was the leading exporter, but China moved into

U.S. Production of Dry Beans Hit a Peak in 1991, Then Declined in 1992

Source: National Agricultural Statistics Service, USDA.

the lead in 1991 as it increased its exports by nearly 50 percent to 700,000 metric tons.

Argentina is usually the third largest exporter, selling more than 75 percent of its crop on the world market. Thailand and Myanmar (formerly Burma), two other major exporters, had lower production in 1991 because of dry weather.

Canada, Chile, Hungary, and Turkey also usually rank among the top 10 dry bean exporters.

Asia is a booming market for dry beans, but the United States has not made significant inroads into that market. However, South Korea did buy nearly 7,000 metric tons from the United States in fiscal 1991, after virtually no purchases the previous year.

China has captured much of the growth in dry bean imports in Asia.

China has increased production of traditional types of Asian dry beans for export, especially the red Adzuki beans favored in Japan and Taiwan. China has also captured a larger share of the dry bean market in Southeast Asia because it has the varieties importers are seeking at prices of about $300 per metric ton, which is one-third less than the U.S. price.

While U.S. exports to Japan declined from a peak of 31,000 metric tons in 1989 to 25,000 metric tons in 1991, deliveries by China increased. China also has provided most of the dry beans for the booming Indonesian market.

World Production a Record

World production of dry beans increased to a record 21 million metric tons in 1991. In 1992, production gains in Asia and Latin America were offset by declines in the United States and Africa.

India is one of the leading producers of dry beans, with more than 4 million metric tons in each of the last 2 years. China also produced about 4 million metric tons last year. Brazil, famous for its black beans, is the world's third largest producer (more than 2 million metric tons annually in recent years).

European dry bean production (excluding Russia's 110,000 metric tons) declined from 701,000 metric tons in 1988 to 485,000 metric tons in 1990, mostly because of Romania's decline from 200,000 to 58,000 metric tons. The Romanian decline was the result of farmers shifting to crops with a higher return to land and labor where machinery could be used effectively. Production is also declining in some other European countries where small farmers lack harvesting machinery.

Prices bottomed out in the spring of 1992, then began edging back up when new markets opened up in the former Soviet Union and in Africa. At the same time, exports by some competitors, such as Thailand and Morocco, were dwindling, and expectations of a smaller U.S. harvest (possibly off by as much as one-third) were confirmed.

Although dry beans remain a small part of total U.S. agricultural exports (less than 1 percent), their share by value nearly doubled between fiscal 1988 and 1991. ■

Vegetable Farms Account for 14 Percent of U.S. Crop Receipts

Vegetable farms generated 14 percent of all cash receipts for U.S. crops in 1990.

Economists John Jinkins and Gary Lucier of USDA's Economic Research Service developed a financial profile of U.S. vegetable farms, using information from USDA's annual Farm Costs and Returns Survey.

"It's important to understand the financial status and characteristics of vegetable farms in order to assess current trends," Jinkins says.

Among the factors that could have significant effects on U.S. vegetable farming, Jinkins says, are consumer concerns about agricultural chemicals, increasing urban competition for water, and potential regional and worldwide trade agreements.

Jinkins and Lucier define a vegetable farm as a farm receiving at least half of the total value of its production from vegetables (including melons). Some vegetable farms also grow other crops, such as grains or cotton.

Labor is the largest variable cost on vegetable farms.

The study identifies three farm sizes, based on value of production. Large farms have annual production valued at $250,000 or more, medium or mid-sized farms $40,000 to $249,999, and small farms less than $40,000.

"About 22 percent of vegetable farms were in the large-farm category," Jinkins says. They accounted for 62 percent of the total value of vegetable production.

More than 50 percent of all vegetable farms were in the small-farm category, but accounted for just 1 percent of the value of vegetable production.

Debt Ratio Is Relatively High

In 1990, large vegetable farms averaged $28 of debt for every $100 of farm assets. This compares with $19 of debt per $100 of assets for other types of large U.S. farms and ranches.

"Farm businesses with strong incomes may be able to handle relatively high debt-to-asset ratios easily," Jinkins says. "Large vegetable farms needed 3 percent of their 1990 net income for debt service, the same proportion as on other types of farms and ranches in the same size group."

Fifty-four percent of all vegetable farms were classified as being in favorable financial condition in 1990. "Favorable" is defined as having positive net cash farm income and a debt-to-asset ratio of 40 percent or less.

Large vegetable farms produced $8 of farm income for every $100 of assets, while small vegetable farms lost $3 for every $100 of assets. The comparable totals for other types of farms and ranches were $7 in income for large operations and minus $2 for small operations.

