THE FARM INDEX

October 19

ECONOMIC RESEARCH SERVICE • U.S. DEPARTMENT OF AGRICULTU

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SUPERABUNDANCE AT THE SUPERMARK

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ECONOMIC TRENDS

Item	Unit or base period	'57-'59 Average	1962		1963		
			Year	August	June	July	August
Prices:							
Prices received by farmers	1910-14=100	242	243	244	241	245	242
Crops	1910-14=100	223	230	228	244	239	234
Livestock and products	1910-14=100	258	255	257	239	249	249
Prices paid, interest, taxes and wage rates	1910-14=100	292	306	305	311	312	311
Family living items	1910-14=100	286	294	294	298	299	298
Production items	1910-14=100	262	269	268	272	273	273
Parity ratio		83	79	80	77	77	78
Wholesale prices, all commodities	1957-59=100	.....	100.6	100.5	100.3	100.6	100.4
Commodities other than farm and food	1957-59=100	.....	100.8	100.6	100.6	100.8	100.8
Farm products	1957-59=100	.....	97.7	97.6	94.9	96.8	96.3
Food, processed	1957-59=100	.....	101.2	101.5	102.4	102.2	100.9
Consumer price index, all items	1957-59=100	.....	105.4	105.5	106.6	107.1	.....
Food	1957-59=100	.....	103.6	103.8	105.0	106.2	.....
Farm Food Market Basket:[1]							
Retail cost	Dollars	1,037	1,067	1,068	1,069	1,088	.....
Farm value	Dollars	410	410	412	385	403	.....
Farm-retail spread	Dollars	627	657	656	684	685	.....
Farmers' share of retail cost	Per cent	40	38	39	36	37	.....
Farm Income:							
Volume of farm marketings	1947-49=100	123	136	138	109	130	139
Cash receipts from farm marketings	Million dollars	32,247	35,921	3,019	2,291	2,781	2,950
Crops	Million dollars	13,766	15,935	1,329	815	1,197	1,310
Livestock and products	Million dollars	18,481	19,986	1,690	1,476	1,584	1,640
Realized gross income [2]	Billion dollars	.....	40.8	.....	40.6	.....	.....
Farm production expenses [2]	Billion dollars	.....	28.2	.....	28.6	.....	.....
Realized net income [2]	Billion dollars	.....	12.6	.....	12.0	.....	.....
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	5,031	359	506	410	.....
Agricultural imports	Million dollars	3,977	3,876	330	323	335	.....
Land Values:							
Average value per acre	1957-59=100	.....	118 [3]	120 [4]	123 [3]	127	.....
Total value of farm real estate	Billion dollars	.....	137.4 [3]	139.5 [4]	143.6 [3]	148.1	.....
Gross National Product[2]	Billion dollars	456.7	554.9	552.4	579.6	.....	.....
Consumption [2]	Billion dollars	297.3	355.4	352.9	370.4	.....	.....
Investment [2]	Billion dollars	65.1	78.8	79.6	80.7	.....	.....
Government expenditures [2]	Billion dollars	92.4	117.0	115.5	123.8	.....	.....
Net exports [2]	Billion dollars	1.8	3.8	4.4	4.8	.....	.....
Income and Spending:							
Personal income	Billion dollars	.....	442.1	444.6	462.6	464.6	464.9
Total retail sales [5]	Million dollars	.....	19,613	19,671	20,486	20,759	20,767
Retail sales of food group [5]	Million dollars	.....	4,801	4,848	4,923	5,015	.....
Employment and Wages [5]							
Total civilian employment	Millions	.....	67.8	68.1	68.6	69.2	68.9
Agricultural	Millions	.....	5.2	5.1	4.9	5.0	4.8
Rate of unemployment	Per cent	.....	5.6	5.7	5.7	5.6	5.5
Workweek in manufacturing	Hours	.....	40.4	40.2	40.5	40.4	40.3
Hourly earnings in manufacturing, unadjusted	Dollars	.....	2.39	2.37	2.46	2.45	2.43
Industrial Production [5]	1957-59=100	.....	118	119	126	127	126
Manufacturers' Sales and Inventories:							
Total sales, monthly rate [5]	Million dollars	.....	33,260	33,290	35,150	35,910	.....
Total inventories	Million dollars	.....	57,210	56,970	58,770	58,980	.....
Total new orders, monthly rate	Million dollars	.....	33,050	32,830	35,000	35,460	.....

[1] Average annual quantities of farm food products based on purchases per wage-earner or clerical-worker family in 1952—estimated monthly. [2] Annual rates seasonally adjusted second quarter. [3] As of March 1. [4] As of July 1. [5] Seasonally adjusted.

Sources: U.S. Department of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Department of Commerce (Industry Survey, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Department of Labor (The Labor Force and Wholesale Price Index).

THE AGRICULTURAL OUTLOOK

Prices received by farmers so far this year are little changed from 1962—slightly higher for crops but a little lower for livestock and products.

Farmers are producing more livestock than in 1962. Increases in beef, pork and poultry are more than offsetting decreases in milk and eggs. Livestock and product prices dipped earlier this year, then recovered somewhat in June and July. But prices for the year probably will be under the 1962 level.

Crop prices received by farmers are running slightly higher this year because of a relatively favorable supply and demand situation. Indicated crop output for the year is about the same as in the last 3 years; domestic and foreign demand continue to increase. For the rest of 1963, prices likely will average a little below the first 3 quarters, but for the year will average above 1962.

Output, employment, income and sales continue to increase in the U.S. economy though the pace slackened slightly during the third quarter. In August, personal income rose slightly from July to a record-high $465 billion (seasonally adjusted annual rate) and new construction expenditures edged up to $65 billion. Retail sales in August were about the same as the $20.8 billion sales a month earlier. Employment and output each dipped a little in August . . . the declines largely reflected temporary changes in August by more than the small reduction in employment leading to the lowest monthly rate of unemployment recorded so far this year.

In the past few months, the general level of business activity has been around 5 per cent above 1962 levels. In June-August, personal income totaled 5 per cent higher than a year earlier, with increased compensation of employees accounting for most of the rise. Industrial output and retail sales were each up nearly 6 per cent from June-August 1962 and new construction increased more than 3 per cent. Employment expanded about in proportion to the increase in population.

Further advances in the level of business activity are in prospect . . . inventories continue well in line with sales and, according to a July survey by the Bureau of the Census, consumers planned to buy more new cars, refrigerators, television sets and other durable goods in the next 12 months than they had planned in July 1962.

COMMODITY HIGHLIGHTS

Hog slaughter in the final quarter of 1963 probably will be slightly above a year earlier, reflecting the additional 1 per cent of pigs saved in December 1962-May 1963. Barrow and gilt prices likely will be slightly below a year earlier ($16.51 at 8 major markets in October-December 1962).

Fat **cattle** marketings during the fourth quarter likely will be above last year. Prices are expected to stay near the July-August level—$24.66 for Choice steers at Chicago.

Fourth quarter cow slaughter likely will be only a little above a year earlier . . . was about the same as 1962 during the first 7 months this year.

Slaughter of **sheep and lambs** in the fourth quarter is expected to average somewhat below a year ago. Lamb prices may be off somewhat from October-December 1962 when Choice slaughter lambs at Denver brought $20.09.

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EDITOR, Theodore Crane; ASSISTANT EDITOR, Story E. Moorefield; STAFF EDITORS, Marilyn Harrison Grantham and John Metelsky; PRODUCTION EDITOR, Lilla Dunovant McCutchen.

Milk production in 1963 likely will be slightly below 125.9 billion pounds in 1962. Lower production and more commercial demand the first 8 months this year cut CCC purchases (delivery basis) about 25 per cent from a year earlier. August butter output dropped 10 per cent from 1962, while American cheese production increased about 9 per cent.

Turkey supplies in the September-December marketing season are expected to go a little below a year earlier. On September 1 there were 153 million pounds in cold storage, compared with 160 million a year earlier. Prices to producers likely will average slightly above the 22 cents per pound last year.

Egg production during the summer went above 1962, is likely to continue above in the fourth quarter. And early 1964 output may also be up—a large increase in the out-of-season hatch of replacement chicks is expected. Producer prices in August averaged 32.8 cents per dozen compared with 31 cents in July and 32.7 cents in August 1962.

A recent reduction in **broiler** hatchery activity suggests that fourth quarter broiler supplies will not differ greatly from a year ago. However, production may increase in early 1964 if the usual seasonal rise in broiler chick output develops over the next few months. Producers received 14.4 cents for broilers in August compared with 14.7 cents in July and 15.5 cents last August.

Feed grain production in 1963 is up an estimated 5 per cent from last year. Per acre corn yields may be the highest ever and production may surpass the record-high 3.91 billion bushels in 1960. Estimated grain sorghum output is 2 per cent above last year.

The total feed grain supply in 1963-64 is estimated at 211 million tons, 4 million less than in 1962-63 and slightly below the 1957-61 average. Carryover has been trimmed about 24 million tons during the last 2 years, reversing a 10-year uptrend. A further but more moderate decline is expected in 1963-64. Feed grain prices advanced more than seasonally during 1962-63 . . . the index of prices received by farmers in August was 11 per cent above a year earlier. A price decline is expected during the next 2 months, with corn and grain sorghum harvest underway. And prices this fall and winter may decrease to last winter's level.

The 1963 **cotton** crop was estimated September 1 at 14.3 million bales, about 4 per cent below a year earlier, but 9 per cent above the 1957-61 average. Acreage for harvest is down from 1962. But per acre yields are up sharply—estimated at a record-high 482 pounds—from 457 pounds last year.

Cotton disappearance in the 1963-64 crop year is put at 13.8 million bales, up about 2 million from a year earlier. Mill consumption and exports are expected to increase. But carryover in 1964 probably will increase also as production continues ahead of demand.

Soybean production for 1963 is forecast at 728 million bushels—record-high and 8 per cent over last year. Prices farmers receive for soybeans this fall probably will be above the 1963 support rate of $2.25 per bushel. Prices later in the 1963-64 marketing year may advance more than seasonally because of the close balance expected between supply and demand.

Soybean crushings and exports during 1963-64, despite the increasingly strong domestic and export demand for meal, probably will go only slightly above 1962-63 when production was supplemented by a larger carryover. Carryover of 1962-crop beans has dwindled to a minimum level; the same condition may prevail next October.

Heavy disappearance of **wheat** in 1963-64 is expected; the year-end carryover probably will be reduced for the third straight year. Prices likely will average near the $1.82 per bushel loan rate, but may drop late in the marketing year in anticipation of a much lower support rate on the 1964 crop.

Tree nut production in 1963 is the largest on record at an estimated 306,000 tons. This is 14 per cent above the previous high in 1961 and 37 per cent above the average. Pecans lead the increase with the largest crop on record.

Cigarette consumption in 1963 is estimated at about 523 billion—nearly 3 per cent above 1962 and a record high. Consumption of cigars and cigarillos is expected to total about 7,170 million—a gain of about 1.5 per cent over 1962 and the highest in 40 years. Exports of unmanufactured tobacco—the outlet for about a fourth of the crop—may be up about 8 per cent from the relatively low level of 1962.

NEW MARKS FOR FARM OUTPUT

The 1962 report indicates farmers made even higher score on output of crops and livestock, yield per acre and productivity than were recorded in 1961.

It's the same old record breaking story. In 1962, agriculture reached new peaks in total volume of output, production of livestock and products, crop output per acre and agricultural productivity. Once again, the new marks were set with fewer hours of labor and fewer acres. As the result of their efforts, each farmworker was able to feed and clothe one more person than was possible a year earlier.

Farm output and production. The volume of total farm output in the U.S. hit a new peak during 1962, 1 per cent greater than in 1961 and 8 per cent higher than the 1957-59 average.

Production of livestock and products also reached a new mark, 1 per cent above the previous high in 1961 and 7 per cent over the 1957-59 average. Farm output of meat animals totaled 52.2 billion pounds liveweight. Milk production was nearly 126 billion pounds. However, total production of poultry and eggs declined as the reduced output of farm chickens and turkeys more than offset the record supply of broilers and a slight increase in eggs.

Crop production during 1962 equaled the previous high in 1960. Output was 1 per cent greater than in 1961 and 8 per cent higher than the average for 1957-59. Record production of hay and forage, sugar crops and oil crops was obtained while output of food grains, vegetables, fruits and nuts declined from a year earlier.

Crop acreage harvested. Crops were harvested from a total of 295 million acres in 1962. Cropland harvested was 8 million acres less than in 1961 and 54 million under the total a decade ago.

An estimated 63 million acres was used for producing exports in 1962 compared with the record of 67 million in 1961. Most of the cut was due to declines in shipments of wheat and cotton which more than offset the larger exports of soybeans and soybean oil. Food grains accounted for 39 per cent of acreage grown for export during 1962, feed grains made up 27 per cent, soybeans 21 per cent and cotton 7 per cent.

Crop production per acre. Output of crops per acre reached a new high in 1962, 4 per cent over the previous year and 17 per cent greater than the 1957-59 average. New yield records were set for all the feed grains.

Assisting the improvement in yields was a 7 per cent increase in use of fertilizer on farms. As in recent years, the gain in use of nitrogen was substantial—an increase of about 11 per cent over 1961. Little change was noted in applications of liming materials.

Livestock production per breeding unit. Animal units of breeding livestock increased during 1962 for the second year in a row. The number on farms as of January 1, 1962, was 1 per cent over the same date in 1961. Production per unit continued at the record level of 1961.

FARM INPUTS (1957-59 = 100)

Year	Total inputs	Farm labor	Farm real estate	Mechanical power and machinery	Fertilizer and liming materials	Feed, seed and livestock purchases	Miscellaneous
1910	82	212	88	20	12	16	56
1920	93	226	92	32	16	23	67
1930	97	216	91	40	21	26	76
1940	97	192	92	42	28	45	73
1950	101	142	97	86	68	72	85
1960	101	92	100	100	110	109	106
1961	101	89	100	99	114	116	109
1962 [1]	101	85	100	96	123	120	111

[1] Preliminary

Feeding of all classes of livestock continued to be liberal through 1961-62. Feed efficiency dropped slightly for all classes except milk cows.

Man-hours of farmwork. Labor used on farms reached a new low of 9.1 billion man-hours in 1962, a decrease of 4 per cent from the previous year and a continuation of the long-term trend.

Growing and harvesting of crops took about 4.2 billion man-hours last year and work with livestock required 3.7 billion. The remaining time was spent on farm maintenance and other overhead work.

Farm output per man-hour of labor in 1962 was almost 6 per cent higher than in 1961.

Persons supplied farm products by one farmworker. The average farmworker produced enough food, fiber and tobacco during 1962 to supply himself and almost 28 other people. Close to four of these consumers were citizens of foreign countries. Since 1950, each farmworker has managed to supply more than one additional consumer each year.

Farm inputs. The total value of agricultural inputs continued at the same level in 1962 as in 1961 and 1960. However, farmers are increasingly dependent on the nonfarm sector of the economy for production goods and services. This trend reflects the increased specialization and use of improved practices in farming. During 1962, the volume of purchased inputs was 7 per cent higher than that of 1957-59. The purchased items accounted for over two-thirds of all measured inputs.

Although the use of agricultural inputs remained stable during 1962, they were the most productive on record. Farm output per unit of input was 7 per cent greater than the 1957-59 level. *(1)*

MAN-HOURS OF LABOR USED FOR FARMWORK

Year	Total man-hours	Index 1957-59=100
	Millions	
1910	22,547	212
1920	23,995	226
1930	22,921	216
1940	20,472	192
1950	15,137	142
1960	9,825	92
1961	9,473	89
1962 [1]	9,085	85

[1] Preliminary

Farmers Keep on Breaking Records Without Adding to Production Inputs

Breaking production records is nothing new in agriculture. But the fact that farmers continue to set new peaks in output without changing the overall total of production inputs is noteworthy.

Although production in other parts of the economy also has climbed remarkably during the last 30 years, a corresponding increase in items necessary to produce went with the increase.

However, within the sum of farm inputs, quite a few changes have occurred. Generally, nonlabor items have taken the place of labor, while the amount of farmland has remained nearly stable. Farmers today use more and more mechanical power, fertilizer and lime, feed, seed and livestock to turn out food and fiber than they did in the late twenties and early thirties. Most of these technological changes require the use of more capital.

The major reason for changes in production items is price—both in comparison to earlier price levels and relative to substitutes. For instance, much of the increased use of fertilizer can be accounted for by the prices for it through the years.

Prices of production goods and services often change in response to technological shifts outside of agriculture. Obviously, most of the prices for production items are beyond the farmer's control but he can and does change the amounts he uses. The measure of the general level of these prices is the index of prices paid.

Changes in inputs have had some other effects. For instance, more machinery and better use of it enable farmers to get crops planted and harvested in much less time. New crop varieties with shorter growing seasons and increased knowledge of soil and water management also have reduced the hazards of weather. *(2)*

Farmers Put Up More New Barns, More Storage Buildings Than Homes

As might be expected, operators of large farms build considerably more new structures than do farmers with smaller operations. In 1958-60, farmers with annual marketings of $40,000 or more constructed 71 new buildings per 100 farms. At the other end of the size scale, farmers with less than $2,500 in annual sales built only eight new structures per 100 farms during the same period.

The new structures on the small farms were more apt to be dwellings—these averaged about a fourth of all new buildings. For all other farms—those with more than $2,500 worth of marketings annually—dwellings were only a tenth of the buildings added from 1958 to 1960.

Of all farm buildings built within the three-year period, nearly a fourth were barns of different types. Next in importance were grain storages—they were one-fifth of all farm buildings erected during 1958-60. Dwellings came in third place, followed by machine sheds.

Lumber continued to be the most important material for exterior walls and framing. Masonry was used for at least part of the exterior walls on nearly half the dairy barns and close to a third of the dwellings. Metal and composition together were the materials used for 90 per cent of the new roofs. Metal was by far the most popular roofing for service buildings while composition materials were used for most of the houses. *(3)*

Asbestos Dollars

The volume of fire insurance carried by some 1,600 farmers' mutual fire insurance companies totaled $36.4 billion on December 31, 1962. The total on the same date in 1961 was $35.3 billion.

Farmer members of these companies paid about $104 million for their fire insurance protection during 1962—premiums totaled about $99 million the previous year. The increased cost was due primarily to larger amounts of coverage rather than a hike in assessment rates although the average assessment did rise from 28.6 cents per $100 of insurance to 29 cents last year.

Losses paid by farmers' mutual fire insurance companies were $67.3 million during 1962. During 1961, the companies paid out $61.4 million. *(4)*

Models Show Price Change Effect For Cotton and Alternative Crops

There's one obvious way to get farmers to grow more of a commodity—raise the price. It's almost as effective, though not quite, to lower the price of alternative commodities.

To get an idea of the effect of such price changes on farm production, economists analyzed the theoretical responses that would be most profitable on model farms in the limestone valleys of northern Alabama. The use of improved production practices as followed by the upper 10 per cent of the farmers in the area was assumed for the models. The study was conducted by the Alabama Experiment Station in cooperation with the Economic Research Service.

When all other commodities are at the assumed base price, and cotton is at 20.8 cents a pound, a considerable amount of cotton is grown on the larger farms of the area. Little or no cotton is grown on the smaller farms. Push the price of cotton to 26 cents, and cotton acreage for the region more than doubles. Finally, when cotton goes to 31.2 cents a pound, acreage is increased another 25 per cent and just about all the suitable land is planted to cotton.

Cutting the price of competing commodities also helps to push land into cotton, even when the price of cotton is lowered. When prices for competing commodities are 30 per cent below base, and cotton is 15.6 cents a pound, the land use ratio is about the same as it is when cotton is at 20.8 cents and prices for all other commodities are at base.

And when the prices of competing commodities are cut, but the price of cotton is held at 20.8 cents, once again just about all the suitable land in the area goes into cotton.

Cotton loses its appeal quickly, however, when prices for competing commodities are raised 30 per cent above base. Not until the price of cotton reaches 26 cents a pound is there any noticeable production. Even at 36.4 cents a pound, not all the suitable acreage will be planted to cotton.

The commodities included in the analysis were cotton, oats for grain, wheat, grain sorghum, soybeans, lespedeza and alfalfa hay, beef cows, feeder steers, hogs, and manufacturing grade milk. *(5)*

Hot and Heavy

Farm fire losses reached an all-time high of $175 million during 1962—7 per cent above the $163 million in 1961. The estimate is based on reports from 226 farmers' mutual fire insurance companies.

Buildings and their contents accounted for about 85 per cent of the losses covered by mutual fire insurance. The buildings include dwellings, barns and outbuildings, rural churches and schools. The remaining 15 per cent of rural fire claims were for personal property—chiefly livestock and machinery and equipment. Lightning was responsible for about 80 to 90 per cent of the livestock losses.

Farm fires strike about two out of every 100 farms each year. The proportion of the property value destroyed in a farm fire averages about six times that of urban fires. *(6)*

Buying Land Is Often Only Chance For Michigan Farmer To Get Ahead

Future financial progress on many Michigan farms will depend importantly on the ability of farmers to buy or rent more land. Some farmers will be able to rent additional acreages but buying will be the only alternative in many cases.

Look at the land purchases of a group of Michigan farmers between 1930 and 1960.

When these men started out, only half bought land. Forty-three per cent rented their farms and 7 per cent began farming on acreage they had inherited or received as a gift.

Regardless of their original source of farmland, 87 per cent of the Michigan producers ultimately bought land.

Purchases averaged nearly two per farmer and cost roughly $10,994 each. Two-thirds of the transactions were for adding land to the existing farms.

Thirty-eight per cent of the land purchases reported by the survey farmers were completely financed by loans and another 50 per cent were closed by mortgages with a down payment. Only one out of 10 land transfers was a cash deal—most of these were small purchases.

One-fifth of the land transactions were for $20,000 or more. These large purchases, although small in number, accounted for half the dollar volume of credit obtained by the group of farmers.

Sometimes loans were for sums larger than the purchase price of the land. The extra funds provided for capital improvements or production needs. *(8)*

FARM MORTGAGE LENDING UP DURING FIRST QUARTER 1963

Twenty major life insurance companies, the federal land banks and the Farmers Home Administration together closed $451 million in new and additional loans during the first quarter of 1963. This sharp increase was 19 per cent over January-March 1962.

The amount of mortgages closed by life insurance companies during the first quarter of 1963 was 41 per cent higher than the volume made in January-March 1962. The average size of new loans reached $27,000, up $2,000 from a year earlier.

About half the life insurance loan commitments in early 1963 were to refinance existing debt. An additional one-third were to buy farm real estate and the remaining mortgages were for repairs, improvements and miscellaneous purposes.

Interest on life insurance loan commitments during the first three months of 1963 averaged 5.75 per cent, down slightly from 5.78 per cent in October-December.

The federal land banks reported a 7 per cent rise in closings during the first quarter of this year compared with the first quarter of 1962. However, the increase was largely due to a 6 per cent gain in the size of loans which averaged $15,320 for the three-month period. The number of loans made by the land banks during January-March was up less than 1 per cent from early 1962.

Federal land bank interest rates did not change during the first three months of 1963. Two banks were charging 5.75 and 6 per cent respectively, and the remaining 10 made loans at 5.5 per cent or less.

Mortgage loans made directly by the Farmers Home Administration (including additions to existing loans) in early 1963 dropped to $28 million from $80 million in fourth-quarter 1962. FHA closed $35 million in loans during January-March 1962. *(7)*

Wisconsin Farmers With FHA Loans Earn More Money Than Their Peers

How can you tell a farmer with a loan from the Farmers Home Administration (FHA)? Not an easy task if you look at the clothes he wears or the car he drives. But taking comparative farm statistics for FHA borrowers in Wisconsin we can see significant variations from state averages.

A below average group in terms of income per crop acre ($73.77 in 1961 for FHA loan recipients as against $97.50 for the overall state average), FHA borrowers were above average in total farm income. How? By farming more acres (206 compared with a state average of 162).

In 1961, more than 2,100 Wisconsin farmers received loans from the FHA. Fully living up to the reputation of the dairy state, FHA borrowers were dairy farmers to the tune of 96 per cent, although hog production was frequently listed as a secondary source of income. And compared with other Wisconsin dairy producers FHA borrowers achieved about average milk income per cow whether they were grade A or grade B producers.

Since there is a close correlation between the different prices received for A or B grade milk and the variations in farm income, switching to grade A production would be an effective means for raising income per acre. The switch should bring in an additional $400 annually to the average FHA borrower.

Raising the size of herds could also contribute to increased income. The average FHA borrower now has only one cow for each 4.9 acres compared to one cow to 3.7 acres for grade A milk producers. To equal the size of herd averaged by grade A producers, the FHA borrowers would need to increase the size of their cow herds from the present 27 to 35 or 36. *(9)*

Survey Rates Farm Income Position By Assets and Scale of Operation

For many farmers, getting ahead in farming means enlarging their size of operation and borrowing, if necessary, to do it. This is the conclusion of a study of financial progress on Michigan farms.

In the study a group of farmers were ranked according to the value of the farm assets they owned in 1953. Based on rank, the group was divided into small and large farmers. Then each of the size groups was analyzed according to changes in their farm assets between 1953 and 1958.

To begin with, the small farmers averaged about $17,000 in owned farm assets; the large farmers averaged $48,000. The increase in value of farm assets was much the same for both the small and large producers. The changes were $13,000 and $14,500, respectively. However, because the small farmers didn't own as much to begin with the increase for them percentagewise was two and a half times the gain for the large producers.

Comparisons of the groups by change in assets were revealing. Take the low- and high-increase groups of small farmers. Each of these groups averaged about $17,000 in farm assets in 1953. Five years later the low change group reported practically the same total while the high-increase farmers owned around $45,000 worth of farm assets.

The results were similar for the large producers. The low-increase group added little or nothing to their original farm assets of $44,000 while the high-increase group increased their assets from roughly $54,000 to $87,000 per farm.

These increases in assets reflect mainly the physical growth in size of farm operations. Farm assets owned in 1958 were valued at 1953 prices or at cost if acquired after 1953.

A good part of the increase in farm assets for the high-increase producers was due to ownership of more land. Large and small farmers who showed a high increase purchased an average of more than 70 acres of land between 1953 and 1958—low-increase men made no major additions to their farms.

During the same period, the high-increase farmers borrowed around $30,000 each—much more than was borrowed by the small-increase group. Nearly half of the credit was used to finance land purchases with the remainder going into additional livestock and machinery.

Despite a high rate of repayment, the high-increase producers reported $17,000 more debt per farm in 1958 than was the case in 1953. Little change occurred in the net debt of the low-increase group.

Although the high-increase farmers borrowed heavily to increase their ownership of assets, the gain value—from price increases as well as physical increases—more than offset their larger debts. The result was considerable progress in building net worth. Net farm incomes also increased substantially.

The opposite was true for the low-increase men: Little change in debt, little change in assets and income because they didn't use credit as a managerial tool; little change in net worth except for the increase in the value of the land they started with.

A revealing difference between the high- and low-increase farmers, whether small or large, was age. The high-increase men averaged five years younger. They very likely had more managerial drive. *(10)*

URBAN NEEDS CUT WIDE SWATH THROUGH THE COUNTRYSIDE

Here are some examples of the acres new urban facilities can cover.

Airport construction requires not only the land necessary for proper operation of the aircraft and access to the terminal—additional buffer space may be necessary because of the noise from jets. At the new Dulles International Airport which serves metropolitan Washington, D. C., the airfield and service area occupy 10,000 acres. In addition, the access road to the airport took another 915 acres in covering 17 miles. As is usual in the vicinity of a new airfield, plans for housing and commercial development have earmarked more acres nearby.

Even recreational use of farmland, whether alone or in combination with tourist enterprises, has effects that reach farther into land use and values than planners may expect. Construction of new lakes or reservoirs for power, water and recreation often encourages the building of fishing preserves, hunting grounds, private homes and cottages on the shores. And, as vacationing families visit these places, many often decide the area is just the place to buy an acre or two or even a farm as a permanent site for rest and relaxation.

Next come the roads to get to and from the new facilities. Each mile of new right-of-way for an interstate highway reduces the supply of farmland by about 40 acres.

Along with the new roads come the travel services necessary along the route. These include filling stations, motels and restaurants. Such facilities place even more pressure on the farmland fringe at the edge of the highway.

Although scattered throughout the country, military and other government installations affect the land values in the areas in which they are located. Particularly important are the vast acreages for space testing. *(11)*

Fewer Pear Trees Dot Landscape; Bigger Orchards Producing Crop

Times have changed even for pears. Back in the thirties, farms all over the country had a pear tree or two. In season, pears were a familiar treat for eating out of hand. Nowadays, pears are mostly produced in large commercial orchards and the bulk of the crop is canned.

According to the Census of Agriculture, the number of farms reporting pear trees or production dropped drastically between 1940 and 1959. The number of trees bearing also decreased sharply. However, thanks to higher yields on the remaining trees, total production of pears has been relatively stable except for fluctuations caused mainly by weather. According to USDA estimates, output was 29.3 million bushels in 1962 while the high point since 1935 was the 34 million bushels produced in 1947.

Eleven states now account for the commercial pear crop. Of these states, California, Oregon and Washington supply the bulk of annual output with California easily the No. 1 producer.

To illustrate the concentration of production, output of pears in the three Pacific coast states climbed 25 per cent from 1935-38 to 1959-62—from an average of 19.8 million bushels to 24.8 million. In 1959-62, this region produced 89 per cent of total U.S. pear output.

Production in the remaining eight commercial states—Utah, Colorado, Idaho, Texas, Michigan, Pennsylvania, New York and Connecticut—dropped 65 per cent from 1935-38 to 1959-62. Average output in the two comparison periods was 8.8 million bushels and 3.1 million bushels respectively.

Along with the decline in farms reporting pear trees or production, fewer pears are eaten on farms where produced. This reflects the change from small pear producing enterprises to large commercial orchards. Fruit used on farms totaled less than 400,000 bushels in 1962 compared to 3 million in 1935.

More and more of the pears going off farms went to processing plants over the years as sales for fresh use (including exports) declined 35 per cent. The volume sold for processing averaged 7.9 million bushels in 1935-38 and 16.5 million in 1959-62. Most of the pears sold for processing are canned—an average of over 97 per cent during 1959-62. Most of the remaining processed pears were dried.

From 1935 to 1962, total consumption of pears in the U.S. increased about 5 per cent. But with the growth in population, per capita use of pears declined about 25 per cent.

The Bartlett is the leading variety of pear grown in commercial orchards on the Pacific coast. During 1959-62, Bartlett pears accounted for 77 per cent of total output. Nearly 74 per cent of this variety was processed during the period.

Of the remaining Pacific coast commercial varieties — Hardy, D'Anjou, Bosc, Comice, Nelis and Easter—84 per cent was sold through the fresh market. Hardy, a California pear, is also a popular variety for canning in fruit cocktail. *(12)*

Trend in Price of an Acre of Land Parallels Per Capita Nonfarm Income

Fewer farmers, the increasing dependence of many farm people on nonfarm sources of income and higher per capita income for the nonfarm population have combined to put the trend in land prices on a parallel with the general economy.

Since 1945, the price of an acre of land has been more closely keyed to the rise in per capita income of the nonfarm population than it has to the incomes of farm people. Land values near the end of World War II averaged $47 per acre. By March 1, 1962, the average value had reached $124. At the same time, income per nonfarmer went from $1,334 to $2,445. Income per capita (all sources) of the farm population was $700 in 1945 and $1,436 in 1962. *(13)*

Soybean Crushings Hit New Record; Large Carryover of Meal on Hand

Strong demand and good prices for soybean meal pushed crushings to a record 403 million bushels during October-July 1962-63. That's 29 million more bushels than were processed in the same months the previous year. (See Marketing section for oil situation.)

Crushings for the entire marketing year (ended September 30) reached a new high of about 475 million bushels—45 million more than in 1961-62.

But we can crush even more, according to USDA economists. They say the total U.S. soybean crushing capacity is at least 575 million bushels a year. In other words, the soybean industry has operated at about four-fifths of its full capacity. Processors have been expanding their facilities to keep ahead of the growth in the soybean crop. Crushings jumped from 283 million bushels in 1955 to 475 million bushels in 1962.

In the foreign market, U. S. exports of soybeans continued at a record level and reached some 180 million bushels in 1962-63, compared with 153 million last year.

The strong demand for soybean meal resulted in a larger crush than would have been justified by the oil situation alone. As a result, carryover stocks of crude and refined soybean oil will total a record 925 million pounds by this month, compared with 620 million pounds on the same date last year. *(14)*

SYPHON TUBE IRRIGATION OF DELTA COTTON SAVES MONEY ON PUMPING AND REPAIR COSTS [1]

Operating costs	Annual cost per irrigation		
	Sprinkler	Gated pipe	Syphon tube
	Dollars		
Pumping [2]	3.51	4.32	1.68
Permanent conveyance maintenance	.15	.13	.33
Temporary ditches and flumes	.10	.14	.23
Labor	1.70	1.50	1.04
Repairs and misc. costs	.61	.49	.16
Total [3]	6.07	6.58	3.44

[1] The once-over equivalent use for these systems was sprinkler, 372 acres; gated pipe, 447 acres; and syphon tube, 507 acres. [2] Forty-two cents per acre-inch pumping cost at well; 66¢ per acre-inch relift pumping cost for gated pipe; 75¢ per acre-inch relift pumping cost for sprinklers. [3] Four acre-inches of water applied with gated pipe and syphon tubes and three acre-inches with sprinklers.

SYPHONS GET BEST COST RATINGS IN DELTA COMPARISONS

For irrigation of cotton to be profitable in the Mississippi Delta, it has to be inexpensive not only to develop but to operate.

A new study by the Economic Research Service shows that the syphon tube system meets the test better than sprinkler or gated pipe systems.

Costs of temporary ditches and flumes as well as maintenance of permanent conveyances run somewhat higher with the syphon tube than with the other two systems.

But these costs are more than offset by lower operating costs, including pumping, labor and repairs.

Since operating costs are lower, it takes a much smaller increase in yields to pay a farmer for irrigating an acre of cotton with the syphon tube system than it does with the sprinkler system.

The use of sprinkler and gated pipe systems is profitable only in a limited number of situations because the per acre cost is so high. Piping is more expensive than the ditch or flume used in the syphon system. And the necessity of relifting the water in both systems more than doubles the pumping cost of the water used. Better planning and engineering could eliminate much of this cost.

Labor costs for the syphon tube system are much less because no pipe has to be moved. Also, more acreage can be irrigated with one setup of the system.

The report is based on information obtained from 100 farmers in 1957 and 90 farmers in 1960, all of whom irrigated some of their cotton acreage. *(15)*

Cotton Carryover

On August 1, the carryover of all kinds of cotton was estimated at 11.2 million bales—3.3 million more than were on hand on August 1, 1962. The increase was due both to a larger crop and a sharp decline in disappearance during 1962-63.

The 1963 crop was estimated September 1 at 14.3 million bales, down from 14.9 million last year. Although harvested acreage was lower this year, yields per acre reached a new high of 482 pounds, 16 pounds over the previous record in 1958.

Domestic mill consumption during 1963-64 is estimated at 8.8 million bales, up 400,000 bales from 1962-63. *(16)*

Insect Hordes Face Little Opposition On Many Cotton Farms in Alabama

Overcome all the other problems in getting a good stand of cotton and overnight a lush growth can be destroyed by an army of hungry insects. The only way to fight back is with a good insect control program. Yet many farmers don't make use of such practices.

To determine the extent to which insect control is used on cotton, the cost of a typical program, the effect on yields and the use of related production practices, the Alabama Agricultural Experiment Station, in cooperation with the Economic Research Service, conducted a survey of cotton farms in the limestone valley area of Alabama during 1962. Farmers in the 11-county survey area were questioned about insect control used on their 1961 crops. Cotton production in the limestone valley accounted for 44 per cent of the state total during 1961.

The farms selected were classed in three size groups on the basis of 1961 cotton acreage. There were 48 small farms with an average of 47 acres of cropland. These farmers planted 9.6 acres of cotton during 1961 and had average lint yields of 372 pounds per acre.

In the medium-size group, 47 farms averaged 124 acres of cropland. Yields averaged 404 pounds of lint per acre on 32.8 acres during the crop year surveyed. The large farms were 55 in number and had 506 acres of cropland on the average. These operators planted 140.6 acres of cotton in 1961 and harvested 506 pounds of lint an acre.

Of the total acreage planted in the limestone valley area, 65 per cent was treated one or more times for control of insects during 1961.

Replies to the survey questions indicated that 44 per cent of the small farmers used insect control,

70 per cent of the medium-size producers and 73 per cent of the large growers. The average number of times treated was 6.4 on small farms, 5.2 on medium-size farms and 6.3 times on large farms.

The total cost of insect control per acre treated also varied with the size of farm. Small farmers spent $13.06 per acre for materials and application, medium-size operators, $9.53, and large producers, $14.18. The cost of the spray or dusting material alone was $8.90, $6.32 and $9.64 for the small, medium and large farms.

On the basis of total cotton acreage treated, dusts were used on 59 per cent of the crop and sprays on the remaining 41 per cent. On most farms, the cotton crop was dusted or sprayed as often as the Agricultural Extension Service recommended.

More small farmers used dusts than sprays. Ninety-six per cent of the cotton was treated with insecticides in dust form. On the medium-size farms, 79 per cent of the treated acres were dusted while the large farmers used dusts on 54 per cent of their cotton.

However, the large farmers were more likely to use airplanes to apply dusts—31 per cent of the acreage was treated this way in 1961. Nearly all the small and medium-size growers used tractor dusters.

The large producers also used airplanes for spraying cotton. Of the 46 per cent of the acreage treated with sprays, 10 per cent was covered by airplane. High clearance sprayers were used on another 28 per cent with tractor-mounted rigs handling the rest. The use of airplanes and high clearance equipment gave the large farmers better control over infestation and permitted them to spray cotton later in the season when the plants were too tall to use tractor equipment.

Researchers estimated the weighted average yield of lint for the area was about 50 pounds per acre higher on farms where insect control was practiced compared to farms where no spraying or dusting was used. However, part of this difference in yields could be due to use of fertilizer, herbicides, defoliants and the kind of cultivation practices followed.

When the operators were asked to estimate their yields without using insect control, the replies ranged from 214 pounds of lint per acre on the small farms to 324 pounds on the large farms. Farmers estimated that with no insect damage, their yields would have been around 677 pounds of lint per acre on the small and medium-size farms and 690 pounds for the large operations.

Farmers were also asked about other production practices they used in 1961.

Pre-emergence herbicides were used on 10 per cent of the cotton planted on the small farms, 26 per cent of the acreage on the medium-size operations and 33 per cent on the big farms.

Small growers used defoliants, mostly in dust form, on 1.5 per cent of their cotton, medium-size producers on 7.5 per cent and the large farmers on 20.2 per cent.

At harvest time, small farmers handpicked 92 per cent of the crop, 6 per cent was picked by machine and 2 per cent handsnapped. On medium-size farms, 77.2 per cent was handpicked, 20 per cent machinepicked and 3 per cent handsnapped. *(17)*

Efficient Farmers

Just in case someone hasn't noticed how efficient farmers are, here's part of the record.

In terms of contributions to gross national product, the gain in output per man-hour for agriculture during the last decade was more than double the figure for industry. Farmers chalked up an average annual gain of 5.1 per cent in labor efficiency from 1950 to 1960 while all nonfarm workers recorded a 2.2 per cent increase in efficiency. *(18)*

Farmland Footnotes

—The asking price for farmland in urban fringe areas is likely to be high regardless of whether the buyer wants to continue farming or convert the land to commercial use. Farming enterprises on the edge of metropolitan areas are land-, labor- and capital-intensive. Typical operations are truck cropping, nurseries producing flowers and shrubs, poultry and egg farms and dairy feedlots. All these enterprises usually yield high net incomes per acre.

—The drive to enlarge farms has provided continuous strong demand for farm real estate during the past decade. Purchases of land for enlarging farms have steadily increased from 26 per cent of land transfers in 1952 to 46 per cent in 1962.

—How much of a return do farmers make on their land investment? For the past 10 years, average net returns to farm owners from farm production (after allowances for returns to labor) have been relatively stable at about 5 per cent of the estimated annual market value of all farm real estate.

—Machinery and land go hand in hand. From 1952 to 1962, the number of farm workers declined 14 per cent as farm wage rates advanced 30 per cent. Faced with the shortage of help in combination with the increase in labor costs, farmers bought more and larger farm equipment. In turn, the bigger machinery meant more land and larger fields for economical use. *(19)*

The rural-urban fringe is getting frayed. As cities checkerboard into suburbs, and the suburbs move into the countryside, the loosely woven community of farmers and nonfarmers who live just beyond the edges of suburbia is beginning to unravel. And no one seems able to agree on what to do about it.

Small wonder. About the only common denominator of the rural-urban fringe is a preference for living in the open country.

To find out what the spread of the suburbs is doing to these semi-rural communities, researchers surveyed Montgomery and Prince Georges Counties, the counties that embrace Washington, D.C., on the Maryland side of the Potomac.

The area qualifies as a laboratory for the study of suburbanization for two reasons: The growth of Washington has caused the combined population of the two counties nearly to double in the past 10 years. At the same time, farming is still an important part of the local economy.

Unlike the suburbs, where families are about the same age, have roughly the same incomes, and live in similar if not identical houses, the fringe resident is not easily fitted to a type.

Shacks and stately homes may be neighbors in the fringe area. Farms share space with industrial parks and airports. The population includes a bit of everything: Prosperous farmers and poor ones, businessmen, laborers, professionals—all make their home in the fringe. And though most of the land in the fringe is devoted to farming, only about one family in 10 actually lives on a farm. Even then, about a third of the families living on farms got most of their incomes from something other than farming.

The fringe population also represents a higher proportion of white collar workers than rural areas in general. At the same time, the fringe areas have an unusually high percentage of unskilled workers and farm laborers. It's the skilled, blue collar workers who are in the minority.

Family incomes for the fringe areas show the same diversity. The median income for nonfarm families in Montgomery County in 1959 was $4,451, the lowest for the two counties. At the top of the scale were the farm families in Montgomery County with median incomes of $7,031.

The level of education in the two counties follows a similar pattern. The farmers in Montgomery County could boast more schooling than any other group; the median level was high school.

The farm population in the fringe areas was, by and large, older than the nonfarm population by 10 years. The farmers had also been living in the area longer. Some 85 per cent of the farm residents in Prince Georges County, and 71 per cent in Montgomery County, were either born in the area or had lived there since before the war.

The fringe residents do get together in their preference for country living. The degree of rural or urban orientation was determined by the answers to a series of questions about the number of trips to the city (aside from commuting), membership in rural or urban organizations, reading rural or urban newspapers, and where the residents spent their leisure time.

By this scale, the lives of fringe area families were focused on rural life, rather than city activities. Oddly enough, the nonfarm families in Montgomery County seemed to be more rural in their outlook than farmers or nonfarmers in Prince Georges County. *(20)*

Despite Lacks in Rural Education Diploma Essential to Later Success

A young man with a diploma from a rural high school finds it tougher to get a good job in the city than a city graduate. Because rural high school education is usually not up to the national average, country graduates often lose out to the better trained men.

But although the rural graduate has trouble competing with city boys, he's still better off than the rural high school dropout. Rural graduates who find jobs in the city earn a lot more money than the dropouts who remain in the country. At least this is true of young men who attended high school in eastern Kentucky.

For example, in a recent study of more than 300 boys who were in the eighth grade in 1950 in eastern Kentucky, researchers found that the boys who completed high school and got jobs in the city earned $5,000 annually 10 years later. The high school dropouts who remained in the country earned about $2,100 a year.

The study, sponsored by ERS in conjunction with the Kentucky Agricultural Experiment Station, revealed that the parents had little formal education—80 per cent had eight years or less of formal training. The more education the parents had, the more likely it was the children would complete a high school education.

The researchers found that the high school graduates, compared with dropouts, held higher job aspirations, expressed stronger intentions to do something positive to reach their goals.

Some 65 per cent of the graduates remaining in eastern Kentucky belonged to labor unions, churches and lodges.

More than half the young men in the study did not complete high school. Of the 139 who finished high school, 47 entered college, but only 12 earned degrees. *(21)*

Jobless and Underpaid

Unemployment isn't nearly the problem underemployment is in rural areas. Underemployment means not getting enough return for a normal period of work.

For example, in 1959, the last income census year, USDA economists estimated that about 2,100,000 persons in rural areas had net annual incomes of $1,200 or less. But only 250,000 of these persons were unemployed or only partially employed, according to the Census.

This means that only one-tenth of this lowest level of rural underemployment is recorded in our present unemployment statistics. The 1,800,000 unreported persons with low incomes represent a tremendous opportunity for economic growth.

Most of the rural families with net annual incomes of less than $1,200 are in the southern states. Many of these states have more than 50,000 families in this low income group. *(22)*

Many Farm Areas Are Still Plagued By High Rate of School Dropouts

Retardation in school is still a problem in rural high schools, despite marked improvement in school attendance during the past 10 years.

In 1950, 38 per cent of all farm school children 14-15 years old were in grades below the normal grades for their age; by 1960, the percentage had been reduced to 18. Although the school progress of farm children has improved, the improvement has not been sufficient to erase the difference between farm and urban children, and in 1960 only about two-thirds as many urban as farm 14-15 year olds were retarded in school.

When a student falls behind his age group, he lowers his chances of graduating from high school. And if the student does finish school, he is apt to find himself at a disadvantage in the job market, since employers tend to prefer the younger graduates.

But whether he graduates early or late, he is still far better off than the boy without a high school diploma.

A high school diploma is often the minimum qualification for even the most menial jobs these days, especially in the city. And the city is where many rural students will end up working.

The rural student who doesn't make it through high school, or who lags behind his classmates, can look back to his preschool days for part of the cause. More than half of all the city children five years old were enrolled in school in 1960; only 29 per cent of rural five-year olds were in school. These figures mean that far fewer country children have the advantage of nursery school and kindergarten to prepare them for the beginnings of their formal education. Thus the rural child is probably more apt than his city cousin to repeat the first or second grade.

From the point of view of the rural school system, high rates of retardation mean additional expenses as the students repeat grades.

Rural youth face still another handicap; their parents do not emphasize the importance of education as much as city parents do. Without such backing from their parents, the rural child finds it all the harder to keep up his work in school. *(23)*

Nutrient News

Farmers added plant nutrients to 48 per cent of their cropland and improved pasture in 1959—only 30 per cent was fertilized in 1954. Crops with more than half of the total acreage fertilized in 1959 were: tobacco, 99 per cent; sugar crops, 92 per cent; potatoes and sweetpotatoes, 86 per cent; vegetables, 76 per cent; fruit, 73 per cent; corn 64 per cent; and cotton, 64 per cent. *(41)*

The farmer used to cart his produce to market; today he is apt to find the market coming to him. Now the question left to be answered is

WHITHER THE WHOLESALER?

There's a produce wholesaler in Allentown, Pa., who used to make several trips a week to the Philadelphia or New York terminal markets. Today, he can pick up a phone and order a partial truckload of vegetables from south Florida and have it topped with citrus on the way north. He can combine as many as 28 different vegetables in this mixed load.

Without leaving his office, let alone the city, he has assured himself of the supplies he needs.

This is just one example of the way direct buying, split and mixed loads, and other developments in the produce trade are increasingly bypassing the primary wholesale markets and fruit auctions.

The leaders in the trend to direct buying are the national and regional food chains.

For the largest chains, the attraction of direct buying lies mainly in cost reduction. By going directly to the shipper, the chains hope to eliminate the cost of handling in the terminal markets.

Smaller chains are moving toward direct buying less because of price than quality. Direct buying gives these retailers a greater assurance of getting the quality they want. Direct buying from shippers who are known for delivering quality produce helps to reduce the day-to-day unpredictability of the local markets.

The proportion of direct purchases from shipping point by chains and affiliated groups has just about doubled since the mid-thirties. Today, such purchases are about 20 per cent of total market receipts throughout the country.

Some of the indications for the next five or 10 years are:

Direct buying. Continued growth in buying groups big enough to buy directly from shippers. The outside limits of such a growth will be set by the needs of: 1. restaurants, hotels and the like, 2. unaffiliated independent grocery stores and 3. chains making local purchases. Of course, the more the terminal markets can offer adequate supplies at competitive prices, the less incentive there will be for the smaller groups to buy direct.

Wholesalers. Greater emphasis on specialized services, such as the service wholesaler who supplies unaffiliated independents and small groups. Such functions as prepackaging will grow.

The market in general. A shift away from trading, with its emphasis on profit from price changes, to merchandising, where specialized services are the key to profit. *(24)*

Peach of a Crop

This year growers of fresh peaches in the Southeast had bumper crops that resulted in marketing difficulties. The same was true for growers of fresh plums in California.

The Department of Agriculture has surplus removal programs designed to assist growers in disposing of large supplies without undue losses. In July USDA bought 44 cars of fresh peaches in Georgia, South Carolina, North Carolina and Alabama. In California it purchased 122 carloads of fresh plums.

USDA purchases go to orphanages and other charitable institutions. *(25)*

Consumers Like Ripe Tomato Flavor; Dealers Buy Green for Even Quality

Vine-ripened tomatoes offer plenty of appeal to marketers and consumers alike. They offer problems, too.

Some of the problems were indicated in a recent study of the marketing of vine-ripened Florida tomatoes. The study was made by ERS in cooperation with the Florida Agricultural Experiment Stations.

Vine-ripened tomatoes can be shipped directly to receivers.

A majority of the terminal market handlers thought the vine-ripened tomatoes were superior to the mature-green fruit usually shipped. About 60 per cent of the handlers thought the customers, also, would prefer the appearance and taste of the vine-ripened tomatoes.