Financial Characteristics of U.S. Vegetable Farms, 1990

	All vegetable farms	Under $40,000 annual production	$40,000-$249,999 annual production	$250,000 or more annual production
		Dollars per farm		
Value of vegetable production	210,790	7,919	97,568	821,817
Government payments	3,570	516	4,541	9,717
Gross cash income [1]	237,762	11,314	129,376	899,300
Cash expenses	190,669	10,365	94,739	728,376
Net cash farm income [2]	47,093	949	34,638	170,924
Assets	555,633	260,364	485,234	1,337,394
Debt	109,202	11,762	83,919	369,526
Net worth (assets-debt)	446,431	248,602	401,315	967,868

1/ Includes sales, government payments, and other cash income.

2/ Cash available after all cash expenses have been paid for living expenses, principal repayment, income taxes, and so on.

Source: 1990 Farm Costs and Returns Survey, USDA.

In 1990, mid-sized vegetable farms generated $19 in profits for each $100 worth of commodity production. In comparison, other kinds of farms and ranches in the mid-sized group had profit margins of $6 for each $100 of production.

However, large vegetable farms had profit margins of $13 for each $100 of vegetable production, while other types of large farms reported profit margins of $18 per $100.

Large vegetable farms spent $81 on inputs (including labor, seed, and chemicals) for every $100 of income they earned. This was about the same as for all other large farms and ranches.

Sixty-six percent of large vegetable farms were in the favorable category, compared with 67 percent of other large farms and ranches. Seventy percent of mid-sized vegetable farms and 42 percent of small vegetable farms were in the favorable category.

A Labor-Intensive Sector

"Vegetable farming is labor intensive, and labor accounted for 43 percent—the largest share—of total variable costs on large vegetable farms in 1990," Jinkins says. "This compares with 17 percent on all other large farms and ranches in 1990." (Variable costs are those that rise as the amount of production increases.) Hand labor is often used on vegetable farms for such operations as thinning, cultivating, irrigating, and harvesting.

Expenditures for fertilizers and chemicals—17 percent of variable costs—were the second largest variable cost on large vegetable farms. This category accounted for just 6 percent of variable costs on other farms and ranches in the large size group.

Vegetables are not eligible for direct Government payments, but many vegetable producers receive such payments for other crops, like wheat and cotton, that they also grow on their farms. Large vegetable farms received an average of $9,717 in direct Government payments in 1990, compared with $14,823 for other large farms and ranches.

Gross cash income from all sources averaged $899,300 for large vegetable farms in 1990, compared with $527,344 for other large farms and ranches. The average for mid-sized vegetable farms was $129,376 and for small vegetable farms was $11,314.

Vegetable farms sold 52 percent of their vegetables through marketing contracts and 13 percent through production contracts in 1990. Under a production contract, the contractor pays the farmer to produce vegetables, sometimes specifying how the crop should be grown and providing some of the inputs. Under a marketing contract, the producer agrees to provide the contractor with vegetables for a specified price, but usually maintains control over production methods. ■

Based primarily on information provided by economists John Jinkins, Agriculture and Rural Economy Division, and Gary Lucier, Commodity Economics Division, Economic Research Service.

Farm Real Estate Taxes Vary Widely Among States

Taxes on U.S. farm real estate rose to $4.6 billion in 1990, 3.7 percent higher than the previous year, reports attorney Peter DeBraal of USDA's Economic Research Service (ERS). The U.S. average tax per acre was $5.27, up from $5.06 in 1989.

USDA gathers information on farm real estate (land and buildings) taxes from local tax officials in an annual survey.

According to DeBraal, the rise in taxes per acre in 1990 was slightly greater than the rise in farmland values, so that the average tax per $100 of full market value on U.S. farm real estate rose only slightly from $0.76 in 1989 to $0.78 in 1990.

Over the last three decades, taxes per acre have risen at a faster rate than farmland values, DeBraal notes. Consequently, taxes per $100 of full market value over the same period have dipped. He explains that local governments have been relying on taxes per acre for income, even though land values have not been increasing.

The average tax per $100 of market value rose slightly in 1990.