On the other hand, more than half of the receivers surveyed noted drawbacks to the vine-ripened tomatoes. The most frequently mentioned complaints were the uncertain quality and uneven color of the vine-ripened fruit.

The vine-ripened tomatoes also call for a little more skill when it comes to grading the product and sorting it for color. Specialized repackers usually take care of both of these chores for mature-green tomatoes.

After weighing the pros and cons of the two kinds of tomatoes, the dealers indicated the vine-ripe product might gain a larger part of the winter market. But they also felt shippers of vine-ripe fruit wouldn't be able to achieve the consistent quality of mature-green fruit.

Some of the dealers in the survey suggested a need for wider promotion of the vine-ripe fruit to stir up consumer interest. *(26)*

STUDY OF CONSUMER REACTION CAN STRETCH AD DOLLARS

Situation: You are a processor of frozen orange juice concentrate and must move large inventories to make way for the next season's crop.

Question: Should you cut prices or increase advertising and other promotional activities?

Twenty-two cooperating processors in Florida faced this problem in the latter part of 1959. Taking a gamble, they solved it by a promotional campaign which increased sales by 13 per cent over what they could have expected without an advertising effort. This produced $18 million more in sales revenue than would be produced by cutting prices enough to sell a comparable quantity.

Yet although promotion of agricultural products is already big business, with 1,200 firms spending about $100 million yearly to influence the demand for their products, little research has been done in promotion. Farm commodity groups are seldom able to afford extensive promotional research like that of big industrial companies.

As an example of a research question which needs answering, take the relationship between promotional themes and levels of sales. A study of apple promotion shows that sales in six midwestern cities went up 32 per cent for Washington-grown apples when their many uses were publicized and only 21 per cent when the "health theme" was used. However, sales of grapefruit also showed a large increase when the health advantages of apples were advertised.

Another question concerns the broiler industry. Do frequent retail specials depress the farm price? Or do they raise sales revenue and farm prices in the long run? No one knows.

The agricultural industry vitally needs promotion research. *(27)*

Little Change in Fat and Oil Supply Expected for 1963-64 Marketing Year

September indications for the U.S. supply of edible fats, oils and oilseeds pointed to a total of about 16.7 billion pounds (oil equivalent) for the 1963-64 marketing year. This figure is up roughly 2 per cent over the supplies available on October 1, 1962. The beginning stocks of edible fats and oils, however, should be around 2 billion pounds, down 5 per cent from last year.

These relatively small changes mask a major shift in soybean supplies—a sharp increase in production and an equally significant decrease in soybean carryover. The 1963 harvest is expected to produce 728 million bushels (compared with 675 million in 1962), a record crop. At the same time, beginning stocks on October 1 should be about 10 million bushels compared to 58 million a year ago.

With demand relatively stable at a high level and supplies limited, the 1963-64 crushings of soybeans should increase slightly from last year's record 475 million bushels. Exports should set a new record, slightly above the 180 million bushels now expected for 1962-63.

Cottonseed production in 1963-64 is forecast at 5.9 million tons, a crop that should yield about 4 per cent less crude oil and cake and meal than a year earlier. Prices to producers will likely average above 1962-63.

The flaxseed harvest for 1963 is estimated at 30.6 million bushels, down 4 per cent from 1962. Combined with sharply increased carryover, however, this will mean total flaxseed supplies for 1963-64 up 9 per cent over 1962-63. The crop harvest alone is one-fifth greater than domestic requirements, meaning that prices should continue to average slightly below the CCC support price of $2.90 per bushel. *(28)*

latins look at the COMMON MARKET

Latin American countries are worried. Their trade position with Europe has been declining, and the future looks no better.

Traditionally Latin America has depended upon European nations as major buyers of its agricultural exports. Prior to World War II almost half of all South and Central American agricultural exports went to Western Europe. Now less than 40 per cent do. And since 1954 Latin America's generally favorable trade balances have been weakened and the capital inflow diminished due to a continued decline in world prices for basic agricultural products.

In this situation the gathering force of the European Economic Community (EEC) or Common Market has been viewed by Latin countries as a serious threat to their trade and economic growth.

Three aspects of the European Common Market particularly concern Latin American officials:

(1) The trade impact of the Common Agricultural Policy which proposes a common market for wheat, coarse grains, sugar, livestock and other important products as early as 1967-68. If the EEC adopts a policy of self-sufficiency in these commodities it would seriously affect Latin American exports.

(2) Special Common Market concessions to former European colonies in Africa whose exports compete with those of Latin America.

(3) The possibility that the Common Market may become a restrictive trade bloc encompassing all of Western Europe.

Many of these fears are based on past experience. Latin America's share of European coffee imports dropped from a prewar average of 77 per cent to 55 per cent in 1960. In cocoa the drop was from 20 to 12 per cent. In both cases the increased competition from African colonies or nations with tariff concessions has been a major cause of the decline.

What's more, coffee is considered a luxury item by European governments and taxed accordingly. In France the internal taxes on coffee are 51 per cent of value; in Germany, 148 per cent. This is added to external import duties of more than 20 per cent of value for both countries. Former French colonies, though, do not pay the import duties in France.

Duties on cotton and sugar, by way of contrast, have been much lower, sometimes nonexistent, and the Latin American share of West European imports has risen.

The new EEC arrangements call for a uniform tariff schedule with some variable levies (on wheat, for instance) and some fixed percentage duties. In the case of wheat and other variable levy commodities, any price advantage which non-European goods have previously enjoyed is to be eliminated. Some of the fixed levies may achieve the same result.

Duties on commodities important to Latin America include (by per cent of value): coffee beans, 16; cocoa beans, 9; bananas, 20; sugar, 80. Other basic agricultural products, raw wool and cotton among them, will enter duty-free under the new tariff.

The future impact of the EEC on Latin American trade is difficult to predict. For, although increased per capita consumption should accompany the expected acceleration in the Common Market's economic growth, Latin America will be competing with African products that will eventually enter duty-free.

Pressures from Germany, Italy and the Netherlands may yet overcome the Belgian and French insistence on tariff preference for African countries in favor of development loans. They would reduce this preference by lowering the common tariff on commodities which Africa exports to Europe duty-free such as coffee or cocoa.

The EEC may also be induced to expand Latin America's export possibilities in order to supply foreign exchange so the Latin countries can increase their imports of European manufactured goods. *(29)*

Brazil Seeks to Double Meat Output By 1970 to Up Home Use and Exports

Brazil has set out to put more meat on more dinner tables at home and abroad.

Total meat production was estimated at 2.41 million metric tons, carcass weight basis, in 1961. National planners hope to almost double this output of meat by 1970.

As a first step, President Goulart last January appointed a work group whose job is to fix production goals for home consumption and export over the next three years.

The need to step up meat production for domestic use becomes more pressing year by year.

The largest Latin American nation, both in area and population, Brazil had 73 million people to feed in 1961. Growing at an annual rate of 3.1 per cent, population is expected to jump to over 95 million by 1970. And even though total agricultural output has increased by over 6 per cent on the average in recent years, per capita output has climbed by less than 3 per cent a year.

Brazilians ate approximately 2.35 million tons of meat in 1961. By 1970 consumption may reach 3.81 million tons, an increase of over 60 per cent.

On the export side, Brazil hopes to develop overseas markets for meat and other livestock products valued at $250 million annually by target year 1970.

This would provide much needed foreign exchange. The world's largest coffee exporter, Brazil has been hit in the last few years by the decline in world coffee prices. Farm products, two-thirds coffee, have slipped from 90 per cent to 80 per cent of total Brazilian exports.

Brazil has the basic agricultural resources to expand its livestock industry. Range land is plentiful. There is marked potential for increasing output of feed and fodder.

But there are problems, too. Poor soils, especially in the vast tropical and subtropical regions, keep pasture productivity quite low.

Also, supplemental feeding will be needed to tide livestock over the long dry seasons in many areas, or more drought-resistant pasture grasses will have to be planted.

Then too, there is the animal health problem. Control of aftosa and other diseases is necessary before production and exports can be much increased. Unless Brazilian meat can pass muster in importing countries that have disease restrictions, exports will be pretty much limited to lower value processed meats.

Finally, positive programs are needed to improve processing and marketing systems and to give livestock producers greater incentive to raise and market more animals. *(30)*

More Peruvians With More Money Have Helped Double U.S. Exports

U.S. farm commodities are enjoying a boom in Peru. Between 1956 and 1961, U.S. farm exports to Peru almost doubled, increasing from $13.3 to $25.5 million in the five-year period.

A growing population in Peru and slowly rising per capita incomes have been behind the increase in food imports. Also, Peru has been able to increase its imports because of greater foreign exchange earnings from copper, iron ore, fish meal and sugar.

Wheat is by far the most important of Peru's imports, with corn, lard and edible oils next on the list. Government action has kept bread prices low which has helped to increase the demand for wheat and wheat products.

Since 1958, the U.S. has supplied about half of Peru's total wheat imports. Argentina is the next most important source and Canada supplies most of the remainder.

About 38 per cent of the U.S. grain shipments to Peru have been financed under Title I of Public Law 480 (shipments paid for with local currency). Wheat shipments under other government programs have accounted for 29 per cent of the U.S. trade and cash sales for the remaining 33 per cent.

Imports from the U.S. represent from 30 to 40 per cent of Peru's total agricultural imports. *(31)*

U.S. Has Fewer Nontariff Controls On Farm Imports Than Most Nations

Many nations use tariffs on farm imports to protect their own agriculture. But some countries also use such nontariff controls as import quotas, variable levies, import licenses and preferential treatment of one country's products over another's.

Some countries continue to use nontariff controls to regulate the transfer of foreign exchange. But others retain nontariff controls that apply to farm imports even though these countries have no serious balance of payments problem.

A new USDA study shows the following percentages of agricultural production protected by one or more nontariff restrictions:

United States	26	Greece	82
United Kingdom	37	Denmark	87
Canada	41	Austria	91
Australia	41	West Germany	93
Italy	63	France	94
Belgium	76	Switzerland	94
Japan	76	Norway	97
Netherlands	79	New Zealand	100
		Portugal	100

The percentages are indicators only. No satisfactory way has been found to get a precise measure of the actual protection of nontariff controls. But USDA economists used official reports of each country and applied the same rules to each.

Today the United States has

nontariff import controls only on wheat, sugar, peanuts, cotton and dairy products. All other farm products can enter in unlimited quantities, provided they meet health and other safety requirements and pay fixed tariffs where they apply.

Our tariffs on agricultural imports also are lower than those of most other major agricultural exporters. The average tariff rate was reduced from 88 per cent in 1932 to 10 per cent by 1959, with slight reductions since and more in prospect under the new Trade Expansion Act. *(32)*

Asking Farmers to Live on Farms Is Part of Bonn Plan to Up Income

The houses cluster around the square. Geraniums bloom on the window sills and storks sometimes nest in the chimneys. Children play in the dust of the road. Above the rooftops rises the onion-shaped spire of a white-washed church.

These are the farm villages that dot the German countryside from the rolling hills of Franconia to the Bavarian Alps. To outsiders they evoke peace and tranquility. But economically they represent a farm system that hinders more than it helps the rural population.

German farmers earned 38 per cent less in 1961-62 than workers in industry and other nonfarm jobs. Without government assistance it's estimated that farm income would have been only half that of nonfarm workers.

True, 1961-62 was a particularly bad year because of very poor harvests of grain and root crops. Cash expenditures, particularly for feed, climbed markedly. But even in 1960-61, a relatively good year, farm income was 26 per cent below that of other sectors of the economy.

In an effort to raise farm income, the Bonn government has earmarked more money in 1963 than ever before to improve the structure of agriculture. Programs are geared to improve rural roads and help farmers consolidate their scattered land holdings and enlarge their farms to a more efficient size.

Equally important, the programs encourage farmers to move their homes and farm buildings away from the villages to sites on the farm. This is a distinct break with the traditional pattern of rural life, but the government feels it's essential to promote better farm management and higher returns to capital and labor.

Most farm aid is administered under the Green Plan which costs about a half billion dollars a year. Another $200 million goes for farm support through various marketing orders, some recently superseded by Common Market regulations, and other measures of trade protection. The government, for example, retains fairly strict import controls on a number of farm products not yet regulated by the Common Market. Then too, German agriculture benefits from special tax exemptions or reductions, averaging $128 million a year, that are not granted to other parts of the economy.

With better harvests and with cash outlays estimated to increase only $50 million compared with $321 million in 1961-62, farm income should be up this year. However, the industrial labor force is now pressing for wage increases. So while the disparity between farm and nonfarm income may narrow somewhat, it isn't expected to return to the level of 1960-61.

In fact, it looks like the farm income problem will face German policymakers for some time to come. Meanwhile, there's little visible change in village life. This time of year the hay has been stacked, the honey wagons brought in from the fields, the stones replaced on roofs to secure them against the Alpine winds through the winter. *(33)*

U.S. Exports of Corn to Austria Might More Than Double by 1975

U.S. exporters may be able to increase their feed grain shipments to Austria during the next 10 or 12 years, according to recently completed projections of agricultural trade for this central European country.

However, American exporters currently face keen competition in this market and probably will face even more difficulties if Austria becomes an associate of the European Economic Community.

But for the moment at least, the prospect is attractive, and the curves that take off from the 1960-62 base period have a brisk upward swing.

The Austrian market for feed grains (largely corn), starting from an annual average of 518,000 metric tons for 1960-62, is forecast to reach 1 million metric tons by 1965 and 1.2 to 1.6 million metric tons by 1975.

Even the most conservative view of U.S. expectations shows a handsome increase in this country's exports of corn to Austria. The projections indicate that the U.S. will increase its total corn exports to Austria between 94 and 106 per cent by 1965, compared with 1960-62. The figures for 1975 indicate the U.S. may increase its shipments to this market between 134 and 235 per cent, compared with the same base period. In 1960-62, the U.S. supplied 32 per cent of Austria's total corn imports.

The projections also show increased imports of citrus fruits, tobacco, vegetable oils and poultry meats. It could be good news for U.S. exporters, but only if this country is given an opportunity to maintain its access to the Austrian market.

These projections are based on a study conducted by the Austrian Institute for Economic Research for the Economic Research Service. *(34)*

Government Assistance for Exports Sustains Crops in Foreign Markets

U.S. agriculture annually supplies about one-fifth of all farm commodities entering world trade. Nevertheless, U.S. exporters often have difficulty competing with low-priced commodities on the world market.

In order to maintain our leading position in international trade, the federal government provides several methods of assisting exporters. This assistance takes the form of cash or commodity payments or sales from government-owned stocks at less than domestic market prices.

Prior to 1956, with the exception of sales of wheat and flour under the International Wheat Agreement which received cash export payments, the bulk of export sales of government (Commodity Credit Corporation) stocks were made at competitive bid or announced export prices which at times were below domestic market prices.

Since 1956 these programs have been gradually replaced by payment-in-kind arrangements for wheat, rice, cotton and nonfat dried milk. By making commodity payments on the basis of previous exports (exporters produce certificates of sales) the government encourages the use of commercial supplies rather than drawing from government stocks.

Since payment-in-kind programs depend on adequate private stocks, the CCC has reopened sales of government supplies where commercial stocks were lacking. This has been the case recently in cotton.

Among the several commodities which receive export payment assistance, wheat is by far the largest, with $1,088 million of exports aided in the fiscal year ending June 30, 1962. Cotton ($661 million), feed grains ($137 million) and milled rice ($128 million) followed. Since late 1961, domestic feed grain prices have been at levels to permit record exports without need for export payment. Together, grains and cotton account for 98 per cent of all exports assisted by export payments.

While the programs are very similar in their general conception, they vary according to marketing practices.

Wheat, moreover, is covered by the International Wheat Agreement (IWA) by which the United States has undertaken to supply quantities, within agreed maximum-minimum price ranges, at least equal to historical average purchases.

The payment assistance programs include products sold under government programs (32 per cent of total agricultural exports) as well as commercial dollar sales (68 per cent). Fully 40 per cent of all U.S. government and commercial farm exports receive export payment assistance. In the fiscal year 1961-62, this meant an estimated total of some $667.5 million in government payments assistance to exporters. *(35)*

NEWS PICKUPS

NETHERLANDS. Subsidies on some butter exports have been stopped temporarily to conserve present low stocks. Production for the year ending next March should just about fill domestic needs and expected export orders, leaving little to add to stocks. In August the Dutch bought U.S. butter for the first time since 1782.

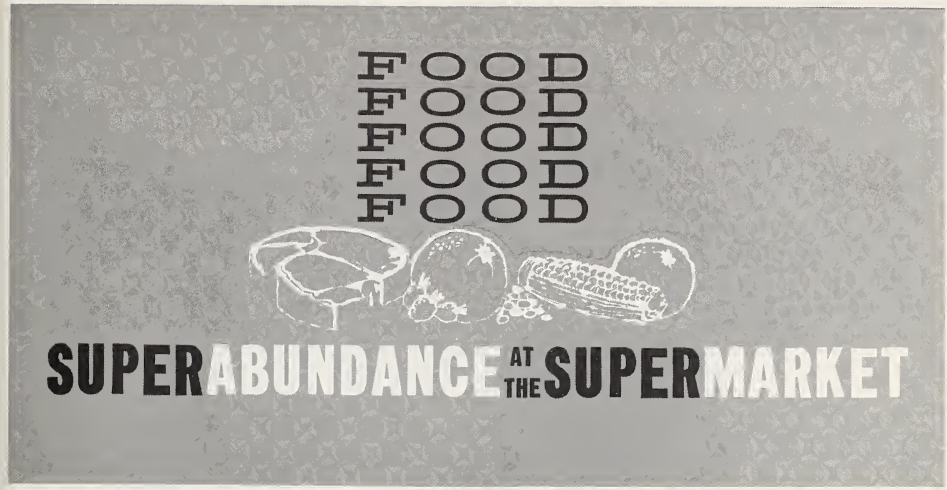
EAST GERMANY. Grain output this year has fallen to the lowest level of the past decade. Livestock production is down sharply since 1960. Even with rationing, the food situation remains critical and 30 per cent of all imports are food.

SYRIA. High winds and rains late in the season cut back expected hard wheat production by one third. Damascus expected surpluses this year would permit all-time high exports. Instead, local shortages may crop up if large quantities of wheat continue to be smuggled to neighboring countries where prices are higher.

SOUTH AFRICA. Corn exports to Japan are fast catching up with U.S. exports. Valued at about $4 million in 1959, a year U.S. shipments totaled $15 million, South African exports hit $48 million in 1962; U.S. exports were just under $60 million.

COMMUNIST CHINA. Crop losses from heavy rains are indicated in Peiping's negotiations with Australia and Canada for more grain. If negotiated sales go through, grain imports, mostly wheat, will be above last two years. Other principal shippers are France and South Africa.

DOMINICAN REPUBLIC. Inspired by TVA success, the Alliance for Progress is considering a vast irrigation project that would double the income of more than a quarter of a million rural people. *(36)*



Going shopping? You may find 85 different cuts of meat and poultry or 100 different kinds of canned vegetables—it's just a fraction of what modern foodstores offer

The horn of plenty held scant rations compared with today's food store.

Housewives know it; they shop the copious canyons of food every week. Economists can prove it; a team of them has just returned from counting up the abundance available in a typical American community. Their statistical grocery cart is ready to collapse under the weight of their food figures.

Item by item they counted up selected inventories for supermarkets, superettes and curb stores in two neighboring towns in North Carolina. Then they did it all over again, by size of store and by the neighborhood it served.

Any way they counted it, the economists found food in an almost stupifying variety.

Meat or poultry on the shopping list? The housewife could have found 85 different kinds and cuts of meat. That's what one store offered in the way of T-bones and chuck roasts and broilers and bacon and pork chops and veal steaks.

If that weren't enough, the shopper could have pushed the possibilities up to 135 by investigating all the stores.

Cold cuts and sea food, incidentally, weren't on the list. There is, after all, a limit to what one economic shopping bag will hold.

Or take canned green beans for a sample of everyday bounty. There were cut beans and French style, fancy long vertical packs and whole beans. Green beans with or without seasoning. There were, in fact, nine different varieties of canned green beans, not to mention fresh and frozen green beans.

The big food stores offered well over 70 different varieties of canned vegetables and the choice in one store was from as many as 100 varieties.

But as a measure of variety, the figure isn't even near the mark. You have to add, as the economists did, brands—to please the individual housewife's taste—and can sizes—to suit the needs of her family. One store in the survey offered 262 different combinations of can sizes, brands and varieties of vegetables alone.

The most likely place to find the widest variety of foods, incidentally, is not in the richest part of town. The survey found the biggest stock of items in supermarkets in lower income neighborhoods. It's the budget conscious housewife who needs and gets the widest selection of foods to make her budget stretch.

Variety, however, is not the only service the housewife wants; convenience is another. And convenience in the form of late hours and seven-day service is a near-monopoly of the little neighborhood stores and larger independ-

ents or superettes.

The old-fashioned neighborhood store and the new superettes both make a point of being open for the housewife who decides to do her shopping at nine or 10 o'clock at night. And of the two the doors are apt to be open later at the little neighborhood store.

Though the variety in these stores is nothing to compare with the big supermarkets, the little stores could take care of most of a week's shopping satisfactorily.

Should the housewife care to go on a city-wide shopping spree, searching for the ultimate in variety in foods, she is apt to find she would have been just as well off to stay within her own neighborhood. The manager of her local food store does his best to provide the items she wants, whatever they may be.

The biggest supermarkets in the study, for instance, offered as few as 65 different items of fresh meat and poultry, or as many as 85. The range is a pretty good indication that the managers knew what their customers wanted and had it ready for them. *(37)*

Granddad's Apple-A-Day Prescription Is Concentrated in Today's Freezer

Fresh fruit on the sideboard was almost a permanent fixture in the dining room of 1910.

Today the dining room fixture has moved into the kitchen, as concentrated juices in the freezer and as canned fruits on the shelf.

ERS has just updated to 1962 its yearly series on how much fruit we eat per person. It shows we ate about 3 pounds less fresh fruit last year than we did in 1961, but 50 pounds less than our grandparents did back in 1910.

Among the fresh fruits, only oranges and grapefruit, luxury items a half century ago, have climbed the consumption ladder.

The new figures show homemakers have simply switched from fresh and dried fruits to processed fruits — concentrated juices, canned fruit slices, frozen pies and the like. In 1962 we actually ate over 36 pounds more fruit in one form or another than our grandparents in 1910, more than 2 pounds more than we ourselves did in 1961. *(38)*

Food Imports Rose Last Year; Slightly Higher Than in 1961

About 13 per cent of the food Americans ate last year was imported—that's slightly more than in 1961. Coffee comprised the largest part of the total.

All of the coffee, tea, cocoa, and bananas we consumed in 1962 was imported. Some edible oils such as olive, and coconut, plus certain tree nuts such as cashews and Brazil nuts, and most spices also were imported. Of the total crops we used for food last year, about a third came from overseas.

About 78 per cent of our total imports of all agricultural commodities was used for civilian food. The remaining 22 per cent consisted of foods consumed by the military or were such nonfood products as wool, tobacco and cotton.

Only a little more than 3 per cent of the total food use of livestock products in 1962 was imported. Much of this was used in processed products.

The long dock strike beginning last December on the East and Gulf coasts paralyzed shipping and reduced most food imports in January this year well below the same period in 1962.

Imports of processed fruits and vegetables in January were more than a third below a year earlier. Imports of many fresh fruits, however, were increased to offset the freeze damage to southern crops last winter. *(39)*

TAKE YOUR CHOICE: The variety of foods available in the average market would beggar the imagination of the most inventive cook. The table shows what a housewife could have found in two neighboring cities in North Carolina in late spring of this year. If she went to a multi-unit chain store, for example, she could have chosen from an average of 78 different varieties of canned vegetables not counting brands or can sizes. If she shopped at an affiliated independent, her choice on the average would have been 86 different canned vegetables. The large independent food retailers could offer her 51 selections, and even the little neighborhood store could boast an average of 38 items. And if she wanted to explore all the stores in the two communities, she could have chosen from 112 different varieties of canned vegetables. When the varieties are multiplied by the available brands and different sizes of cans, her choice would have soared to 262 different items of canned vegetables.*

Type of ownership, retail food establishment	Stores	Fresh meat, poultry		Fresh vegetables		Canned vegetables		Frozen vegetables	
		Av.	Range	Av.	Range	Av.	Range	Av.	Range
	Number	Number							
Multi-unit	9	76	67-85	26	17-31	78	73-84	34	26-43
Affiliated	6	72	53-84	25	21-31	86	71-100	39	19-50
Independent:									
Large	9	31	17-52	15	7-21	51	33-63	16	8-30
Small	6	12	8-19	10	8-10	38	33-46	17	7-23
Different kinds of items available in sample stores, two communities		135		47		112		75	

* The figures are taken from a current study of pricing practices for retail food stores. Of 11 food groups included in the survey, the following are not in the table: Fresh, canned, frozen and dried fruit, canned and frozen juices, and dried vegetables.

A HARD LOOK AHEAD

man, land and food

Man faces one of the greatest challenges of the twentieth century between now and the year 2000.

Even at its simplest, the problem is staggering:

How can the world produce food for a population that will more than double from 3 billion to 6 billion plus in less than four decades, when there is little new land to draw on in many areas and not enough capital to raise yields much in most areas.

A comprehensive new study by the Economic Research Service presents the problem in three dimensions: Man, how fast he is multiplying; land, how little new acreage can readily be brought under cultivation; and food, how much it will take to feed a world population grown to over twice its present size by the year 2000.

The world food problem is not in the so-called developed world or industrial West—Europe, including the Soviet Union, North America (Canada and the United States) and Oceania (Australia and New Zealand). Diets in these regions have improved steadily since the beginning of the century. Today there are no nationwide food shortages anywhere in the western world.

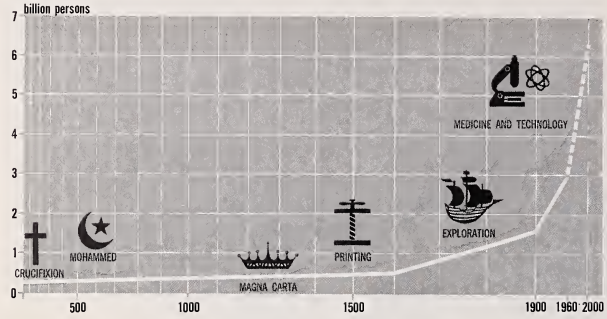
But there are food deficits almost everywhere in the less developed world—Asia, Africa and Latin America. The study shows that people in some 50 less developed countries don't get enough of the right foods for a balanced diet. Population has simply outraced food production, and the number of people suffering from malnutrition has actually gone up since the early 1900s.

The less developed region will be hard put in the years ahead to provide more and more people with even the same low quality diet.

And this is not enough in an era of new nations and new aspirations.

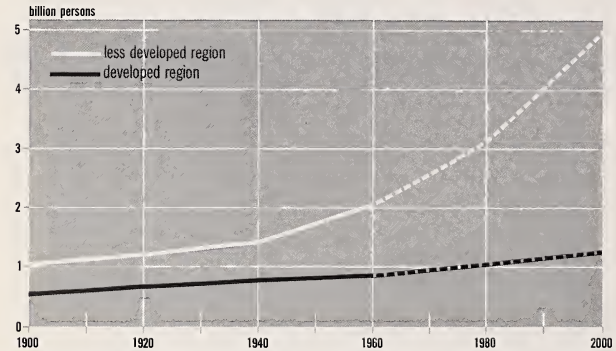
People want more food, better food, with enough of the proteins, fats and other nutrients that spell the difference between chronic inertia and normal health.

What will it take to raise the per capita food supply of the less



IDEAS OUTPACED MAN: Two great religions came into being. A single document laid one of the cornerstones of justice throughout the English-speaking world. Printing and the Renaissance opened new worlds of ideas and art. Yet for 16 centuries man could not make births much override the death rate. World population, 250 million at the time of Christ, had only doubled by 1600, a rate of growth ranging from 2.5 to 5 per cent *a century*. With advances in medicine and nutrition, the growth rate by 1900 was nearly 1 per cent *a year*. Today it's more than 2 per cent a year and rising. Estimated world population by the year 2000: 6 billion plus. How to feed spiraling populations is a problem that underlies economic development programs in most emerging countries.

U. S. DEPARTMENT OF AGRICULTURE NEG. ERS 2320-63 (8)



REAL EXPLOSION STILL AHEAD: Disease remained the great leveler of populations in Latin America, Africa and Asia well into the twentieth century. The growth rate in the early decades of this century actually lagged behind that of the developed world where medical advances first helped to prolong life. But the less developed world has caught up fast. Latin America's population is growing fastest but Asia, which started the century with far more people, has the most critical problem. In the last four decades of the century the less developed region is expected to add well over 3 billion people, a number equal to the total population of the world today.

U. S. DEPARTMENT OF AGRICULTURE NEG. ERS 2321-63 (8)

developed world, say, 10 per cent above present levels by 1980, or 20 per cent by the year 2000?

The study shows that, even with expanded food imports, if the less developed world succeeds in raising the food available per person 20 per cent above present levels by the year 2000 it will have to:

—Nearly triple its present output.

—Add to present food output an amount approximating the current food production of the entire world.

—Achieve, with limited resources, an annual rate of increase in food output considerably higher than that ever attained by the affluent societies of North America and the rest of the industrial West.

Moreover, the less developed world will have to accomplish all this in less time than man has spent developing a single variety of high yield grain—hybrid corn.

MAN: Four Births Per Second. From the dawn of man to the time of Christ, world population grew only to a total of 250 million. It took another 16 centuries to double this figure.

Then medical science, colonization of new lands and somewhat better living conditions began to make slow but sure inroads in the high death rate. Population increased more rapidly, and by 1900 had reached an annual growth rate of 1 per cent.

Today's rate of increase is well above 2 per cent a year. In the world today four children are born every second, 240 a minute —or well over 300,000 a day. This growth rate is so recent a phenomenon that man has scarcely begun to assess its long-term impact.

United Nations estimates show that nearly 5 billion people will be added to world population in this century. Startling in itself, the estimate presents two even more startling prospects:

—Only 1.4 billion people were added in the first 60 years of the century. Some 3.4 billion more are still to come.

—Most of the people will be added in areas that are least able to feed themselves. While the century increase for the developed world is estimated at 800 million, that for the less developed world is 4 billion.

Latin America has by far the world's fastest rate of population growth. Projections show it will average 30 per cent a decade, from now until 2000, well above the decade rate for Africa (18-26%) or Asia (22-25%).

However, Asia, with more people to start with, faces the most critical problem. By 2000 Asia alone will have a population greater than the present population of the entire world.

History suggests that the developed world has made the most progress when population was growing at less than 10 per cent a decade. The less developed world is trying to raise its economic level under the double burden of a population growth rate more than twice that of the West and a much smaller per capita endowment of land, water and other natural resources.

LAND: The Shrinking Ratio. Population growth is not in itself the critical factor in the protracted food shortage facing the less developed world. The real problem is that the man-land ratio is out of balance. Populations with enough land to support their food needs are not the ones having the most children.

Well into the twentieth century population pressures could still be eased by bringing new acreage under cultivation. But at mid-century this escape valve began to close. Over the next four decades higher yields must account for the larger part of the required increase in food output.

FOOD: The Chronic Need. The study shows that 92 per cent of the people in Asia live in countries where the average energy intake, measured in calories, is below the accepted minimum standards for good nutrition. The situation is less critical in Africa, where 38 per cent of the population is in calorie-deficient countries, and in Latin America, where the figure is 29 per cent.

However, people may get enough calories from starchy foods and still suffer from malnutrition. They also need livestock products, vegetables, fruits, and other types of foods that provide proteins, fat and vitamins.

By all protein indicators, diets met accepted standards in only 25 of the 60 countries in the less developed world in 1958, the last year studied. The other 35 countries, lacking one or more of the proteins, have 79 per cent of the population of the less developed world.

Thirteen of the 20 countries in Latin America had protein shortages of one kind or another, 10 of the 21 African countries, and eight countries in Asia.

Fat deficits showed up in eight countries in Latin America, eight in Africa. Again Asia had the greatest need. In India and Red China, the two population giants, fat intake per person per day was well below recommended standards. Overall, 90 per cent of Asia's population lived in areas where meat, milk, and other livestock products were not available to meet dietary needs for fat.

As these deficits show, actual starvation is not the problem. Nor is widespread famine a threat; emergency food aid is available from the United States

LAND SCARCER: Using area in grain as an indicator, the amount of land per person has declined in every geographic region since prewar. But the developed region still has twice as much land per person as the less developed region.

Region	Land per person		
	1934-38	1948-52	1960/61
	Acres		
Economic regions: [1]			
Developed region	1.02	0.92	0.85
Less developed region	.48	.46	.43
Geographic regions:			
North America	1.73	1.53	1.19
Latin America	.55	.42	.43
Western Europe	.39	.35	.33
Eastern Europe and USSR	1.24	1.10	1.08
Africa	.59	.56	.53
Asia	.45	.45	.42
Oceania	1.45	1.15	1.31
World	.66	.60	.55

[1] Less developed region includes Asia, Africa and Latin America. Developed region includes all others.

HOW LAND IS USED

Region	Arable land & land in tree crops	Permanent meadows & pastures	All other land
	Per cent		
North America	11.8	14.4	73.8
Latin America	5.0	18.0	77.0
W. Europe	26.8	15.5	57.7
E. Europe & USSR	11.7	16.5	71.8
Africa	7.8	19.6	72.6
Asia	16.0	16.0	68.0
Oceania	3.3	52.3	44.4

POOR DIETS ARE CHRONIC PROBLEM: Nutritional standards based on what people in various regions need per day to sustain normal health and vigor show calorie shortages in most less developed countries, protein and fat deficits in many.

Country [1]	Diets are lacking in—				
	Calories	Protein			Fat
		Animal	Pulse	Other	
Latin America:					
Bolivia	X			X	X
Colombia	X			X	
Dominican Rep.	X			X	
Ecuador	X			X	X
El Salvador	X			X	X
Guatemala	X			X	X
Haiti	X	X		X	X
Honduras	X			X	X
Nicaragua	X			X	X
Panama	X			X	
Paraguay	X				
Peru	X			X	X
Venezuela	X			X	
Asia:					
Burma	X			X	X
Ceylon	X		X	X	
Communist Asia [2]	X	X			X
India	X	X		X	X
Indonesia	X	X		X	
Iran	X				X
Iraq	X				X
Japan					X
Jordan	X				X
Korea, South	X				X
Malaya, Fed. of	X		X	X	
Pakistan	X			X	X
Philippines	X				
Syria	X		X		
Thailand	X		X	X	X
Africa:					
Algeria	X			X	X
Angola	X			X	
Belgian Congo & Ruanda-Urundi				X	X
Cameroun		X	X	X	
Egypt	X				
Ethiopia	X				
Fr. Equat. Africa				X	X
Fr. West Africa		X	X		
Ghana			X	X	
Guinea		X		X	
Kenya	X				X
Liberia		X	X	X	
Libya	X		X	X	X
Morocco					X
Sudan	X				
Tanganyika	X				X
Togo		X		X	
Tunisia	X				X

[1] Political entities as they were in 1958. [2] Mainland China, North Korea, North Vietnam.

and other surplus producers in time of flood, earthquake and other natural disasters.

The real problem is to eliminate malnutrition as a factor limiting man's capacity to move ahead.

However, in view of present food deficits, plus existing population pressures and projected population growth, substantial improvements in per capita consumption levels will not come easily in Asia, Africa and Latin America.

AGRICULTURAL PRODUCTIVITY: Diverging Growth Rates. Since the less developed world must rely chiefly on land now under cultivation to supply food for future generations, each larger than the last, it will have to greatly increase yields per acre.

To gauge progress to date, the study compares the agricultural productivity of the less developed world with that of the industrial West, prewar to 1960/61.

Grain is used as the indicator of trends in acreage, yields per acre, total production, and output per farm worker and per person of total population.

There are several reasons for this choice. Grains account for 70 per cent of the world's harvested cropland. They provide 52 per cent of man's food energy that is consumed directly and a large part of the remainder that is consumed indirectly in the form of meat, milk and eggs. Also, grains completely dominate world food trade.

Comparisons show that the industrial West and the less developed world produced in the aggregate about the same amount of grain in 1934-38, 334 million and 317 million metric tons respectively.

By 1960/61 both regions had increased total output considerably, but they did it in different ways. The West achieved a 51 per cent increase for an aggregate output of 506 million metric

tons on about the same amount of land it used prewar, mostly because of markedly higher yields in North America and Oceania.

To achieve an increase in total grain output of nearly 42 per cent, for an aggregate of 450 million metric tons, the less developed world used 30 per cent more land than prewar, a resource that cannot now be easily expanded.

In raising yields per acre, the hope of the future, the less developed world has not progressed as rapidly. By 1960/61 it had increased yields per acre only 8 per cent over the 1934-38 base period compared with a 51 per cent increase in the developed world.

By region, the study shows Asia upped yields 7 per cent, Latin America 8 per cent, while yields in North America climbed 109 per cent.

Perhaps the best gauge of agricultural progress is the amount of grain produced for each person in the total population.

For the entire world, grain output per person improved 7 per cent from prewar to 1960/61. The developed countries achieved a 26 per cent increase, from 1,036 to 1,307 pounds a year, for populations that grew relatively slowly. Starting at 494 pounds per person before the war, output in the less developed countries fell sharply during the war and early postwar years. Output per person began to climb during the 1950s, but by 1960/61, with the population explosion already underway, it was still 3 per cent below prewar.

By region, per capita output of grain in 1960/61 was 16 per cent below prewar in Latin America, 2 per cent in Asia. Only Africa among the less developed regions managed to keep ahead of population growth with a per capita increase of 8 per cent.

TRADE: The Widening Gap. Rising per capita food consumption and lagging per capita output in Latin America and Asia, plus

MENUS VARY: In developed countries where income is higher, people eat more meat and a wider variety of other foods. Less developed countries rely chiefly on low-cost starchy foods.

Region	Percentage of total calories from—					
	Grain products, roots and tubers	Fruits, nuts and vegetables	Sugar	Fats & oils	Livestock products	Fish
	Per cent					
Economic regions:						
Developed region	47.3	5.9	11.1	14.5	20.7	0.5
Less developed region	71.7	11.5	5.1	5.8	5.1	.8
Geographic regions:						
North America	24.4	9.1	15.8	19.9	30.6	.2
Latin America	50.7	12.3	14.0	8.0	14.7	.3
Western Europe	43.9	6.4	11.2	16.8	20.8	.9
E. Europe & USSR	64.9	3.5	8.0	9.2	14.0	.4
Africa	70.1	11.5	4.1	7.5	6.3	.5
Asia	74.5	11.4	4.1	5.3	3.8	.9
Oceania	30.0	5.6	16.3	12.3	35.2	.6
World	**62.7**	**9.6**	**7.3**	**8.9**	**10.8**	**.7**

GRAIN YIELDS PER ACRE: Prewar, the less developed region had average grain yields slightly higher than the developed region. Since the war, yields have risen rapidly in the developed region but remained virtually static in the capital-scarce less developed region.

Region	Yields per acre		
	1934-38	1948-52	1960/61
	Pounds		
Economic regions: [1]			
Developed region	1,018	1,186	1,541
Less developed region	1,032	926	1,116
Geographic regions:			
North America	977	1,453	2,044
Latin America	1,016	992	1,098
Western Europe	1,406	1,490	1,931
Eastern Europe and USSR	946	899	1,133
Africa	584	633	701
Asia	1,120	972	1,195
Oceania	730	979	1,179
World	**1,025**	**1,047**	**1,307**

[1] Less developed region includes Asia, Africa and Latin America. Developed region includes all others.

GRAIN OUTPUT PER PERSON: Fast growing populations have kept the less developed region from regaining its prewar per capita output. With a slower rate of population growth, the developed region has moved well ahead of its prewar level, now produces almost three times as much grain per person as the less developed region.

Region	Output per person		
	1934-38	1948-52	1960/61
	Pounds		
Economic regions:			
Developed region	1,036	1,096	1,307
Less developed region	494	423	481
Geographic regions:			
North America	1,693	2,218	2,440
Latin America	560	419	472
Western Europe	544	516	646
Eastern Europe and USSR	1,175	999	1,230
Africa	348	355	375
Asia	509	434	498
Oceania	1,003	1,186	1,517
World	**677**	**626**	**723**

MEASURE OF PROGRESS: Grain output per worker in the farm population, a measure of labor productivity, shows North America has about tripled output, Oceania more than doubled output since prewar. Latin America has fallen back slightly while all other regions have gained moderately.

Region	Output per farm worker		
	1934-38	1948-52	1960/61
	Pounds		
Economic regions:			
Developed region	2,707	3,503	4,777
Less developed region	666	648	813
Geographic regions:			
North America	7,282	15,524	21,845
Latin America	888	718	858
Western Europe	1,944	2,048	2,811
Eastern Europe and USSR	2,108	2,125	2,998
Africa	452	538	648
Asia	681	659	831
Oceania	3,675	5,143	8,084
World	**1,089**	**1,140**	**1,448**

higher consumption per person in Africa, have severely altered the trade and foreign exchange position of all three regions.

Prewar, each region was a net exporter of grain, earning foreign exchange needed for economic development. Today all have to import grain to help meet the food needs of their growing populations.

Just before the war, Asia had net grain exports of some 2 million metric tons a year. By 1948-52 it was importing nearly 6 million tons a year and by 1960-61 the figure had jumped to an unprecedented 16 million metric tons. About half of the grain imports in 1960/61 were needed to offset the drop in Asia's own per capita output, about half to provide slightly more food per person.

During the late 1930s Latin America was the dominant supplier of the world grain market, exporting more grain than North America and Oceania put together.

Over the next quarter century Latin America increased production 42 per cent. Population, however, increased 69 per cent. By 1960/61 the region was importing grain both to feed a bigger population and to provide a little more per person.

Never very closely tied to the world economy, Africa was not traditionally either much of a grain exporter or importer. Also, Africa is the only less developed region where grain output has kept pace with population growth. Nevertheless, Africa has slipped over the line from sometime exporter to importer of about 2 million metric tons of grain a year in order to meet its people's growing demand for more food.

Western Europe, of course, has long been the world's biggest grain market, buying what it can't produce. The Soviet Union, currently struggling to produce all its own grain, along with the rest of Eastern Europe will de-

velop a sizeable deficit if past trends continue.

This leaves North America and Oceania as the only major grain suppliers. And North America will become increasingly important as a supplier of grain to the world's deficit regions.

A HARD LOOK AHEAD. What will it take to give people in the less developed world 10 per cent more food than they now have by 1980, 20 per cent more by 2000?

Counting domestic production and imports, Latin America, Africa and Asia now have on the average about 489 pounds of grain per person a year.

A 10 per cent increase would make 536 pounds available per person. A 20 per cent increase would up the amount to 584 pounds, about a third the amount of grain per person available today in North America.

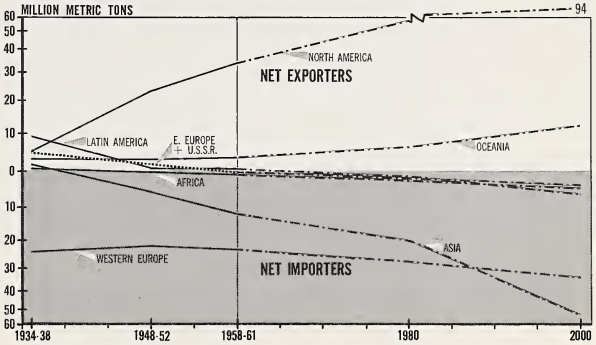
Imports are not the answer. Now running about 19 million metric tons a year, they account for 3 per cent of the total grain supply of the less developed world. By 2000, imports, chiefly from North America, are projected to increase five-fold and account for about 5 per cent of the total supply. But this is about the maximum imports the marketing and transportation systems of the less developed regions can be expected to handle. The other 95 per cent of the grain needed will have to come from domestic production.

This means that the less developed world will have to triple total grain output by the year 2000, from the present level of 433 million metric tons a year to 1,253 million.

For Asia, this means expanding grain output 69 per cent above the present level by 1980, 187 per cent above the present level by 2000.

Africa will have to increase production 22 million metric tons or 58 per cent by 1980 and 62

DEFICITS GROWING: Prewar, Asia, Africa and Latin America were all net exporters of grain, earning needed foreign exchange. More people and slightly better diets now require them to import grain. By 2000 the U.S. and Canada will supply far more of the world's needs than today. Asia will supplant Western Europe as the largest importer.



U. S. DEPARTMENT OF AGRICULTURE NEG. ERS 2322-63 (8)

Region	Total use of fertilizer		
	1938	1950/51	1960/61
	Thousand metric tons		
Economic regions:			
Developed region	8,459	13,121	23,596
Less developed region [1]	1,312	1,720	5,009
Geographic regions:			
North America	1,416	4,700	7,541
Latin America	82	290	999
Western Europe	4,119	5,814	9,998
E. Europe and USSR	2,544	2,087	5,127
Africa	200	360	720
Asia [1]	1,030	1,070	3,290
Oceania	380	530	930

FERTILIZER ESSENTIAL: Both total use of fertilizer and pounds applied per acre have been much higher in the developed region. As new land becomes scarce, emerging nations look more to yields for additional food and fertilizer assumes a strategic role.

Region	Fertilizer per acre [2]		
	1938	1950/51	1960/61
	Pounds		
Economic regions:			
Developed region	26	42	64
Less developed region [1]	4	4	13
Geographic regions:			
North America	13	40	71
Latin America	2	9	24
Western Europe	86	132	220
E. Europe and USSR	15	13	31
Africa	4	7	13
Asia [1]	4	4	11
Oceania	50	77	97

[1] Excludes Communist China but amount of fertilizer used by this country is not large relative to the regional total. [2] Calculated on basis of total acreage planted to grain.

Economic regions	Grain available per person, with projections				
	1934-38	1948-52	1957/58-1960/61	1980	2000
	Pounds				
Developed region:					
Production	1,036	1,095	1,252	1,402	1,537
Net trade	+ 33	— 11	— 40	— 73	— 117
Availability	1,069	1,084	1,212	1,329	1,420
Less developed region:					
Production	494	423	474	511	553
Net trade	— 18	+ 4	+ 15	+ 24	+ 31
Availability	476	427	489	535	584

THE TASK AHEAD: To provide 20 per cent more food per person by the year 2000, a modest goal, the less developed world will have to add to current grain production an amount almost equal to present world output. Slight declines in output from prewar have been offset up to now by growing imports from the developed world. However, imports now providing 3 per cent of the total food supply, are expected to account for not more than 5 per cent by century's end for a population more than double its present size.

Economic regions	Total grain available, with projections				
	1934-38	1948-52	1957/58-1960/61	1980	2000
	Million metric tons				
Developed region:					
Production	334	375	476	679	897
Net trade	+ 11	— 4	— 15	— 35	— 68
Availability	345	371	461	644	829
Less developed region:					
Production	316	334	433	732	1,253
Net trade	— 11	+ 4	+ 15	+ 35	+ 68
Availability	305	338	448	767	1,321

million tons or 163 per cent by the year 2000.

Latin America will need to increase grain output 71 per cent, or 30 million metric tons by 1980, 212 per cent or 89 million tons by the year 2000.

The less developed world has few resources for a task of this magnitude:

Land: Limited. As already shown, not much new land can be added to present acreage.

Agricultural research: Inadequate. Although most less developed countries are tropical or semi-tropical, little research has been done on improving plant varieties and farm methods suitable to the hot, often damp climate.

Labor: Abundant. Manpower is expected to be plentiful in agriculture. But more workers per acre can do little to increase output without the addition of capital inputs.

Fertilizer: The key to higher yields, but seriously lacking throughout the less developed region.

The less developed world now uses about 5 million tons of chemical fertilizers a year. Assuming it takes one pound of fertilizer (measured in plant nutrients) to produce 10 pounds of grain, the region would have to increase fertilizer use to 34 million tons to raise per capita grain availability 10 per cent by 1980. A 20 per cent increase in per capita grain availability by 2000 would take 87 million tons of fertilizer a year.

Asia, now using 3.3 million tons of chemical fertilizers annually, will have to increase use to 27 million tons by 1980. In other words, Asia alone in less than 20 years will have to use a quantity of fertilizer almost equal to current world production of 28.6 million tons.

From 1980 to 2000, Asia will need to almost triple fertilizer use, to 67 million tons.

Africa, currently using less than one million metric tons of chemical fertilizers a year, will have to increase the amount to 2.7 million tons by 1980 and to 6.7 million tons by 2000.

Latin America will need to step up fertilizer applications from the current one million tons a year to 4 million by 1980 and to 10 million by 2000.

In sum, a great increase in the use of chemical fertilizers is essential to the ultimate solution of the growing food problem.

But to build enough chemical fertilizer plants to raise fertilizer use from the current level of 5 million metric tons a year to 87 million metric tons by 2000 will require a tremendous capital investment. And most of the less developed countries have little money to invest in agriculture.

While actually confined to less developed countries, the growing food problem is in a larger sense a world problem. The industrial West is equally committed to its solution. *(40)*

RECENT PUBLICATIONS

The following publications are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources *are published by ERS. Single copies are available free from the Division of Information, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications may be obtained from the issuing agencies of the respective states.*

THE DOMINICAN REPUBLIC—AGRICULTURE AND TRADE. Leon G. Mears, Regional Analysis Division. ERS-Foreign 51.

The Dominican Republic's foreign trade is growing rapidly, and the United States is sharing in the increase. The United States is the principal market for Dominican agricultural exports as well as the major source for its farm and nonfarm imports. With recent wage increases and the decline in unemployment the purchasing power of the Dominican people has increased and new import demand has resulted.

NEW ZEALAND'S AGRICULTURAL PRODUCTION, MARKETING, AND TRADE POLICIES AND THEIR BEARING ON U. S. FARM EXPORTS. Mary E. Long, Regional Analysis Division. FAER-9.