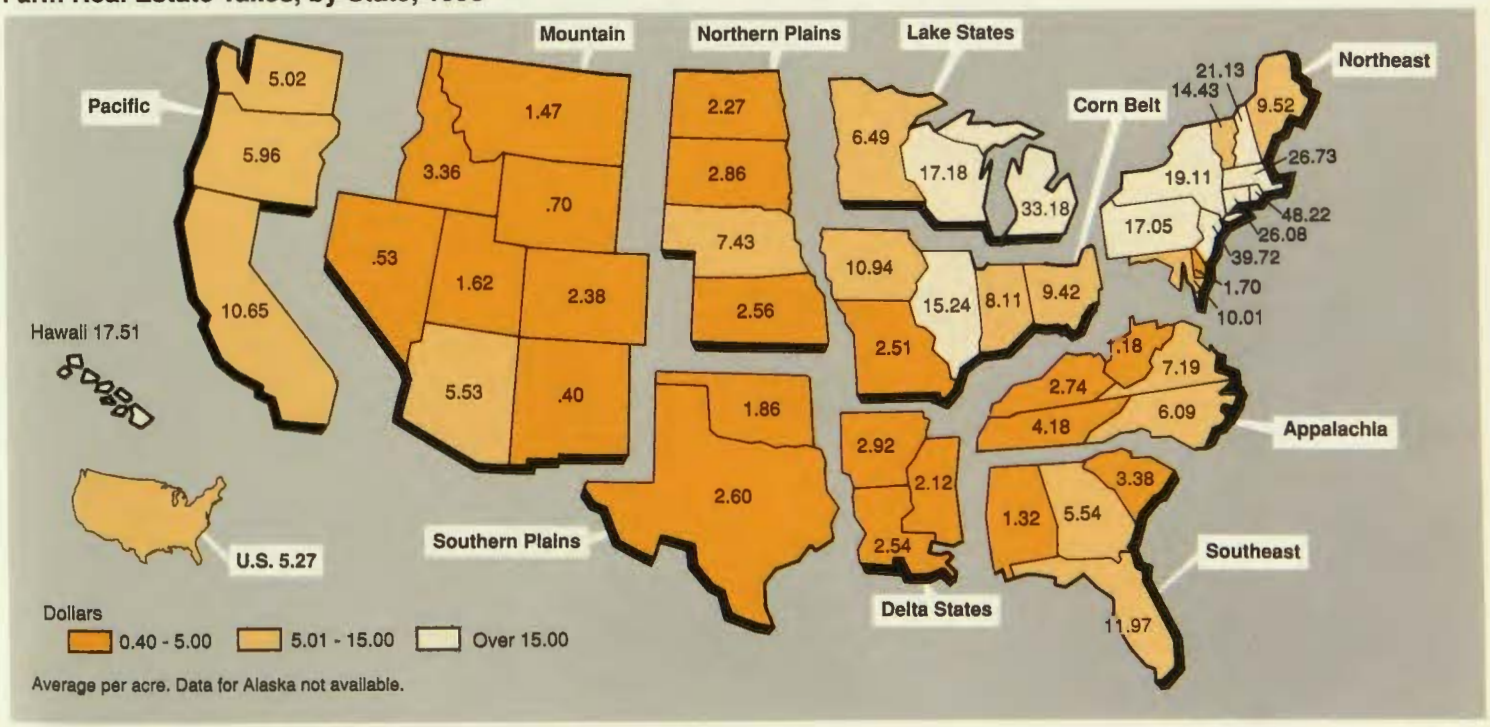
But considered as a percentage of all State and local revenues, taxes per acre of farm real estate have declined since 1968. DeBraal says this is because of increases in State and local sales and income taxes.

In 1990, taxes per acre were higher in 39 States and lower in 10. In 1990 taxes per $100 of full market value were higher in 34 States, lower in 13, and unchanged in 2. (Data from Alaska are not available.)

The average tax per acre varied widely among the States—from $0.40 in New Mexico to $48.22 in Rhode Island. It also varied widely among regions. In the Corn Belt, for example, tax per acre ranged from $2.51 in Missouri to $15.24 in Illinois. In the Southeast, tax per acre ranged from $1.32 in Alabama to $11.97 in Florida.

Tax per $100 of full market value ranged from 8 cents in Delaware to $3.30 in Michigan. In the Mountain region, the average

Farm Real Estate Taxes, by State, 1990



If you'd like more information about real estate taxes on farmland, call 1-800-999-6779 or write to ERS-NASS, 341 Victory Drive, Herndon, VA 22070, and ask for *Agricultural Land Values and Markets Situation and Outlook Report*, AR-26, June 1991.

tax ranged from $0.21 in New Mexico to $2.10 in Arizona.

Variations in taxes among States occur partly because States differ in the degree to which they rely on real estate taxes, DeBraal says, rather than income or sales taxes as a source of local revenue. Variations also occur because States differ in the extent to which they provide tax relief, such as preferential land-use assessment, homestead and old-age exemptions, and veterans' preferences. ■

Based on information provided by attorney Peter DeBraal, Resources and Technology Division, Economic Research Service.