This study was made to obtain more thorough knowledge of the competition faced by U. S. farmers from New Zealand's products in both local and foreign markets. Until recently the bulk of New Zealand's exports went to the United Kingdom, but since 1958 a larger proportion has been diverted to the United States, Japan, and certain West European countries. In the New Zealand market, the United States encounters stiff competition from Australia and the British West Indies.

SPECIAL PROMOTIONAL PROGRAMS FOR WINTER PEARS—THEIR EFFECTS ON SALES OF WINTER PEARS AND OTHER FRUITS. James F. Hind, Cleveland P. Eley, and Carl R. Twining, Marketing Economics Division. MRR-611.

Research was conducted in 75 food supermarkets in five cities over a 20-week period to evaluate the relative sales effectiveness of four promotional techniques for winter pears. Techniques tested were: (1) point-of-purchase displays, (2) store demonstrations, (3) dealer contests with cash prizes, and (4) media advertising programs of low intensity. Store demonstrations and dealer contests were the most effective techniques.

CHANGES IN THE MARKET STRUCTURE OF THE BREAKFAST FOODS INDUSTRY. Walter G. Heid, Jr., Marketing Economics Division. MRR-623.

Important structural changes in the breakfast foods industry from 1947-49 to 1961 are examined in this report. The number of establishments manufacturing prepared breakfast foods decreased from 64 in 1947 to 43 in 1958—33 per cent. At the same time the number of companies decreased 58 per cent. Consumer preference was switching from hot cooked cereals to cold ready-to-eat breakfast foods. Ready-to-eat cereals increased from 45 per cent of total production in 1939 to an estimated 65 per cent in 1961. Larger volumes of grain, grain products, and breakfast foods were flowing through fewer channels in 1961 than previously.

STATISTICS ON THE EUROPEAN ECONOMIC COMMUNITY. VOL. 2—AGRICULTURAL PRODUCTION AND CONSUMPTION. Regional Analysis Division. ERS-Foreign 46.

The Department of Agriculture has compiled data pertaining to

Sources for this issue:

1. Changes in Farm Production and Efficiency, 1963, SB-233, Rev. July '63 (P); 2. Changes in Farm Production and Efficiency, 1962, SB-233, Rev. Sept. '62 (P); 3. Farm Cost Situation, FCS-34 (P); 4. Agricultural Finance Review, Vol. 24 (P); 5. P. L. Strickland, Jr., and J. Partenheimer, Optimum Farm Organization and Aggregate Area Production, Limestone Valley Areas, Alabama, Ala. Agr. Expt. Sta., Agr. Econ. Ser. 1 (P); 6. J. D. Rush (SM); 7. Farm Mortgage Lending, FML-8 (P); 8. M. L. Cotner, M. E. Wirth and J. R. Brake, Credit Experiences of Commercial Crop and Livestock Farmers in Purchasing Land in Michigan (M); 9. R. Wolter, R. A. Christiansen, and S. S. Staniforth, Statistical Summary with Comparisons-Wisconsin Farmers Home Administration Borrowers, Univ. of Wisc. Col. of Agr. (M); 10, 11. Agricultural Finance Review, Vol. 24 (P); 12. Fruit Situation, TFS-147 (P); 13. Farm Real Estate Market Developments, CD-64 (P); 14. Fats and Oils Situation, FOS-219 (P); 15. F. T. Cooke, Jr., Economics of Supplemental Irrigation in Cotton, Yazoo, Mississippi Delta, Miss. Agr. Expt. Sta. Bul. (M); 16. Cotton Situation, CS-207 (P); 17. P. L. Strickland, Jr. and C. C. Turner, Cotton Insect Control and Related Production Practices, Limestone Valley Areas, Alabama, 1961, Ala. Agr. Expt. Sta. Agr. Econ. Mimeo. (P); 18. H. L. Stewart (SM); 19. Agricultural Finance Review, Vol. 24 (P); 20. R. R. Stansberry, Jr., The Rural Fringe and Urban Expansion (M); 21. E. Youmans, The Rural School Dropout: A Ten-Year Followup Study of Eastern Kentucky Youth (M); 22. F. T. Bachmura (SM); 23. J. D. Cowhig, Age-Grade School Progress of Farm and Nonfarm Youth: 1960 (M); 24. A. C. Manchester, The Changing Market Structure for Perishables, (S); 25. Fruit Situation, TFS-148 (P); 26. W. T. Manley and M. R. Goodwin, Marketing Florida Vine-Ripened Tomatoes, Fla. Agr. Expt. Sta. Bul. (M); 27. P. L. Henderson, J. F. Hind and S. E. Brown (SM); 28. Fats and Oils Situation, FOS-219 (P); 29. H. L. Hall (SM); 30. C. Davenport (SM); 31. J. Hannan (SM); 32. Agricultural Protection by Nontariff Trade Barriers, ERS-F60 (P); 33. A. Bernitz, An Evaluation of West Germany's Domestic Agricultural Assistance Program, ERS F 52 (P); 34. A. Bernitz, Summary and Evaluation of "Austria: Projected Level of Supply, Demand and Trade of Agricultural Products in 1965 and 1975" (M); 35. E. N. DeBlois and R. L. Tontz, Export Payment Assistance to U.S. Agricultural Exports, Foreign Agricultural Trade, June 1963 (P); 36. Regional Analysis Division (SM); 37. J. Galvin (SM); 38. Fruit Situation, TFS-148 (P); 39. National Food Situation, NFS-104 (P); 40. L. R. Brown, Man, Land and Food (M); 41. Farm Cost Situation, FCS 34 (P).

Speech (S); published report (P); report in process (M); Special material (SM).

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OFFICIAL BUSINESS

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the production, utilization, and trade of agricultural commodities for the Common Market members, Greece and those countries which are currently applicants for membership. Because of the magnitude of this data, the material has been published in two volumes. This volume contains data on acreage, yields, livestock numbers, output, prices, farm requisites, and food consumption. Volume 1 (ERS-Foreign 43) contains information on trade, finance, income, and population.

ECONOMIC FEASIBILITY OF RADIATION-PASTEURIZING FRESH STRAWBERRIES, PEACHES, TOMATOES, GRAPES, ORANGES AND GRAPEFRUIT. John H. Droge, Marketing Economics Division. ERS-131.

Ionizing radiation pasteurization is a method that might be used to extend the cold storage life of fresh strawberries, peaches, tomatoes, grapes, oranges, and grapefruit. Fresh produce handlers who were surveyed gave two main advantages of the process: It would reduce spoilage losses, and maintain quality. Among the disadvantages they expected is consumer resistance due to fear of the process. The Department of Agriculture conducted this study for the U. S. Atomic Energy Commission.

CHANGING SHIPPING PATTERNS ON THE ST. LAWRENCE SEAWAY—WITH EMPHASIS ON UNITED STATES GRAIN EXPORTS. Marketing Economics Division. MRR-621.

Traffic on the St. Lawrence Seaway more than doubled in the period 1958-62, rising from 11.8 million tons to nearly 26.0 million tons. Agricultural commodities were 42 per cent of the tonnage moved through the St. Lawrence River in 1958, and 47 percent in 1961. Grain was more than 85 per cent of all agricultural tonnage. This study evaluates the traffic record of the new waterway since it opened.

AGRICULTURAL PROTECTION BY NONTARIFF TRADE BARRIERS. ERS-Foreign 60.

The following nontariff controls were studied: Import quotas and embargoes, variable levies and gate price system, conditional imports, monopolies, advance deposits on imports, import discrimination and preferential treatment, import licensing and bilateral agreements. The study was made by ERS in cooperation with the Foreign Agricultural Service.

THE FARM INDEX

ECONOMIC RESEARCH SERVICE
U. S. DEPARTMENT OF AGRICULTURE

NOVEMBER 1963

OUTLOOK 1964

THE YEAR AHEAD FOR

FARMING

MARKETING

THE FOREIGN MARKET

THE CONSUMER

OUTLOOK CHARTBOOK

WITH PROJECTIONS
TO 1968

ECONOMIC TRENDS

Item	Unit or base period	'57-'59 Average	1962		1963		
			Year	September	July	August	September
Prices:							
Prices received by farmers	1910-14=100	242	243	250	245	242	241
Crops	1910-14=100	223	230	231	239	234	232
Livestock and products	1910-14=100	258	255	266	249	249	249
Prices paid, interest, taxes and wage rates	1910-14=100	292	306	307	312	311	311
Family living items	1910-14=100	286	294	294	299	298	297
Production items	1910-14=100	262	269	271	273	273	273
Parity ratio		83	79	81	79	78	77
Wholesale prices, all commodities	1957-59=100	.....	100.6	101.2	100.6	100.4	100.3
Commodities other than farm and food	1957-59=100	.....	100.8	100.8	100.8	100.8	100.8
Farm products	1957-59=100	.....	97.7	100.6	96.8	96.3	95.4
Food, processed	1957-59=100	.....	101.2	103.3	102.2	100.9	100.9
Consumer price index, all items	1957-59=100	.....	105.4	106.1	107.1	107.1	.....
Food	1957-59=100	.....	103.6	104.8	106.2	106.0	.....
Farm Food Market Basket:[1]							
Retail cost	Dollars	1,037	1,067	1,085	1,088	1,090	.....
Farm value	Dollars	410	410	423	403	397	.....
Farm-retail spread	Dollars	627	657	662	685	693	.....
Farmers' share of retail cost	Per cent	40	38	39	37	36	.....
Farm Income:							
Volume of farm marketings	1947-49=100	123	136	150	130	138	155
Cash receipts from farm marketings	Million dollars	32,247	35,921	3,439	2,781	2,928	3,400
Crops	Million dollars	13,766	15,935	1,728	1,197	1,279	1,700
Livestock and products	Million dollars	18,481	19,986	1,711	1,584	1,649	1,700
Realized gross income [2]	Billion dollars	.....	40.8	40.7	.....	.....	41.1
Farm production expenses [2]	Billion dollars	.....	28.2	28.3	.....	.....	28.9
Realized net income [2]	Billion dollars	.....	12.6	12.4	.....	.....	12.2
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	5,031	396	410	408	.....
Agricultural imports	Million dollars	3,977	3,876	313	335	347	.....
Land Values:							
Average value per acre	1957-59=100	.....	118[3]	120[4]	127	.....	.....
Total value of farm real estate	Billion dollars	.....	137.4[3]	139.5[4]	148.1	.....	.....
Gross National Product[2]	Billion dollars	456.7	554.9	556.8	.....	.....	588.5
Consumption [2]	Billion dollars	297.3	355.4	356.7	.....	.....	374.3
Investment [2]	Billion dollars	65.1	78.8	78.9	.....	.....	83.9
Government expenditures [2]	Billion dollars	92.4	117.0	117.0	.....	.....	126.0
Net exports [2]	Billion dollars	1.8	3.8	4.1	.....	.....	4.3
Income and Spending:							
Personal income, annual rate	Billion dollars	.....	442.1	445.5	464.2	465.1	466.4
Total retail sales [5]	Million dollars	.....	19,613	19,769	20,719	20,676	20,170
Retail sales of food group [5]	Million dollars	.....	4,801	4,877	5,030	5,009	.....
Employment and Wages: [5]							
Total civilian employment	Millions	.....	67.8	68.2	69.2	68.9	69.1
Agricultural	Millions	.....	5.2	5.1	5.0	4.8	4.9
Rate of unemployment	Per cent	.....	5.6	5.6	5.6	5.5	5.6
Workweek in manufacturing	Hours	.....	40.4	40.7	40.4	40.3	40.6
Hourly earnings in manufacturing, unadjusted	Dollars	.....	2.39	2.39	2.45	2.43	2.46
Industrial Production [5]	1957-59=100	.....	118	120	126	126	126
Manufacturers' Sales and Inventories:							
Total sales, monthly rate [5]	Million dollars	.....	33,260	33,680	35,930	35,440	.....
Total inventories	Million dollars	.....	57,210	57,190	58,930	58,980	.....
Total new orders, monthly rate	Million dollars	.....	33,050	33,230	35,530	35,080	.....

[1] Average annual quantities of farm food products based on purchases per wage-earner or clerical-worker family in 1952—estimated monthly. [2] Annual rates seasonally adjusted third quarter. [3] As of March 1. [4] As of July 1. [5] Seasonally adjusted.

Sources: U.S. Department of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Department of Commerce (Industry Survey, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Department of Labor (The Labor Force and Wholesale Price Index).

Please write in the following changes in your copy of the November (Outlook) issue of The Farm INDEX:

On page 17, in the paragraph beginning
"Commercial sales for dollars were at a record level in fiscal 1963....."change the figure $1.6 to $1.5.

On page 27, in the paragraph beginning
"The outlook for fiscal 1964...."
change the figure $5 to $5.1.

On page 27, in the paragraph beginning
"A large part of the $1 billion increase....."
change the figure $1.6 to $1.8.

COMMODITY HIGHLIGHTS

(The general situation and outlook this month are carried in the chartbook beginning page 11.)

October crop production estimates suggest a banner 1963 for major **oilseed** crops. Estimated soybean output is a record 727 million bushels, 8 per cent over 1962 and 28 per cent above 1957-61. Cottonseed output, set at 6.2 million tons, is highest since 1953, a bit over 1962 and 13 per cent over the 1957-61 average. Flaxseed—1963 crop is put at 31 million bushels, 3 per cent under last year but 14 per cent over average.

Total **wheat and flour** exports may reach 1 billion bushels in 1963-64, based on current world demand and prospective sales of about 200 million bushels to Soviet Union and East European bloc countries. If these exports materialize, wheat carryover next July may drop to 725 million bushels—465 million under last July and smallest since 1953. Prices to U.S. farmers for the 1963 crop may average moderately above $1.82 national average loan rate this year, reflecting tightly held private supplies, active demand.

Current **cotton** crop is set at 14.8 million bales, except for 1962 the largest crop since 1953. Acreage is 8 per cent under 1962, but record 500-pound per acre yield means little production change. Carryover next August may exceed 12 million bales, second only to high in 1956. Both mill use and exports are up; exports may rise 1.6 million bales from last season.

Larger fed-beef supplies at heavy weights may boost winter **beef** production, keep prices from advancing. **Hog** slaughter next January-June could average just under year earlier with improved prices, especially in 1964's second quarter. Last June-August, Corn Belt farrowings gained 2 per cent, but a 3 per cent dip was intended for September-November. Winter **lamb** prices are likely to stay below a year earlier, due to strong competition from other meats.

October indicated **feed grain** supply is 214 million tons for 1963-64, slightly under last year but over 1957-61 average. Current crop of 152 million tons is 9 million over 1962 but carryover is down 10 million tons. Next year's use may exceed 1963 crop by 3 to 4 million tons, resulting in a further reduction in carryover in 1963-64. Record crop brings total corn supply to 5,310 million bushels, just over a year earlier. Increased corn use could mean drop in carryover by October 1, 1964, but less than the big reduction during last two years. More livestock is expected to strengthen feed grain demand in 1963-64. Feed grain prices may average near 1962-63 levels.

Farm **egg** production in 1963 may slightly surpass last year's 175 million cases. But largely due to population growth, supplies per capita are down. Producers may get a cent more per dozen this year than 1962's 33.7 cents. **Broiler** output in 1963: 4 per cent over last year's 6,919 million pounds. Current year prices may average 0.6 cents per pound below 15.2 cents in 1962. Chicken consumption may hit new high: 30.6 pounds per capita. **Turkeys:** 1963 production about like 1962. Supplies and per capita use, both down a bit. Farm prices may go a cent over 21.6 cents per pound in 1962.

Milk production in 1964? About 125 billion pounds. Cow numbers are declining faster than 1962 but production per cow is still going up. Next year's milk prices to farmers may be a bit higher than 1963. Commercial use of milk and dairy products is up. Stepped up exports are reducing government butter and nonfat dry milk carryover from record levels.

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EDITOR, Theodore Crane; ASSISTANT EDITOR, Story E. Moorefield; STAFF EDITORS, Marilyn Harrison Grantham and John Metelsky; PRODUCTION EDITOR, Lilla Dunovant McCutchen.

FARM COST FORECAST

Production expenses are expected to total about $28.7 billion in 1963, compared with the previous record of $28.2 billion in 1962. Most of this increase is due to higher average prices paid for production goods and services, including interest, taxes and wage rates. The outlook for 1964 indicates a further rise in production expenses at least equal to 1963.

As a result of the overall rise in expenses this year, net income realized from farming in 1963 will probably drop from 1962, despite slightly higher cash receipts from marketings and a continued high rate of government payments to farmers. However, the decline in farm numbers may mean little change in net income per farm.

Farm labor. Farm wage rates have increased in 1963 and are expected to rise again in 1964. The total farm wage bill in 1964 will be about the same because the number of hired workers is expected to decline. The national average of cash farm wages is now about 88 cents an hour.

Livestock. Prices paid by farmers for feeder and replacement livestock in October 1963 averaged 12 per cent lower than a year earlier and 7 per cent lower than in the spring of this year. The decline in prices paid for feeder cattle and pigs accounted for most of the reduction from a year ago. Most of the decline since spring was caused by a seasonal drop in prices for baby chicks and turkey poults and somewhat lower prices for feeder lambs.

Farm real estate. Market prices of real estate increased 6 per cent an acre in the year ending July 1, 1963, compared with 5 per cent in the preceding 12 months. Continued strong demand among farmers for additional land with a limited supply for sale, has stimulated higher land prices.

Interest. Interest payments in 1963 on real estate loans and production credit were 11 per cent above those in 1962. Total interest costs in 1964 are expected to show a further rise. Total farm debt is expected to reach $30.5 billion by January 1, 1964, about 9 per cent above the amount owed a year earlier.

Taxes. Taxes levied on farm real estate in 1962 averaged $1.36 per acre, up 5.4 per cent from 1961. Preliminary reports on 1963 levies indicate that they are continuing to rise at about the same rate. *(1)*

Reading of Farmers' Financial Pulse: Stronger in Assets, Debts, Equity

The 1964 farm financial outlook is for continued increases in assets and equities but some decline in net income.

The value of farm assets is expected to reach $226 billion by the end of 1963—up nearly $10 billion from the beginning of the year. Although farm debts will be up $2.8 billion, equities will be nearly $7 billion higher.

Most of the gain in farm assets during 1963 is the result of rising land values. By January 1, 1964, farm real estate will be worth roughly $152 billion. If land values continue to rise as anticipated, farm assets and equities will increase further in 1964.

Realized net income is down about 3 per cent this year from last because of higher farm costs and reduced returns from livestock. With costs continuing upward, an additional drop of 6 to 8 per cent in realized net farm income is anticipated for 1964 if receipts from wheat (sales and government payments) are reduced as much as expected.

The prospect for wheat in 1964 would be even less favorable except for the potential large exports to the Common Market and the Soviet Union.

Farm credit needs have been exceptionally large in 1963 and will continue heavy in 1964. However, farm debt is not expected to rise as much in 1964 as this year because of indications that credit may be somewhat less readily available and that some farmers may become more cautious about incurring long-term debt.

Despite the increase in farm debt this year, loan delinquencies have been few. Apparently most farmer-borrowers have been able to carry the larger debts. However, capital appreciation, particularly in land values, has helped some who were burdened by debt to sell out at a good price. *(28)*

Estate Planning Cuts Death Taxes, Frees Cash for Farm Improvements

Rates for estate and inheritance taxes—the so-called death taxes—haven't changed much over the years. But family farms have. To return an adequate income, farms have to be bigger, with more capital invested in land, buildings and equipment. As a result, more farms have climbed into the capital assets bracket that is subject to taxation when the owner dies.

Do death taxes cut into the estate to such an extent that the heirs can't continue to operate the farm efficiently? A new ERS study says that for most types of farms in most states the answer is a qualified "no." It also shows how important careful estate planning can be in reducing death taxes.

The federal government levies an estate tax only. It applies to the entire taxable estate according to a single rate schedule. The first $60,000 is exempt, and up to half of the total estate can be left tax-free to the wife. Rates vary from 3 per cent on the first $5,000 of taxable estate to 77 per cent of the amount over $10 million. But part of the amount that goes to meet state taxes can often be credited against the federal assessment.

Some states use the estate tax, but most rely on the inheritance tax, which assesses the distributed shares of the estate. Typically the inheritance tax applies lower rates to shares passing to close relatives than it does to distant relatives or unrelated persons.

While the federal estate tax is uniform, inheritance taxes vary widely among states. Take a $200,000 estate, left half to the widow and one-fourth to each of two adult children. Combined federal and state death taxes would run 2.4 per cent in Alabama, 4.2 per cent in Indiana, and 6.9 per cent in Wisconsin.

Taxes are higher if the wife is no longer living, mostly because her half share is no longer exempt from the federal estate tax. In Indiana, for example, total tax on the complete transfer to one son of a $200,000 estate would be close to 19 per cent, compared with about 7 per cent if it went half to the widow and one-fourth to each of two children with the widow's share passing on to the children at her death.

The federal estate tax can sometimes be paid in installments over a 10-year period. But the states are not usually so generous. With most of their capital tied up in property, some heirs have to borrow money to meet state payments.

To keep their heirs from having to resort to these measures, some older farmers may hold more of their assets in the form of cash or securities that can easily be sold for cash.

Estate planning takes competent legal advice, but it offers several ways to reduce death taxes. One way is to transfer part or all of the estate to the heirs as a gift. A farmer can give each heir $3,000 a year, plus another $30,000 to all heirs during his lifetime free of gift tax. His wife can do the same, thus doubling the total gift. Or they can give even more of the estate, paying a gift tax on the taxable portion. Gift tax rates are lower.

Another way is to put the estate in trust, with the income assigned to the children and the farm passing to the grandchildren when the children die. It is often possible to bypass one set of death taxes with this device. Again, good legal advice is vital.

On balance, death taxes don't seem to be a major problem to most farmers, but they are something farm operators should think about and plan for before they come due. *(2)*

WHO HOLDS THE FARM MORTGAGE DEBT? According to USDA's farm mortgage figures for January 1 this year, farmers' largest single source has been life insurance companies. The federal land banks held the second place share of total farm real estate debt, followed by all operating banks and the Farmers Home Administration. During the five-year period from 1958 to the present, total farm mortgage debt increased 48 per cent. From January 1, 1962, to January 1, 1963, the increase was 10.6 per cent. *(3)*

Year	Life insurance companies	Federal land banks	All operating banks	FHA	Other farm mortgage debt	Total farm mortgage debt
	Million dollars					
1958	2,579	1,897	1,414	340	4,152	10,382
1959	2,661	2,065	1,512	388	4,465	11,091
1960	2,820	2,335	1,625	437	4,857	12,074
1961	2,975	2,538	1,686	482	5,131	12,812
1962	3,162	2,802	1,785	566	5,576	13,891
1963[1]	3,397	3,023	2,053	709	6,180	15,362
	Per cent change[2]					
1958 to 1963	31.7	59.3	45.2	108.7	48.8	48.0
1962 to 1963	7.4	7.9	15.1	25.3	10.8	10.6

[1] Preliminary. [2] Computed from unrounded data.

Research Reveals Economic Future For Dairymen in Lake States Region

What's in store for Lake States dairymen? Fewer milk producers, higher output and slightly lower farm prices, according to economic projections for 1965. In other words, it's a continuation of existing trends.

The Lake States region has long been a leader in milk production. In 1961, three of these states, Michigan, Minnesota and Wisconsin, contributed 26.8 per cent of national milk output. This concentration of production makes the area a milk surplus region. The fluid milk market is dominated by the Chicago order market. The bulk of the milk output of the region goes into the manufacture of butter, milk powder, ice cream and cheese.

An economic analysis of dairying in the Lake States by ERS in cooperation with the Agricultural Experiment Stations of Illinois, Iowa, Michigan, Minnesota and Wisconsin indicates that balancing supply and demand for fluid milk and products would allow for an additional 9 per cent of production in this region by 1965 compared to 1959. The increase would result from growth in population, higher consumer income and lower farm prices for milk.

Although consumer demand for fluid milk and cream is expected to continue to decline, demand for manufactured products in the U.S. should increase over the next two or three years. Per capita use of all milk will continue to drop rapidly but will be more than offset by a 10.3 per cent increase in total population.

These trends in demand for milk and the opportunities to use improved technology indicate several profitable alternatives for dairymen in the Lake States. The grade A producers can more easily increase output as their competitive position is stronger compared to grade B producers. However, these farmers need to continue to improve the size and quality of their herds and many could well consider the installation of labor saving, loose-housing arrangements and the mechanization of feeding for their cows.

Many of the grade B producers will find it more profitable to reduce milk output and shift to feeding more hogs and beef. Some grade A men on farms with Corn Belt type soils might also consider adding to their livestock feeding enterprises. However, the analysis revealed that less than $17.50 per hundredweight for hogs would not make them as profitable as milk production for most producers selling fluid milk.

Within the region, the largest increase in milk output would be profitable for dairymen in Michigan where alternatives in livestock production are limited. Expansion of milk production in east central Minnesota and west central Wisconsin is less advisable because the farms are smaller and would have to be consolidated into larger units to provide adequate land and capital resources. *(4)*

BUDGETED INCOMES OF DAIRY FARMERS DEPEND ON OUTPUT

A competent New England dairy farmer with 32 cows might reasonably expect to earn $5,500 a year.

He's at the top of the income scale in a series of four budgets.

The budgets were tied to annual milk outputs of 2,400 hundredweight, 2,880 hundredweight, 3,360 hundredweight and 3,840 hundredweight.

A minimum cost budget for the dairy farm at the bottom of the scale would include 20 cows with 67 acres of land. The farm is essentially a one-man operation, as is true of all the other budgets. Some 324 extra hours of labor—mostly family labor—are also included in the plan. At this production level, the operator earns 19 cents per dollar of gross sales or $2,500 a year.

For the next higher milk output, the farmer needs 24 cows, and 80 acres. His earnings would, theoretically, amount to 22 cents per dollar of gross sales or $3,500 a year.

At a 3,360-hundredweight output level, the farmer needs 28 cows and 93 acres. He would earn about 25 cents per dollar of gross sales—$4,500 a year.

The largest budget calls for 32 cows and 106 acres. The farmer earns 26 cents per dollar of gross sales or $5,500 a year.

In all the budgets about half the farm acreage is in cropland and rotation pasture.

The figures for the operator's earnings equal the cash return to the farmer for his labor and management, after deducting from gross sales the annual expenses associated with the business. The expenses do not include the cost of the farmhouse nor any allowance for repayment of capital. However, the expenses do include a charge of 5 per cent on the total investment.

In all the budgets, average production per cow is 12,000 pounds of 3.8 per cent milk a year. The farm price of milk is $5 per hundredweight. *(5)*

Costs of Producing Slaughter Beef Are Related to Location of Feedlot

What affects the cost of producing fed beef in one area compared to another? The cost of the feeder animal. The cost per hundredweight of gain. Nonfeed costs.

Take the cost of the feeder steer or heifer delivered to the feedlot. This item will depend somewhat on the concentration of the cattle feeding industry in the area and the distance from the supply of feeder animals. As cattle feeding

expands in a region, operators must go farther afield to fill their lots. Naturally this increases the cost of the cattle.

Once the outlay is made for the livestock, feed costs are the next expense for cattle feeders. Feed is the most important part of the cost of gain. Areas of concentrated feed grain production, as a rule, provide generous supplies of low-cost concentrates. Even in grain deficit areas, some feeding of grains is necessary for finishing feeders. Use of local hay and pasture can partly offset the extra cost of concentrates.

Climate and managerial ability also affect the rate of gain of feeder cattle. For example, both severe cold and extreme humid heat reduce the rate of gain. An unfavorable climate can also result in higher overhead costs for buildings and maintenance in addition to its effect on gain.

Non-feed costs depend on the scale of individual operations. Feedlots on small farms have vastly different costs compared to large mechanized businesses. Costs for the large lots also vary with mechanization. *(6)*

Salinas Valley on California's Coast Grows 20% of the U.S. Salad Bowl

California leads the nation in the production of truck crops, and Monterey County, the lettuce capital of the nation, is one of the principal contributors to the state's output.

In 1959, the Salinas Valley in Monterey County harvested more than 20 per cent of the entire lettuce acreage in the United States.

According to the 1959 Census of Agriculture, the sale of vegetables from Monterey County exceeded $40,505,000, more than 15 per cent of the state total. Though fewer than 6 per cent of the state's vegetable farms were located in the county, they accounted for over 14 per cent of the harvested acreage of vegetables.

The Salinas Valley's moderate, cool, humid climate provides nearly ideal conditions for lettuce and other cool weather crops such as artichokes, broccoli, cauliflower and cabbage.

The average farm in Monterey County has 248 acres of cropland, according to a 1959 sample taken of 37 per cent of the vegetable farms in the area.

Vegetables were grown on 142 acres, or about 57 per cent of the cropland. Though most vegetables were grown for the fresh market, spinach, tomatoes, and a few other crops destined for the processor took up an average of 20 acres per farm.

More than half the farms in the area grew only one truck crop. Only about one-fifth of the farms produced three or more crops.

Lettuce is by far the No. 1 truck crop in the county. Lettuce was grown on 44 per cent of the survey farms and accounted for 58 per cent of the vegetable acreage.

On farms where lettuce was produced, this crop averaged 186 acres. *(8)*

IMPERIAL VALLEY WORTH $30 MILLION IN VEGETABLES

The arid but irrigated desert lands of California's southernmost Imperial County produced more than $30 million worth of truck crops in 1959, according to the Census of Agriculture, or 11 per cent of the state's total output.

This performance level makes the Imperial Valley the leading production area in the West for winter vegetables.

Imperial County harvests its truck crops from 59,353 acres divided among 336 farms averaging 177 acres.

In 1959 a survey was made of 108 of these farms. They averaged 849 acres of cropland, with vegetables on 293 acres. This higher average is primarily the result of a concentration of large-scale lettuce farms.

Sales from the Imperial Valley farms averaged $509 per acre harvested, compared with $409 per acre of vegetables for the entire state. The difference of $100 in gross income per acre was largely the result of higher prices brought by winter vegetables. Furthermore, the grower in the Imperial Valley generally produced for the higher priced fresh market.

But there is a vast difference between gross and net returns, and producing winter vegetables is a costly business. Growers in the valley spent up to $100 per acre on materials alone to protect their crops from the cold winds and frosts that sweep the valley in December and January. Such protection also called for much more hand labor—52 hours per acre of staked tomatoes for setting brush and paper.

The survey farms represented 32 per cent of all truck crop operations in Imperial County. Most of the farms concentrated on only one or two crops.

Rainfall is a scant two to three inches a year in the Imperial Valley. Crop production depends entirely on irrigation water from the Colorado River. *(7)*

Study in Lower Rio Grande Valley Guides Choice of Profitable Crops

Hidalgo, Willacy and Cameron are the last Texas counties along the Rio Grande as it meanders into the Gulf. The soil is mostly clay. The land is dry with little vegetation. The major crops, produced mostly under irrigation, are cotton and truck crops.

To help farmers choose the crops and capital inputs that will make the most of these clay soils the Economic Research Service, along with the Texas Agricultural

Experiment Station, has prepared budgets for various commodities.

The budgets are based in part on actual cost and return figures supplied by leading farmers in the area.

In addition to such cash expenses as labor and irrigation costs, the budgets take into account interest on operating capital and depreciation on machinery and equipment. But they don't include such outlays as taxes and interest on real estate investment which remain fixed regardless of what crops are grown.

So the budgets are guides rather than exact estimates of potential crop yields and farm income per acre:

Crop	*Gross receipts*	*Specified expenses*	*Net returns per acre*
Cotton—winter fallow	$267.40	$172.71	$ 94.69
Cotton—fall vegetable	267.40	163.12	104.28
Beets	106.00	73.03	32.97
Cabbage	161.25	129.23	32.02
Carrots	135.00	101.26	33.74
Lettuce	520.00	190.11	329.89
Onions	459.00	130.93	328.07
Green peppers	315.00	258.70	56.30
Sweet corn	112.50	74.93	37.57
Tomatoes	145.50	107.86	37.64
Grain sorghum	58.65	41.59	17.06

Cotton yields run 732 pounds (lint) per acre, whether the land lies fallow in the fall or is planted to vegetables. But double cropping lowers cotton production costs since it takes less land preparation.

The high returns shown for lettuce and onions would seem to encourage farmers to produce these crops exclusively. Overproduction, however, would cause market prices to fall sharply.

The report also includes detailed cost figures for seed, labor, machinery and other inputs.

The study is part of an extensive research program to appraise the changing farm opportunities in 12 southern states. *(9)*

FARM BASEMENTS WOULD PROVIDE DISASTER PROTECTION

In the event of enemy attack, many farmers can use the basements or cellars under their houses for fallout protection. A recent SRS survey revealed that nearly 60 per cent of the farmers in 24 central and southern states have facilities that provide some protection against fallout. About 45 per cent of the farm families have cellars under their houses and 14 per cent have storm shelters away from their houses.

The 24 states covered in the survey account for 2.9 million farm households—78 per cent of the United States total.

The study, part of USDA's continuing civil defense program, also surveyed shelters for milk cows. There was shelter of some sort for one-third of the milk cows in four South Atlantic states, compared with 90 per cent in the North Central and 50 per cent of the animals in the South Central states.

In the 24 states surveyed, 70 per cent of the farms had storage facilities for gasoline; 39 per cent for diesel fuel, fuel oil or kerosene; and 47 per cent for LP-gas. Farm storage capacity amounted to a sixth of annual use for gasoline and equalled about a third of total annual use for the other fuels listed.

As of December 1, 1962, the supply of gasoline on farms was about one-third of the storage capacity. Supplies of LP-gas, diesel fuel, fuel oil and kerosene were about half of the storage capacity. *(10)*

Farm Population in Texas Blacklands Shows Sharp Drop in Two Decades

Many farmers in the Blackland Prairie of Texas have hung up their hoes and moved to the city. They couldn't make a living on the farm.

Like most rural areas of the nation, the Blacklands have lost the greater part of their farm population to cities in recent decades. In 1940, about 358,000 persons lived on farms in the Blacklands. By 1960, this number had dwindled to 96,000.

These figures are from a study conducted by the Texas Agricultural Experiment Station in conjunction with ERS.

The study showed that the 10 million acres of farmland in the Blacklands area is steadily losing cropland to livestock and pasture. Cotton, long the major crop, is still the largest source of farm income. But cotton yields have remained about the same through the years and the cut in cotton acreage takes a big bite out of farm income.

The return to farm family labor on a typical Blackland cotton farm in 1961 was 29 cents per hour, down from the 1947-49 average of 86 cents and the 1957-59 average of 39 cents per hour.

Substitutions in farm enterprises have not fully compensated farmers for the cash they have lost from cotton. In 1959, one-eighth of the farm families had a cash income of less than $1,000.

The low incomes usually are associated with heads of families who are either women, aged, disabled or poorly educated. For example, farm operators with a high school education or better received about $5,400 in 1959 compared with the $2,200 received by farmers with less than five years of school.

Among rural heads of families in the area, 34 per cent have one or more of the above "low-income traits." *(11)*

Model Cotton Farm Setup Reveals Effects of Changes in Technology

How do you make the best better? Use the most up-to-date production techniques, say the specialists.

To compare the differences in net returns resulting from changes in technology, economists set up a model farm. Returns were figured using the current production practices typical of most cotton operations in the Delta areas of Mississippi, Arkansas and Louisiana. Then they were calculated on the basis of more advanced techniques that have been proven successful but are not yet widely used.

The differences between present and advanced techniques were in varieties planted, seeding rates, fertilization, weed and insect control, irrigation, harvesting and management. The hard core of the success of the entire operation is the quality of the management available. This, needless to say, varies greatly.

Little change was made in the acreage of land used for different crops as the level of production technology shifted. Distribution of land use under current techniques was as follows—433 acres of cotton, 172 acres of soybeans and 116 acres in rice-soybean rotation. With advanced technology—433 acres were in cotton, 172 acres in soybeans or corn, 74 acres in rice-soybean rotation and 42 acres in rice-fallow rotation. In both cases the total cropland was 721 acres on a farm containing 1,200 acres.

The change in technology almost doubled the net returns to management. While net income totaled $28,851 with current techniques, $57,504 was possible using the up-to-date practices.

As would be expected, the advanced methods resulted in a marked increase in production due to the larger yields and more efficient combination of resources.

To make the comparison of levels of technology easier, no production controls or acreage allotments were included in the model. However, in the absence of such programs, reasonable management of the land would restrict the acreage planted to cotton and rice. Of the 721 acres of cropland on the farm, about 430 acres were composed mostly of sandy soils and the balance was in clays and loams. Cotton was limited to not more than 60 per cent of the available cropland, and rice was planted only on loam and clay soils.

Capital for operating the farm was assumed to be unlimited at 6 per cent interest. The operator made the management decisions and hired all the labor. Both prices paid and received were pegged at current levels except for rice which was sold at $3.80 per hundredweight. *(12)*

HARVESTING METHODS AND EQUIPMENT DECIDE YIELD IN BIN

Not all the corn in the field gets into the bin. While over two billion bushels of corn will be harvested in the Corn Belt this fall, another 180 million bushels will be left behind by the machines. Only a small part of this loss will be salvaged by livestock or gleaned by hand.

How can at least part of these 180 million bushels be harvested? Good harvesting practices and careful selection of equipment are the answer, say the specialists. Needless to say, more corn means more profit for the farmer.

First consideration is the type of harvester. Harvesting efficiency is normally higher with combines that have a snapping bar on the corn-head attachment than with conventional pickershellers. The bar helps reduce the loss of shelled corn at the snapping rolls.

The date of harvest and moisture content of the grain also influence yields. Corn harvested early contains more moisture but has fewer lodged stalks and less loss of shelled corn at the snapping rolls. Harvested yields are highest for corn containing 25 to 26 per cent moisture.

Harvest can take place earlier in the season if the corn is mechanically dried.

For large volumes of corn, it is advisable to begin picking early when moisture content is high and to use artificial drying equipment so that harvest is completed before the grain in the fields becomes too dry. *(13)*

Pros and Cons on Type of Storage Depend on the Future Use of Corn

Wet or dry? Which is the best method of storing corn? The answer depends on several things.

Corn for sale must be stored dry—wet corn spoils in shipment. But corn to be fed on the farm can be stored wet in conventional or airtight silos, at a saving of about 6 cents a bushel in harvesting and storing costs.

What are other advantages of wet storage? Harvest can be done early when field losses are lower. There is no expense for artificial drying. Wet stored corn is well adapted to mechanized feeding by conveyor. Once stored, no additional grinding, shelling, cracking or mixing is needed.

What are the disadvantages? Wet stored corn must be fed on the farm; it is not suitable for other commercial uses. It may not "feed down" well in silos that unload from the bottom. From silos that unload from the top, three to four inches of corn must be removed daily during warm weather to prevent spoilage.

Wet corn makes better feed for dairy cattle and sheep than for beef animals. Wet shelled corn is a usable feed for hogs. *(14)*

Teamwork Gives Family on Ill. Farm Advantages of Specialized Production

One family out in Illinois has found a way to combine specialization and diversification on the same farm.

Together, three brothers manage 400 acres of corn, 1,000 hogs and 5,000 laying hens. One of the brothers devotes his time to raising hogs and producing eggs. The second concentrates on producing and storing the corn. The third takes care of buying supplies and marketing the farm products.

Some of the advantages to the arrangement are:

—The brothers are able to handle a large enterprise with little more total labor than some farmers on smaller farms.

—The volume of farm output is great enough to justify such specialized investments as automated drying equipment for grain, confinement buildings for hogs and a poultry house with controlled environment and an egg-gathering belt.

—Because of the volume of their business, the brothers buy on discount and can take advantage of special prices for their supplies.

—With high quality products, uniform groups of livestock, and year-round production, the farm can supply the best markets and command top prices for its output.

—By combining specialization with diversification, the brothers spread their risk over three major enterprises.

—The farm is big enough to make full use of the technical ability developed by the three men over the years. *(15)*

ECONOMIC BACKWATER TRAPS RURAL KENTUCKY FAMILIES

At best the farmland could be described as fair. The community is off the beaten track, somewhat isolated from the rest of the state. And there aren't enough jobs to go around.

This is the region in America that hasn't been able to keep up with the technical and economic progress of the rest of the country.

One such area is found in south central Kentucky. Its portrait has been sketched by economists in the University of Kentucky Agricultural Experiment Station working in cooperation with the Economic Research Service.

Some 69 per cent of the farm families in the area had incomes of less than $2,000 a year in 1956, compared with 43 per cent nationally. The nonfarm workers in the area were no better off. Fifty-nine per cent of them made less than $2,000 a year; the figure for the nation in 1956 was 16 per cent.

The economic blight is more apt to strike the younger and older farmers than the middle age group. But while proportionately more farmers under 35 years of age earn less than $2,000 a year, compared with farmers over 65, the problem is much worse for the older men. The younger men can, and often do, move out of the region and out of farming—older farmers can't.

Unfortunately part of the burden of poverty is borne by the children of these older farmers since their parents often cannot afford to send them through high school—the most important prerequisite for well-paying jobs outside farming.

Underemployment is the most important single explanation of the low farm incomes. Tenants and croppers on tobacco-corn farms in the area who worked roughly 200 days a year, produced less than the output of 130 days of work at somewhat better than average performance rates on commercial farms.

People Who Stay, Pay

More than 80 per cent of all counties with less than 5,000 persons lost population between 1950 and 1960. It's more than just losing people, however. As populations dwindle, the per capita costs of government go up.

This fact is causing some rural counties to explore the possibilities of consolidating government services with neighboring communities. Whether planning for river basins, flood control, hospitals, libraries or recreational facilities, counties may be able to save money by sharing costs. *(16)*

What can be done to remedy the situation? Migration to the city already plays a major role. In the decade between 1950 and 1960, for instance, the region lost about 15 per cent in total population, while the U.S. as a whole increased by over 18 per cent.

Migration, however, is no cure-all nor does it necessarily lead to significantly better pay. A third of the men who left home during the decade ended up as laborers, about a fifth became low-skill craftsmen.

And too often the move from the blighted area was a move in name only. More than 40 per cent of the men who left home during the decade went no farther than a neighboring county.

The low-paying jobs are largely the result of poor education or inadequate preparation for urban employment. Only a quarter of all men leaving home had completed high school—a minimum level of education for many, if not most, jobs in the city. Compared to their fathers, only 3 per cent of whom had finished high school, this was a great advance.

Retraining holds out hope for many a marginal farmer in this and other depressed areas, though there are limits to what a training program can do. Not every marginal farmer can benefit from such programs. *(17)*

* OUTLOOK 196

FARM FORECAST FOR '64

Growing business activity at home and abroad in 1964 indicates expanding markets for U.S. farm products. Dominant factors in the outlook for farm income, however, include prospects of substantially reduced receipts from wheat and a continued upward trend in production expenses.

Cash receipts and government payments for wheat will be sharply lower under the program effective for the 1964 crop. Due to increases in cash receipts for crops other than wheat and for livestock, gross farm income is expected to drop slightly below the $41 billion estimated for 1963. *(Fig. 1)* But with expenses increasing, realized net farm income in 1964 likely will be lower, perhaps 5 per cent or more below the $12¼ billion estimated for 1963.

The farm population is continuing its downward trend this year. Although realized net farm income from agriculture is a little below 1962, income per capita is higher because of the smaller population. *(Fig. 2)* In 1964, farm income per capita of the farm population is indicated a little smaller than in 1963. But per capita income from nonfarm sources is continuing to rise and personal income per capita from all sources in 1964 is likely to be little changed from 1963. *(Cont'd p. 13)*

This chartbook presents a graphic word-picture of the agricultural situation and outlook for 1964. The outlook summary, together with the *Handbook of Agricultural Charts* (A.H. No. 258) issued in September, replaces the outlook chartbook of previous years.

The chartbook this year also presents for the first time *a profile of agriculture projected to 1968*. This view of the future is not a forecast like the annual outlook. It is a projection based on a set of assumptions, a knowledge of economic relationships, technological changes, and historical trends. Projections appraise, under the specified assumptions, the expected expansion in domestic and export markets, probable growth in farm output, relative prices and farm income prospects.

Economic projections serve primarily to point up likely problems in carryover stocks, prices and income and to approximate the magnitude of these problems under alternative conditions.

The basic assumptions include specified population and economic growth, farm programs and trends in technology.

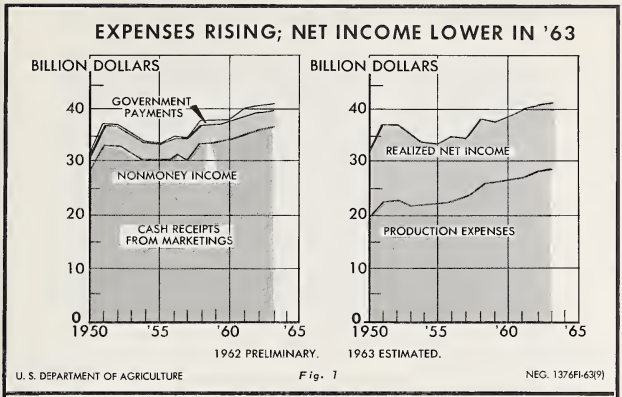
Population is expected to rise 10 to 11 per cent by 1968 from 186.6 million in 1962. An annual growth rate of 1.7 per cent is slightly below the average for the past decade. The population increase, together with an accompanying rise in the labor force and productivity, would lead to a growth in the gross national product from 1962 to 1968 of more than one-fourth—about 4 per cent per year. Rising wage rates would increase consumer buying power by nearly 15 per cent over the period.

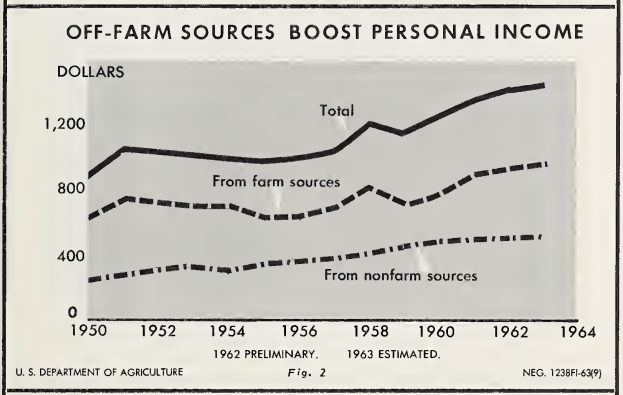
Farm programs assumed for these projections are, in general, those in effect in 1963 and in prospect for 1964 crops, including the wheat program resulting from the May referendum. Accordingly, projections assume a support price for wheat around $1.25 per bushel for participating producers who plant within their acreage quota. For feed grain, the 1963 program was assumed to continue through 1968. The feed grain program assumes a loan rate of $1.10 per bushel for corn with comparable supports for other feed grains and a direct payment of 15 cents a bushel to participating growers.

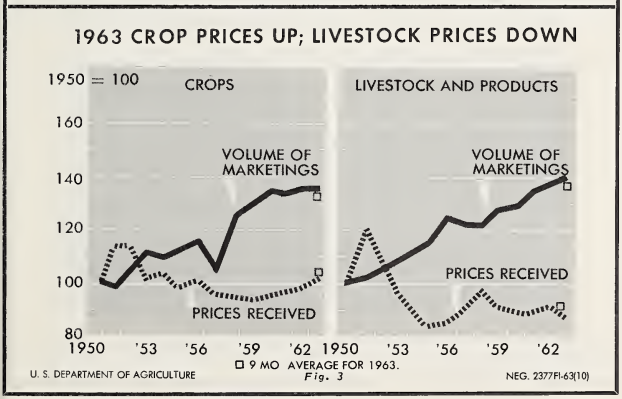
Although stock changes would reflect the projected demand-output balance under programs specified, it was assumed that present policy would attempt to hold stocks near desired normal levels: Around 500 to 600 million bushels for wheat; 45 million tons of feed grains; and perhaps 6 million bales of cotton. Acreage control programs for other crops would continue as in 1963. Acreage in the conservation reserve declines as contracts expire. Marketing agreements and orders and domestic distribution programs continue as scheduled.

Export projections reflect 1963 legislation for the Food for Peace program including a vigorous P.L. 480 program, and assistance programs designed to make prices of such crops as wheat, cotton, and feed grains competitive in world markets.

Projection methodology brings to bear extensive commodity research on demand analyses. However, no general equilibrium framework was available on which to simultaneously integrate all the variables. Statistical analyses, specified from programs, and trends in crop yields provide the basis for projecting crop output. Production of livestock products was estimated largely on the basis of relative prices for livestock, product-feed price ratios and the size of breeding herds. Feeding rates reflect livestock-feed price relationships, projected production of different types of livestock and technological innovations in livestock feeding.







Cash receipts from livestock product marketings have been about maintained this year as large marketings approximately offset lower prices. *(Fig. 3)* Prices for livestock products are running around 3 per cent below 1962, principally because of lower prices for beef, hogs and broilers.

The volume of marketings by farmers is rising this year and is expected to increase moderately in 1964. With expanding domestic and foreign markets, prices for most groups of commodities, except for wheat, are expected to be about the same. The rise in marketings has been boosted by increased output. Production of crop and livestock products this year is indicated around 2 per cent above 1962. A larger acreage for harvest and increased yields resulted in more corn, wheat, soybeans and sugarbeets.

Livestock and product increases reflect more beef, pork, poultry and eggs.

Cattle marketings are expected to increase again next year although not as much as the gain in 1963. Relatively low hog prices and fall and winter intentions for farrowing indicate a smaller hog slaughter next spring. Prospects for a further gain in livestock and product marketings and additional expansion in the domestic market during 1964 point to little change in the price level for livestock and products from 1963.