Hay: A Major Ingredient in Many Livestock Operations

Hay is a $3-billion-a-year industry in the United States. In 1990, it ranked eleventh in cash receipts among U.S. farm commodities—ahead of tobacco, tomatoes, and potatoes.

Hay production of 153.5 million tons in 1991 was 5 percent above that of the previous year. This year's production, however, is expected to be about 147 million tons, according to economist James Cole of USDA's Economic Research Service.

Because of larger stocks and lower prices, harvested hay area this year is expected to be down about 3 percent from 1991's total of 62.6 million acres. The most recent peak occurred in 1988, when 65.1 million acres were harvested.

The top five States in 1991 hay production were Texas, Wisconsin, California, Minnesota, and South Dakota. Together they accounted for 28 percent of the Nation's hay output.

Three-fourths of U.S. hay is fed to livestock on the farms where it is grown.

Hay is produced in all 50 States. Only in Florida and Hawaii was it not among the top 20 commodities in cash receipts in 1990. California had the highest returns that year with $670 million, while Texas had the largest hay area harvested at 3.8 million acres.

U.S. production increased from 127 million tons in 1970 to 147 million in 1990. Most of the gain can be attributed to increases in the average per-acre yield (2.07 tons in 1970 compared with 2.39 tons in 1990), since harvested area stayed about the same (61.5 million acres in 1970, 61.6 million in 1990).

"Improved technology and better production practices are the primary reasons for the steadily increasing yields," Cole says.

An Important Feed

About three-fourths of the hay produced in this country is fed to livestock on the farms where it is grown, Cole says. But a majority of dairies in California and parts of Arizona and New Mexico buy all their hay.

In 1991, the marketing year average price producers received for a ton of hay sold was $71, $10 below the average price in 1990. The record price was 1989's average of $85.40 per ton following the 1988 drought.

Beginning hay stocks for 1992 were more than adequate, with a carry-in of 28.6 million tons, Cole says. This was about 1.6 million tons above year-earlier levels. "We had a mild winter last year, so livestock were able to graze on pasture for a longer period, and hay stocks did not have to be used as extensively," the economist says.

Like pasture and corn, hay is an important livestock feed. It is fed primarily to cattle, sheep, and horses, but alfalfa meal and pellets are used as feed for swine and poultry, too.

Dairy and beef cattle consume between 90 to 95 percent of all hay produced in the United States, with the balance going to horses, sheep, and processing uses.

High in Nutrients

Average-quality hay contains between 25 and 35 percent crude fiber and 45 to 55 percent total digestible nutrients (TDN).

The nutritional quality of hay depends on how often it is cut and how long it is stored. "Hay can produce as many as eight cuttings per year," Cole says, "but the crop tends to lose some of its quality with each successive cutting."

Hay helps ruminant animals' digestive tracts perform properly. It acts as a stimulant in moving feed through the intestines. It also speeds the development of the rumen function in young livestock.

Because hay comes from many different plants, its nutrient content and palatability vary, Cole says. Moreover, hay alone does not provide a balanced feed ration and is commonly supplemented by other feeds and feed concentrates.

Alfalfa usually accounts for more than 50 percent of all hay produced, Cole says. About 80 percent of alfalfa is used as hay, with the rest consumed as pasture, silage, and processed alfalfa.

Wisconsin is the top producer of alfalfa, accounting for 8.4 million tons in 1991, followed by California with 7.0 million tons. Alfalfa is the leading cash crop in New Mexico, Utah, and Nevada.

Its long root system makes alfalfa a relatively drought-resistant crop. But to produce top yields, alfalfa needs lots of water and favorable growing conditions. The national average yield has been about 3.1 tons per acre since 1988 (which includes two sub-par years), but in Arizona, where acreage is irrigated, yields average over 7 tons.