With average growing conditions and continuing adoption of new technology, another increase in crop output is likely in 1964. Current programs will again limit feed grain production. The 1964 program for wheat is expected to result in increased acreage and production. Increased output levels are also in prospect for soybeans and sugarbeets. Except for the influence of lower wheat prices during the second half of 1964, price levels of crops in the coming year likely will be little changed to slightly lower.

Farm production expenses have been rising around $700 million annually for the past decade. The rise reflects increasing prices paid and larger purchases of nonfarm inputs. Prices paid by farmers for production goods, interest, taxes and wage rates probably will creep up again in 1964. *(Fig. 4)* Higher prices paid and possibly lower prices received indicate some further tightening in the cost-price squeeze on agriculture.

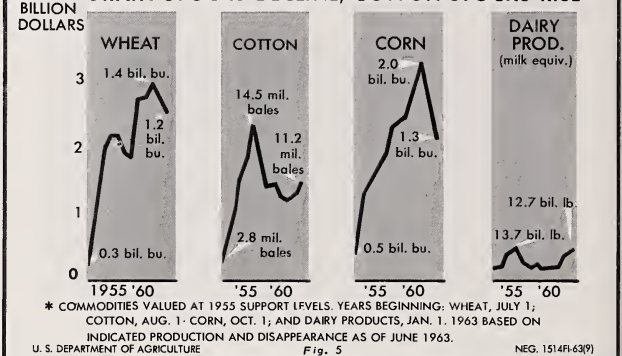
Carryover stocks of farm commodities are expected to total a little smaller in 1964; production will be larger but domestic and foreign markets are expanding. *(Fig. 5)*

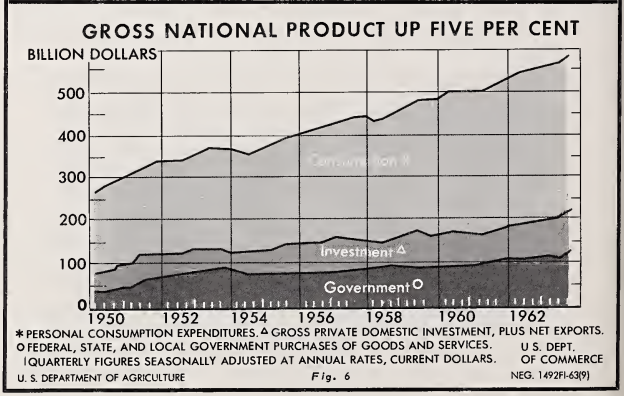
Wheat carryover next July 1 is expected to be about 500 million bushels below July 1963. Feed grain stocks are likely to drop 3 to 4 million tons from the 62.5 million ton carryover of 1963. Stocks of dairy products are decreasing in response to smaller production and increased exports. Cotton production this year is nearly as large as last and stocks are likely to increase further, possibly by more than a million bales from the 11.2 million on hand August 1, 1963.

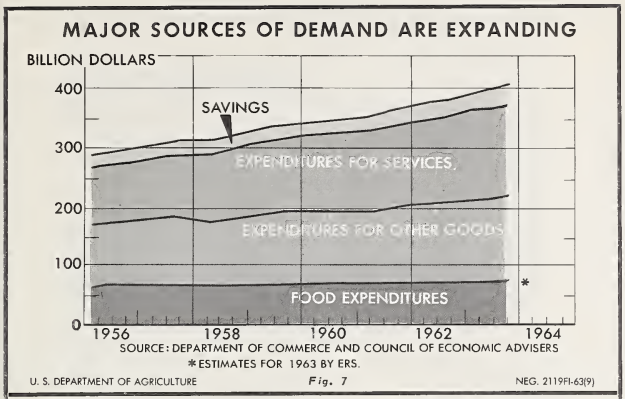
DOMESTIC DEMAND

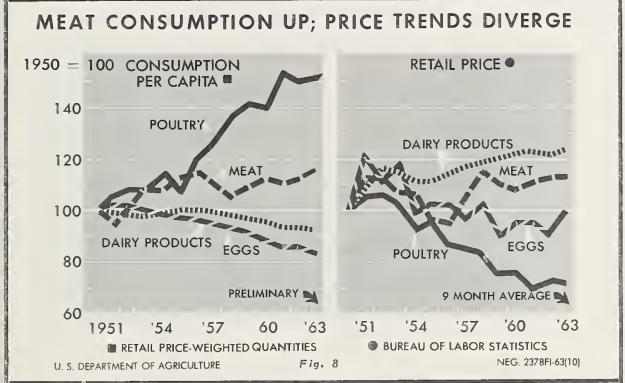
Economic activity, employment and consumer incomes are expected to continue expanding throughout 1964. *(Fig. 6)* The extent of the rise next year will depend in large measure on the outcome of proposed cuts in personal and corporate taxes. Economic activity increased at a fairly brisk pace this year with gross national product in the first three quarters up about 5 per cent from 1962.

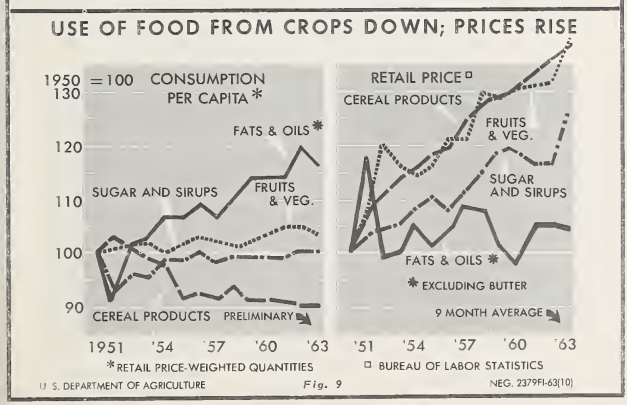
Retail expenditures for food are running around 3 per cent above 1962, a somewhat slower rise than last year. *(Fig. 7)* Larger supplies of food, particularly meats, moderated the rise in retail food prices to around one and one-half per cent over











1962 despite higher prices for sugar, citrus fruits and early-season vegetables.

Recent increases in per capita consumption of meats, primarily beef and poultry, continue an uptrend which has extended over much of the past two decades. *(Fig. 8)* In the case of poultry, declining retail prices have provided a stimulus to stepped-up consumption. Upward trends in both consumption and prices for beef reflect rising demand.

A pronounced decline in recent years in per capita consumption of eggs and dairy products probably is due mostly to a weakening in consumer preference for these foods, but price rises in dairy products have taken place.

Trends in per capita consumption of crops for food also illustrate marked shifts in consumer demand—away from fresh fruits and vegetables and toward more frozen and canned items.

Consumption of cereals continues to decline. *(Fig. 9)* Changes in retail prices of food from crops have influenced modifications in diet but consumer preferences and the demand for convenience foods probably have played the major roles.

In 1963, total food consumption per capita rose an estimated one-half of one per cent above 1962. This is the largest year-to-year change since 1959 and compares with a total rise of only 4 per cent since 1947-49. Large increases in meat more than offset declines in per capita consumption of eggs, fruits (mainly citrus) and fish.

Indications for 1964 point to gains in consumption per person of beef, chicken and fish. However, these increases likely will be about offset by continued decline in consumption per capita of some dairy products, pork, eggs and fruit.

Retail food prices probably will rise slowly even if farm prices average slightly lower in 1964. But, they are not likely to rise as much as from 1962 to 1963.

The percentage of consumer disposable income spent for food continues to decline gradually. *(Fig. 10)* In 1962 expenditures for food were equal to about 19 per cent of disposable income. The steady drop in per cent of income spent for food from around 23 per cent in 1950 reflects primarily reductions in the farm value of foods.

As the consumer's income rises, he tends to spend proportionately more on the services of marketing and processing food. He also may spend more to upgrade his diet—more meats, for example—but in total, the percentage increase in expenditures for food averages only about two-thirds as much as the rise in consumer income. Thus with ample food supplies, rising income and slightly lower average prices for farm products, the percentage of income spent for food will decline again in 1964.

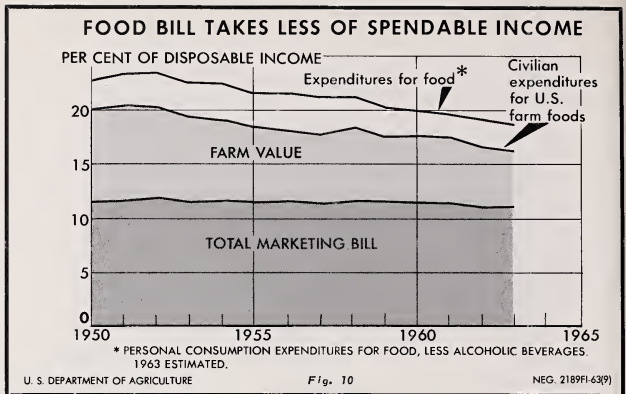
In recent years special food distribution programs for schools, charitable institutions and needy persons increased considerably and further increases are in prospect. *(Fig. 11)* Relative to total food consumption, these programs are still small. They distributed less than 2 per cent of total food supplies in 1963.

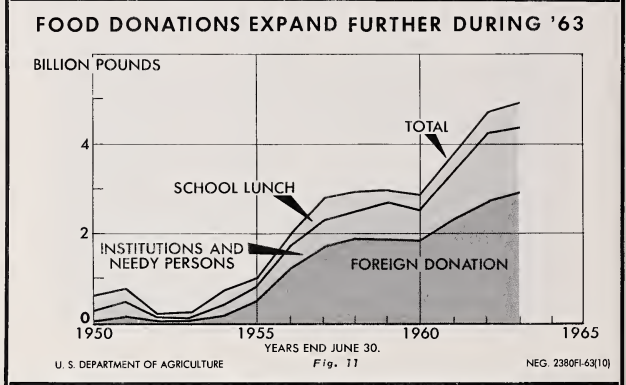
During 1964, donations for school lunches are expected to expand. Donations to foreign needy persons account for more than half of the special food distribution programs.

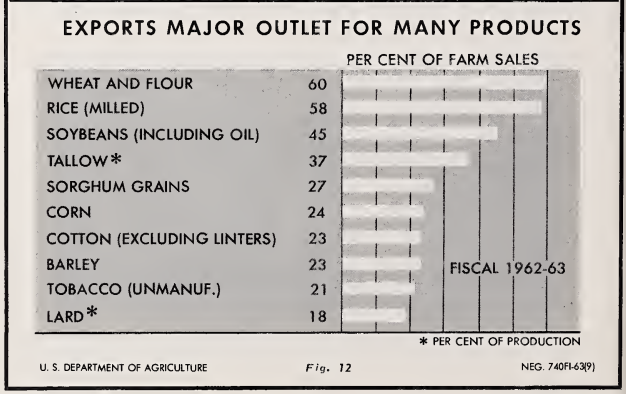
Nonfat dry milk, flour, chopped meat and butter were the major foods donated in all domestic distribution programs in 1963.

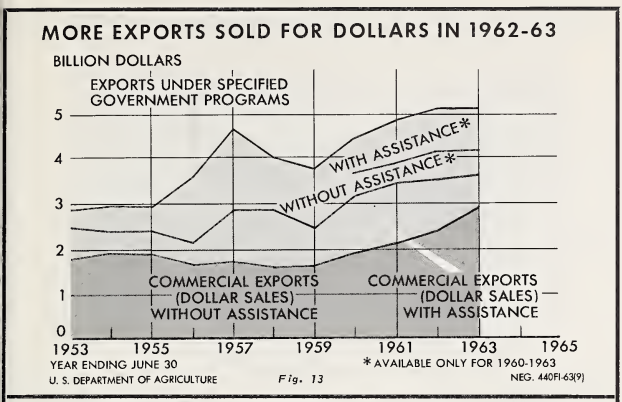
FOREIGN DEMAND

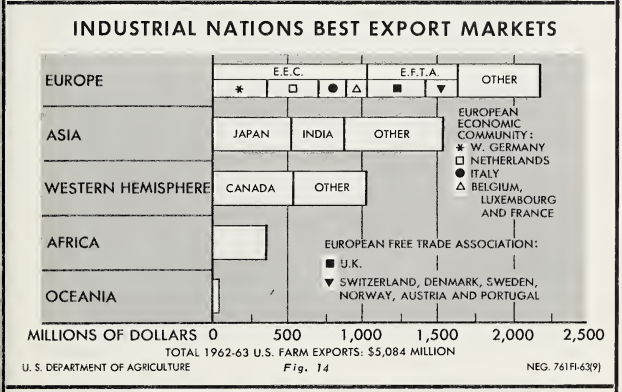
Exports are an important market outlet for U.S. farm products. In 1963, agricultural exports were equal to an estimated 16 per cent of U.S. farm production. *(Fig. 12)* In 1962-63, export markets took more than half of the U.S. output of wheat and rice, over two-fifths of the soybeans (including bean

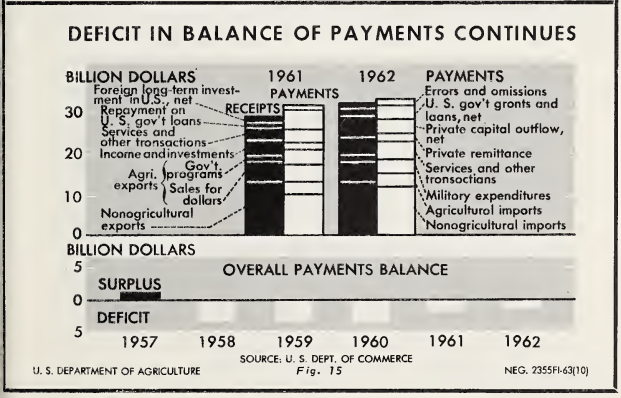












equivalent of oil), one-third of the tallow and around one-fourth of the feed grains and cotton. Agricultural exports account for nearly one-fourth of total exports and contribute substantially to total U.S. export earnings.

In the current fiscal year, U.S. agricultural exports are expected to rise to around $6 billion from the $5.1 billion in 1962-63 if trade is expanded appreciably with Eastern Europe and Russia. Increases are anticipated in exports of cotton, wheat, soybeans, vegetable oils and tobacco.

Commercial sales for dollars were at a record level in fiscal 1963, accounting for about 70 per cent of total farm exports. *(Fig. 13)* Dollar sales accounted for $3.6 billion, with the remaining $1.6 billion financed under government programs including foreign currency sales, donations, barter and long-term dollar credits.

Commercial sales for dollars in fiscal year 1964 should be a record high again by a substantial amount.

Trading blocs have become important markets for agricultural exports. Together they accounted for about two-fifths of U.S. exports in 1962-63. *(Fig. 14)* The European Economic Community and the European Free Trade Association are the most important blocs. In fiscal 1963, exports to EEC totaled nearly $1.1 billion and to EFTA more than $608 million. Other important markets include Japan, Canada and India. In recent years there also has been a rapid expansion in exports to Africa.

During the first half of 1963, the overall balance of payments deficit averaged $4.2 billion (annual rate), compared with an improved $2.2 billion in 1962. *(Fig. 15)* The deficit is measured by the reduction in U.S. monetary assets and the increase in liquid dollar liabilities excluding U.S. government sales of securities to foreign monetary authorities.

MARKETING COSTS AND SPREADS

The market basket of domestic farm-originated food products cost 1 per cent more in the third quarter this year than in the like period of 1962. *(Fig. 16)* But the farm value or return to farmers for these products was 4 per cent lower this year than last. Charges for marketing these foods, as measured by the spread between the retail cost and farm value, were 4 per cent higher in the third quarter than a year ago.

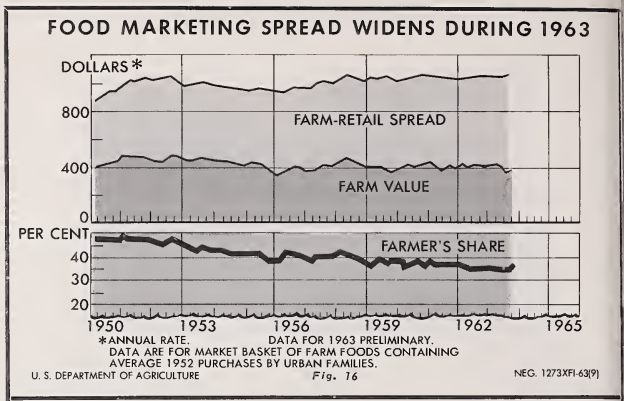
Rising marketing charges and declining farm prices reduced the farmer's share of the consumer's food dollar to 36 cents in the second quarter this year, the lowest since the mid-thirties. The share averaged 37 cents in the third quarter and may average about 37 cents for all of 1963.

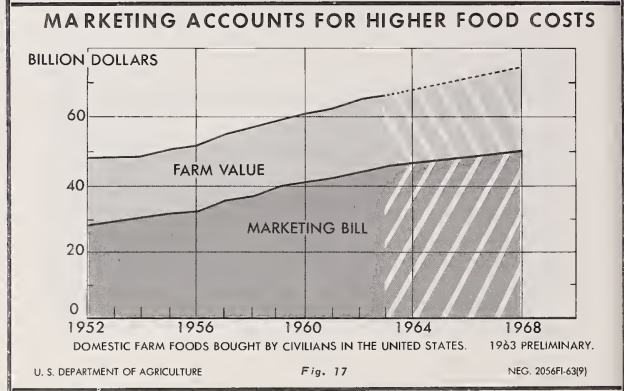
The total bill for processing and distributing farm food products sold to civilians has climbed steadily since 1950. *(Fig. 17)* Increases reflect rising costs of labor, transportation, equipment and other goods and services, a growing volume of products handled and increased processing and distributing services per unit of product. The 7 per cent rise in the marketing bill from 1962 to 1963 was the largest annual increase in several years.

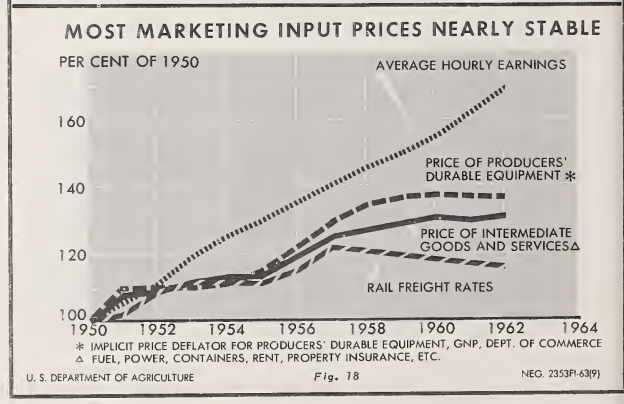
U.S. farmers' receipts from food products sold to civilians (the farm value) was 21 per cent higher in 1963 than in 1950. All of the increases resulted from expansion in volume of products handled; average prices received by farmers for products were lower in 1963 than in 1950.

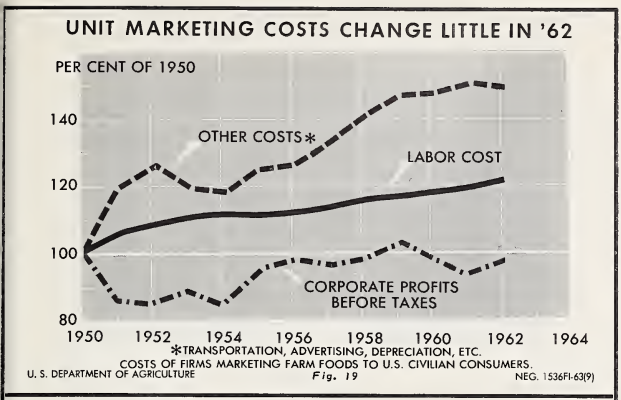
Average hourly earnings of workers in food marketing enterprises climbed steadily from 1950 to 1962. *(Fig. 18)* Prices of intermediate goods and services averaged about a third higher in 1962 than in earlier years, but have been stable recently.

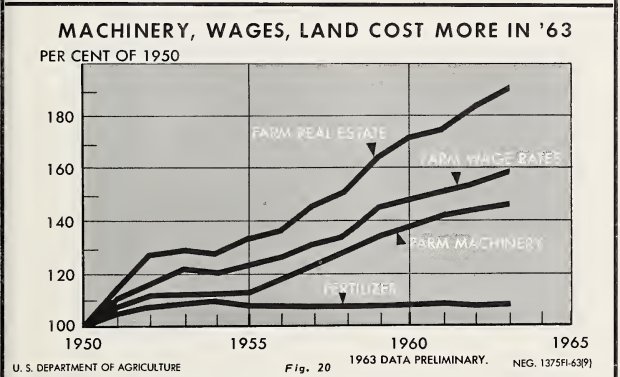
Prices of producers' durable goods (which affect depreciation

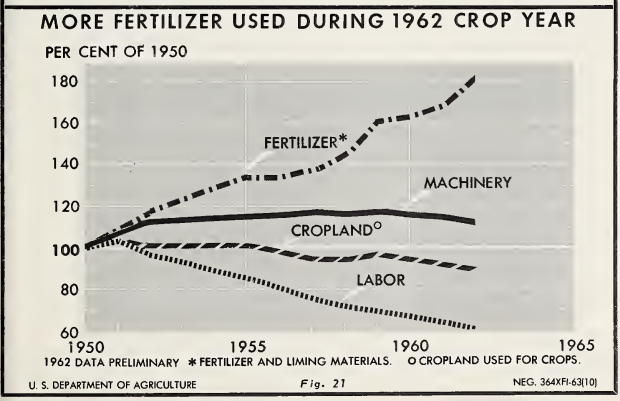












charges) have been stable since 1959 after increasing 36 per cent earlier. Rail freight rates for farm foods have declined slightly.

Gains in output per man-hour moderated the rise in labor costs. While average hourly earnings climbed 68 per cent between 1950 and 1962, unit labor costs went up 25 per cent. *(Fig. 19)*

The cost of other inputs per unit of product has leveled off in recent years. Corporate profits fluctuated throughout the 1950-62 period but on a per unit basis (after taxes) they averaged a little higher in the early 1960s than in the early 1950s.

OUTPUT AND FARM ORGANIZATION

Crop and livestock output are at record levels; they set farm production in 1963 at a new peak —27 per cent above 1950 and 2 per cent higher than last year.

Prices of most farm production inputs have risen and with the substantial increase in farm output since 1950, total farm production expenses went up about 45 per cent. *(Fig. 20)* From 1962 to 1963, expenses rose about $600 million. A similar increase is expected for 1964.

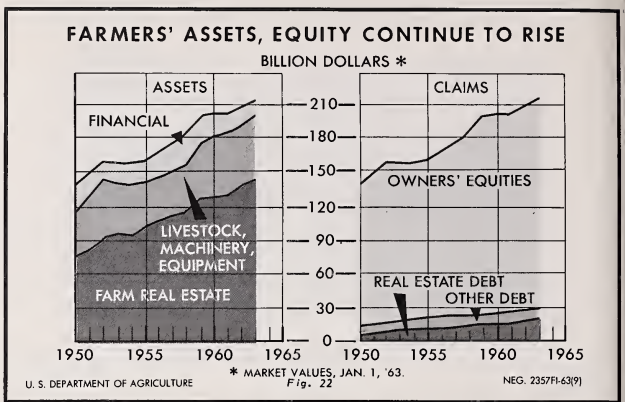
Two of the major inputs—land and labor—have had large price advances—91 and 60 per cent, respectively. However, farmers have been substituting nonfarm inputs such as fertilizer and machinery for land and labor. The 80 per cent increase in the use of fertilizer was the main factor enabling larger crop production on fewer acres. *(Fig. 21)*

Greater yields per acre and increased output per head together have helped reduce the amount of labor used in farming by more than 40 per cent. Continued substitution of more productive inputs for those of low or marginal return can enable farmers to produce the additional output required in 1964 with little or no increase in total inputs.

The value of farm assets has continued upward in 1963 and will reach a record high of about $226 billion by January 1, 1964—nearly $10 billion more than in 1963. *(Fig. 22)* Farm debts also have risen sharply but less than farm assets. Thus, farm equities are expected by January 1 to show an increase for 1963 of about $7 billion. As in recent years, most of the gain in assets and equities in 1963 will result from the rise in farm real estate values. Physical farm assets other than real estate will be up nearly $1 billion this year; farm financial assets will be about $500 million higher.

Production assets per farmworker nearly tripled between 1950 and 1963 when they totaled more than $51,000. The continued increase in the average size of farms—from 213 to 314 acres—plus a higher value per acre accounted for most of the increase.

With approximately two workers per farm this year, the average value of production assets per worker rose to $25,390, also nearly triple the 1950 figure.



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Prospects for American Agriculture Within Five Years

American agriculture during the next five years will continue to be beset with price and income problems springing from an output potential in excess of normal markets.

Assuming a continuation of present programs, feed grain stocks would be reduced by 1968. But a further build-up in the already generous stocks of cotton is likely. Milk output probably will continue in surplus also.

With slightly lower average prices and a 13 per cent increase in farm output, cash receipts likely will rise about a tenth from 1962 to 1968. Production expenses also will continue to climb and result in a decline in projected net incomes of farm operators around 9 per cent below 1962.