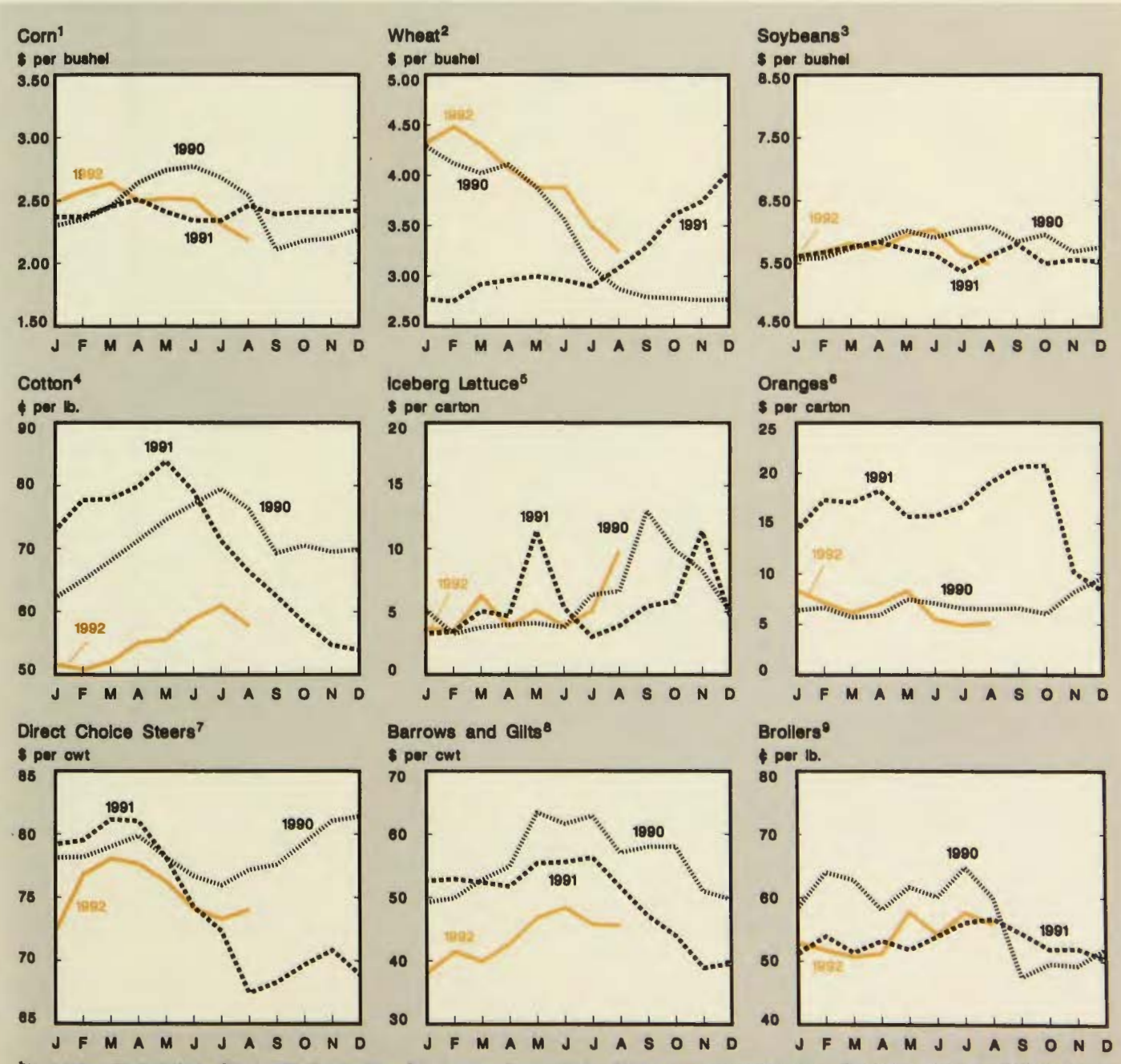
Of all the legume hays, alfalfa has one of the highest protein contents per acre. The protein content of alfalfa meal averages 19 percent. Alfalfa hay is also high in calcium, carotene, and other vitamins and minerals.

Clover is another important hay crop, and numerous types of grasses provide smaller amounts of hay. Some hay is made from food grains. Barley, oats, rye, and wheat make nutritious hay if cut when stems and leaves are still green and the grain is in the soft dough stage. ■

Based primarily on information provided by economist James Cole, Commodity Economics Division, Economic Research Service.

Monthly Price Monitor

USDA's August 1992 inflation-adjusted index of farm prices, from the National Agricultural Statistics Service's Agricultural Prices report, was 0.7% below July and 6.2% below a year earlier. Wholesale market prices follow. Corn lost 13¢ to $2.18 per bushel, its lowest price since September 1990. Wheat declined by 25¢ to $3.24 per bushel, the lowest price since last August. Soybeans were down by 17¢ to $5.48 per bushel, its lowest since July 1991. Cotton slipped to 57.6¢ per pound, the first decrease since February. Lettuce jumped to its highest level this year at $9.76 per carton. Oranges gained 21¢ to $5.02 per carton. Direct choice steers increased by 74¢ to $73.96 per hundredweight, after a 5-month decline. Barrows and gilts dropped by 16¢ to $45.37. Broilers lost 1.8¢ per pound to 55.7¢.



[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16", spot market price. [5]Standard carton 24's, California-Arizona. [6]Central California, Standard carton. [7]Nebraska. [8]Omaha. [9]Wholesale, New York. All prices shown are monthly averages.

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