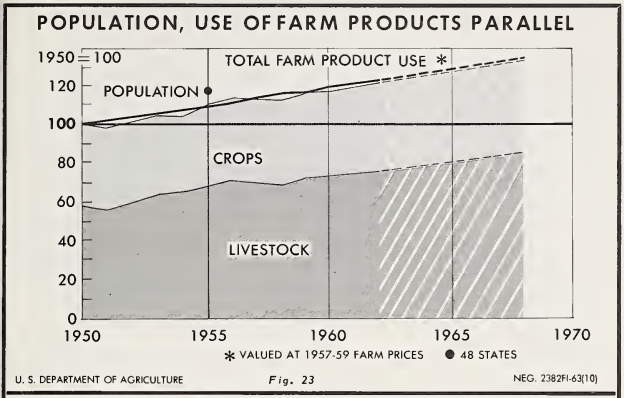
However, the decline in the number of farms is expected to continue, possibly to around three million units by 1968. Accordingly, projected net farm income per unit would rise by more than 10 per cent from 1962.

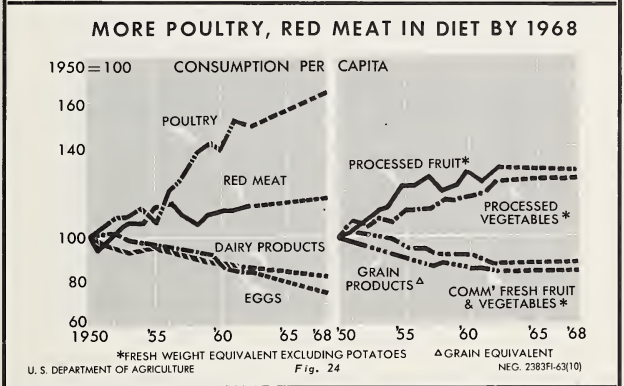
Consumer demand for food and other farm products will expand, possibly by around 11 per cent, from 1962 to 1968. *(Fig. 23)* With slightly lower farm prices, retail food prices will likely continue to rise slowly. Accordingly, consumers will spend more for food but the total will be a smaller share of their income.

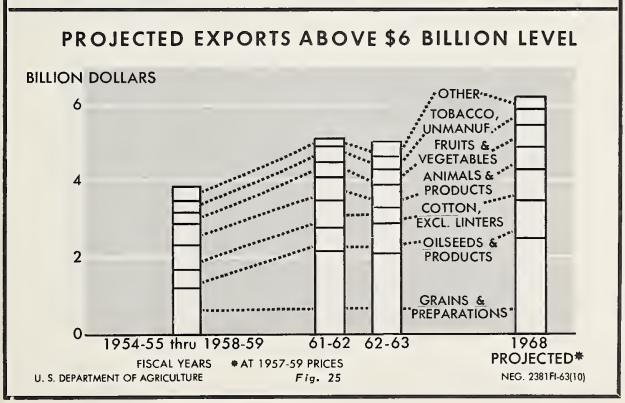
Consumers will continue to modify their diets and are expected to purchase more processing, packaging and other services with their food. Although little change is expected in per capita food consumption, rising incomes and trends in consumer preference will substantially alter the diet. However, pounds of food consumed per person may continue to decline slightly with little change in per capita intake of calories and possibly some nutritional upgrading of the diet.

Nonfood uses of farm products other than for feed probably will increase less than the population. Use per person of cotton is projected to decline under current programs, but probably less rapidly than during the past decade.

Combined per capita consumption of livestock products is projected to increase very little—possibly less than 1.5 per cent. *(Fig. 24)* However, a further sizeable increase in the demand for beef and poultry is in pros-







pect. Part of this gain likely will be offset by small declines in per capita consumption of pork, veal, lamb and mutton. The downtrend in consumption per person of eggs and dairy products likely will continue, though probably at a slower rate.

Combined per capita food use of crops is expected to change little, if any, in the next five years. However, some shifts in consumption are expected—away from fresh use of fruits and vegetables and toward increased consumption of frozen, canned and other processed convenience foods. The downtrend in per capita consumption of wheat is projected to continue into 1968.

Part of the increase in domestic demand will be supplied by moderate increases in coffee and other foods not grown in the U.S. and by expanding imports of processed meats. At the same time, foreign markets will take around 15 to 16 per cent of U.S. farm output. In addition to an expansion in commercial exports of farm products, current program assumptions include an active Food for Peace program with continued large shipments under P.L. 480 and other programs.

Exports of farm products are projected for 1968 at a level nearly one-fifth above 1962. *(Fig. 25)* Shipments likely will include more than half the U.S. output of food grains; around a third of the cotton, soybeans and vegetable oils; and substantial amounts of feed grains and tobacco.

Under conditions assumed for 1968, total farm output is projected to increase about 13 per cent from 1962. This compares with a gain of 11 per cent from 1956 to 1962.

Output of livestock products likely will increase 12 per cent from 1962 to 1968, compared with a gain of 8 per cent in 1956-62. As would be expected from changes in demand, the largest increases are indicated for meat animals, particularly beef, and

for broilers. Similarly, the slower rise in output for hogs and the relatively small increases for dairy products and eggs reflect prospective moderate gains in demand. *(Fig. 26)*

Crop output is projected to rise by 13 per cent from 1962 to 1968. By comparison, crop output increased by about 14 per cent from 1956 to 1962. The largest output gains are projected for oil crops, wheat, feed grains and some of the minor crops.

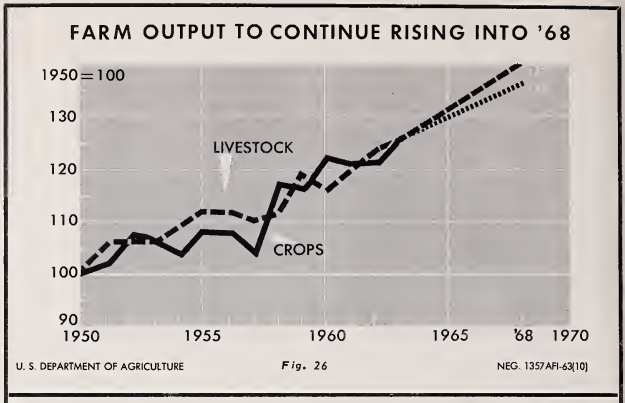
The rapid rise in productive efficiency of agriculture is expected to continue. *(Fig. 27)* With moderate gains in production and further technological developments, the use of labor in agriculture will continue to decline, possibly by as much as 12 to 15 per cent within the next five years.

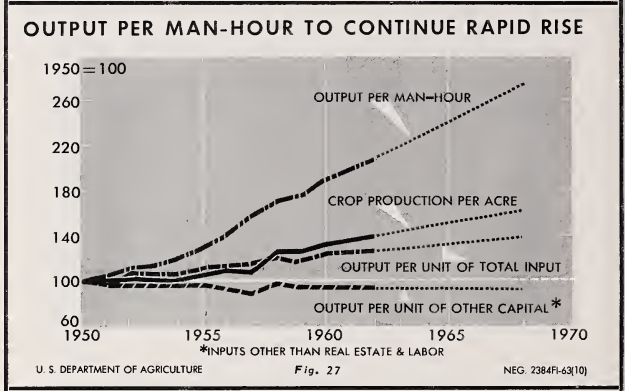
Resource inputs other than labor and land are projected to rise around 12 per cent from 1962. Land used for crops also is expected to rise.

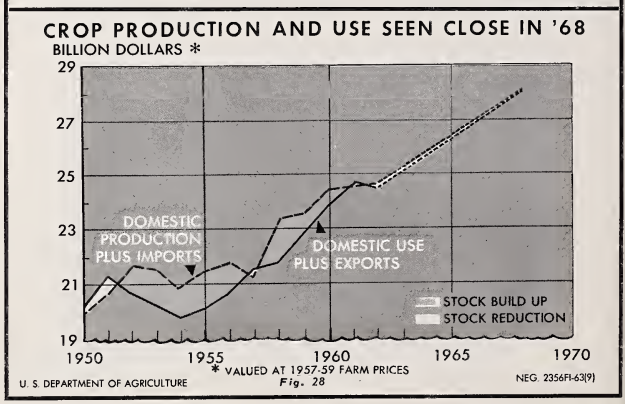
Under current programs, acreage in the conservation reserve and other diversion programs will decline.

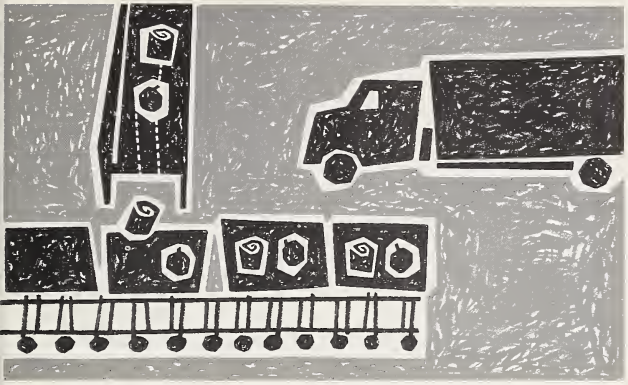
Crop production per acre increased about 2.5 per cent per year in the 10 years ending in 1962. With average growing conditions and prices around current levels, a continued rise in crop output per acre is anticipated for the next several years.

The projected utilization-supply balance for agriculture points to a small overall liquidation in carryover stocks. *(Fig. 28)* Grain stocks, particularly feed grains, have been reduced substantially in the past three years and a further reduction is projected. But, a further rise is indicated for cotton stocks. Increased feeding of wheat and larger exports would result in a further reduction in carryover, but not to desired "normal" levels. Big increases in exports to the communist bloc may cut wheat stocks and change the demand-supply balance.









MORE MONEY FOR MARKETING

The marketing outlook for 1964 and projections to 1968 are for more of the same—more services performed by the food trades, a bigger increase in workers and total resources in processing and distribution compared with the farm, and more of the food dollar going to the marketing system, less to the farmer.

In 1962, consumers paid about $64 billion for domestic farm food products. About $21 billion went to farmers, $43 billion to the marketing system. By 1968, consumer expenditures are likely to increase by $10 to $12 billion. All but about $2 to $3 billion will go for added marketing services.

Even so, the consumer can expect to spend less of his pay check on food, because of higher incomes, increased efficiency on farms and an improved marketing system.

First thanks for bargain supplies of food go to the farmer. With better machines, pesticides and the rest of the advanced techniques at his disposal today, one farmworker now produces enough food and fiber for 29 persons. As recently as 1950, the number of persons supplied was only 15.

The marketing man has also managed to step up his efficiency, though less dramatically than the farmer.

In 1962, for example, the volume of food moved through the marketing system was 32 per cent higher than in 1950. But during the same period, the number of workers in marketing firms increased by only 11 per cent.

The emphasis in the next few years will continue to be on services for the consumer. The larger population alone will add to the job of the marketing system, just as it has in the past two decades. Other trends that will shape marketing in the future are:

—the continuing decline in the farm population, the rising percentage of city people;

—greater specialization and higher incomes on the farm, with families raising less of their own food, buying more of it from the store;

—more people buying their meals in restaurants and other eating places.

The first two points will have less and less effect on food production and marketing as the years go by for the simple reason that the farm population can't continue to drop indefinitely.

The most important cause of the rise in services required per person is the continuing trend to eating out. With incomes on the upswing and more wives working, more of our food money will be spent at lunch counters, restaurants, cafeterias and such.

There will also be more convenience foods in the grocery cart, but there is little evidence to date that the foods with built-in maid service actually raise the marketing bill per person.

The projections for 1968, under current farm programs, suggest little change in overall prices to agriculture. With relatively stable prices for farm products and rising real income, the gap between farm and retail prices of food may continue to widen, with services, as opposed to production or processing, causing the greatest pressure.

Even so, expenditures won't climb as fast as incomes, so the proportion of income going for food should continue to decline.

We now spend about 19 per cent of our incomes for food, compared with a postwar high of 27 per cent.

In 1963, the farmer's return from a market basket of farm foods was 13 per cent below the 1947-49 average, while the spread between farm and retail prices increased 44 per cent.

Though the marketing system isn't under the same pressure as the farmer, it is still competitive enough to force economies on the trade for awhile.

So far, the larger size and concentration of buying units has kept profit margins down; efficiency has been on the rise. How long this will last is unknown.

The entrance of discount food stores is one development that will keep wholesalers and retailers on the alert. But an excess of new stores with attendant inefficiencies would push down prices to farmers, lower capital values in retailing, or possibly increase prices to the consumer. *(29)*

Supermarket Demand for Quality Meat and Steady Supply Is Uniting Livestock Feeding and Marketing Functions

A Colorado cattle feeder, within sight of his feedlot, builds a packing plant with an annual capacity of 135,000 to 150,000 head. About two-thirds can come from his own lot.

A large feeding firm combines with a packing company and a meat wholesaler to form a single firm.

Most of the 16,000 head of cattle on feed in a California feedlot are owned by or are under contract to several packers.

Are these isolated, unrelated events? Or are they part of an emerging pattern in the beef industry?

Chances are the latter is the case, judging from recent developments in this rapidly evolving business. Most of these trends point in the direction of increasing consolidation.

The initial impetus appears to have come from the rapid trend toward concentration in the nation's retail grocery trade. More and more, the supermarkets, whether owned or managed by corporations, cooperatives or individuals, seem to be dominating the food retailing business.

In 1947, when national grocery sales totaled $23.1 billion, these supermarkets handled 66 per cent of the business. In 1962, the figure rose to 90 per cent, and total sales reached $56.2 billion. In that year, 10 chains handled 27 per cent of all sales.

Mass distribution of meat and a more specialized demand (created in part by the retailers themselves) have put new pressures on all other segments of the beef industry.

The larger retail grocery groups stress uniformity in grade and size, and less fat. They also want a fairly steady supply from week to week through the year.

These demands are forcing cattle feeders to concentrate more on product control than ever before. The beef desired by retailers comes from cattle fed out at lighter weights. As a result feeders are buying younger, lighter-weight cattle. Also, many feeders are going in for year-round operations rather than "one shot per year."

The impact of these changes is most clearly seen in the West where the large feedlot operation has become most common. Nine hundred of these feedlots had 65 per cent of all cattle on feed in the 11 Western states last January 1, and 18 per cent of the U.S. total.

Large feeding operations also are coming into the Corn Belt. While concentration of feeding is not likely to develop in the Corn Belt as rapidly as in the West, the evidence indicates a higher degree of concentration in size and ownership in the future.

Another significant change is an increase in the number of cattle and calves fed by or for meat packers—from 4.7 per cent of national commercial slaughter in 1957 to 6.4 per cent in 1961. Limited numbers of cattle also are being fed by or for chain stores. In addition to the animals actually owned, packers and chains also contract ahead for cattle.

The concentration of cattle in large feedlots is helping to change traditional marketing methods. Only about a third of the fed cattle are now sold through terminal markets. Direct purchases by packers and marketing through auction are increasing.

These developments seem likely in the future:

—Product controls must become more stringent in each part of the industry—production, feeding, packing and retailing. As the product moves through the marketing system, evidence that it meets the specifications on which it is sold will become more important.

—Basing price system now in use may become obsolete. The decline in the number of fed cattle moving through terminal markets will make quotations from these markets less useful in making decisions in marketing.

—As larger proportions of the fed cattle are handled by larger groups—either actual combinations of firms or voluntary associations—those outside will have less representative information on which to base marketing decisions. *(18)*

Big Feed Firms Offer Low Prices; Local Dealer's Reply Is Grain Bank

Like the general store and the blacksmith shop, the small-town feedstore is having a hard time staying on the rural scene. As large scale, highly specialized livestock and poultry operations become common, more farmers are buying their mixed feeds in bulk and directly from the manufacturer. As a result, the feedstore dealers face stiff competition to get customers.

The feed manufacturers are in a position to provide plenty of competition, too. To begin with, direct sales in bulk frequently give them a price advantage over the dealers. Many companies are selling nearly all of their feed tonnage in bulk at present.

About 40 per cent of the larger feed mixing firms are using full-time salesmen to make calls right on the farms. The salesmen are trained to operate as public relations men, selling the company right along with the feed. To top off the sale, company representatives are prepared to arrange credit for the farmer and help him with any problems he may have in feeding and caring for his livestock or poultry.

To hold onto their dwindling market, some local feed dealers

are establishing grain banks for farmers. The farmer's storage costs for banking his grain are nominal. By establishing a grain bank the local mill operator also has a chance to advise the farmer on his feeding operations when he picks up the feed. And with the grain banks the feed dealers can plan their production schedules in advance, which gives them a chance to cut down on the cost of mixing the feed.

Thus, there is still plenty of opportunity for the responsible feed dealer who is service-minded and cost conscious and keeps close tabs on his cost sheets. *(19)*

Railroads Are Lowering Grain Rates Where Truck-Barge Lines Compete

Like Casey Jones or the Old 97, moving grain to market used to be part and parcel of railroading. With recent rate reductions, the railroads seem to be out to recapture history.

For nearly a century, grain rode the rails out of the Plains states to terminal points all over the country, usually stopping along the way for storage, milling and other processing at no extra cost for transportation. Shippers liked these transit privileges. But more to the point, there wasn't any other reliable way to ship.

After the war, shippers turned more and more to truck and barge transportation, singly or in combination. There were several reasons. Faced with the slow and costly job of modernizing, railroads continued to use older, poorly maintained boxcars, service fell off and grain losses in transit mounted. Then too, trucks could deliver to any terminal point on our growing network of highways, usually faster than rail cars could be routed through a series of freight yards.

But rates were the big factor. Rail rates for grain nearly doubled from 1946 to 1958. With lower overhead costs, both trucks and barges could charge less than the railroads and still make a reasonable profit.

Moreover, truckers and barge lines, unlike the railroads, are not bound by fixed rates subject to the approval of the Interstate Commerce Commission. Under special exemptions in the Interstate Commerce Act, trucks can haul raw agricultural commodities for negotiated fees, and barges can do the same for bulk commodities. Grain is under both exemptions.

Of 8,500 country grain elevators surveyed in 1958 in the North Central states, 5,100 shipped by rail and truck and 844 shipped by truck only.

Many shippers have grain trucked to the Mississippi River and Great Lakes ports, for example, and send it on by barge.

Rail rates tend to be lower where water transportation serves the same two points, higher where there is no water competition. For instance, Minneapolis and Limon, Colorado, are about the same distance from New Orleans and estimated railroad costs are about the same. Yet the lowest proportional rail grain rate from Minneapolis, which can ship by barge down the Mississippi, is 40 per cent less than the rail rate from landlocked Limon.

Railroads began to reduce some grain rates on a point-to-point basis in the late 1950s. These lower rates called for higher carload minimums, reduced or eliminated transit privileges and were good only from one origin to one destination. In 1958 reduced rates with limited transit privileges were introduced throughout the Pacific Northwest but were slightly more favorable in areas along the Columbia River where barges are available.

Railroads used the same pattern in reducing rates in the North Central states. Rates were lowered first between selected points where truck and barge competition was greatest. In fact, the country grain elevator operators surveyed in 1958 often complained about the discrimination of these point-to-point reductions.

In 1959 the railroads cut rates on coarse grains moving from North and South Dakota to terminal markets. The next year they did the same for grain going from parts of the Dakotas to Minneapolis and Duluth-Superior. And the trend continues as railroads try to meet the service and rate competition of truck and barge lines moving grain interstate as well as that of the St. Lawrence Seaway which makes it possible to ship directly from mid-America to overseas markets. *(20)*

Survey Shows Restaurants Use Milk As Service, Not as Sales Booster

Milk gets less attention than other beverages in the world of restaurants and other eating places.

Unlike coffee, which is considered a prime builder of sales, many managers think of milk chiefly as a service to the customer. A good many managers feel this way about all beverages. But the feeling is more pronounced for milk.

This opinion of milk was revealed in a recent survey of eating places in Hartford, Conn., and Indianapolis, Ind. The study was made to provide the dairy trade with information to strengthen the demand for its product. The survey included restaurants, cafeterias, lunch counters and drive-ins.

All of which suggests that the dairy industry could make the virtues of its product better known.

One of the virtues to extoll is the margin for milk: it stands the test of competition with most other beverages served and, more important, the margin is far better than most of the managers believe.

For instance, the margin for milk sold in all eating places in Hartford was 7.8 cents per serv-

ing in the fall of 1961; the margin for soft drinks was 8.8 cents while that for coffee was about the same as milk.

But when the managers were asked what they thought the margin was for milk sales, they came up with an average of only 5.8 cents.

Another finding in the survey was that milk is apt to be missing from the menus, a fact which reduces the sales potential drastically. Twenty-four per cent of the restaurants surveyed in Hartford didn't list milk.

Milk gets practically no boost from waitresses, either. Though it was common practice for a waitress to recommend various foods to the customer, they almost never suggested milk.

On the other hand, restaurant workers don't feel that it is especially difficult to serve milk. In Hartford, in fact, milk was rated as the easiest to serve of all beverages.

As an indication of what might be done to push sales of milk in resturants, cafeterias and so forth, about half of the managers surveyed said they would welcome recipe and menu suggestions from the trade.

Display material could also help to increase sales for milk, but here the trade would face stiff competition. From one-third to two-thirds of the promotional material distributed to the restaurants came from beverage suppliers.

The other major dairy products have their troubles, too.

Butter, for instance, took second place in total servings to margarine in Indianapolis. In Hartford, the reverse was true. The Indianapolis eating places further discouraged the sales of butter by charging for extra servings.

Even ice cream meets with less than 100 per cent support. Only two-thirds of the eating places in both cities sold ice cream. When it was sold it was not always on the menu. *(21)*

Marketing Groups Need Time, Money And Farmer's Support to Aid Sales

Two heads are better than one. Fifty may be better still.

The old axiom is truer than ever today.

Nowadays the farmer is apt to be his own broker—and promoter—of agricultural products, a job that is both too specialized and too costly for the average farm operator to handle alone.

One answer is for farm producers to pool their resources in agricultural marketing groups. The group can better finance advertising programs to try to increase the demand for its product. To some extent it can control the supply of its product and prevent market gluts. And it can coordinate efforts to save money through production and marketing efficiencies.

Marketing groups should keep four points in mind:

—Keep your program workable. Money spent on advertising may be wasted unless there is enough left to finance an adequate merchandising program. Don't plan a program that's too broad in scope for the group to carry out effectively.

—Get able management. Promotional programs call for a thousand and one details in all stages—planning, coordinating, education and evaluation. A good manager can make the difference between a so-so program and a successful one.

—Have enough members. They provide the money and moral support. Include large producers as well as small so that the group can control enough production volume to have an adequate voice in setting prices.

—Keep members informed of goals and gains. Group action takes time. Membership loyalty seems to need constant re-education. *(22)*

REVIVING TEXAS GRAPEFRUIT MAY SQUEEZE FLORIDA SALES

Competition, that's what Texas grapefruit growers lost out on after the disastrous freeze in January 1962. It's what growers in Florida's Indian River area provide plenty of. And it's what growers in Florida's interior grapefruit area will be worrying about when the Texans get back in the game.

That's the concensus of 163 terminal-market buyers surveyed recently in eight mid-continent urban areas, where grapefruit from the three regions often compete for retail shelf space.

Most of the buyers believed the sales volume of Florida grapefruit—especially that from the interior area—would drop when Texas again becomes a major producer. Many thought the quality of Indian River grapefruit higher than interior or Texas fruit. But they thought that low freight rates for Texas fruit would enable the product to compete well with Indian River fruit, particularly west of the Mississippi.

Half the buyers said their grapefruit purchases from the three areas during 1960-61 (before the 1962 freeze) were based mainly on price. Quality was most important to 27 per cent; customer preference was cited by 8 per cent.

Seventy per cent reported that no differences in profit margins resulted from buying grapefruit according to area of origin. Nearly all buyers thought shipments during the fall months were inferior to those in the winter and spring. Furthermore, most believed the quality of fruit shipped in the fall hurt sales when better fruit was available.

Twenty per cent thought producer-sponsored advertising had little or no effect on grapefruit sales. *(23)*

$6 BILLION EXPORTS LIKELY

The U.S. record for farm products exported in any one year—$5.1 billion in fiscal 1962—will probably be topped this year by an amount approaching $1 billion.

The outlook for fiscal 1964, ending next June 30, is for farm exports to approximate $6 billion; they totaled $5 billion in fiscal 1963.

Commercial sales for dollars in fiscal 1964 should reach $4.2 billion and account for nearly all of the increase in total agricultural exports. Shipments under government aid programs are estimated at $1.6 billion.

A large part of the $1 billion increase in farm exports will be due to the biggest wheat exports in our history. Wheat shipments will run about 1 billion bushels if anticipated sales to the Soviet bloc go through.

Wheat and flour sales to the Soviet Union and other East European countries were authorized by the President last month. Among the conditions:

—Sales are to be at prevailing world prices.

—Payment is to be made in U.S. dollars or gold.

—Terms of sale will be cash or normal commercial credit.

Even without Soviet sales, however, our wheat exports should total about 800 million bushels, a new record. The previous record was set in fiscal 1962 when 718 million bushels went overseas. Last year's exports came to 638 million bushels. With a smaller crop this year, Western Europe is expected to buy more U.S. wheat.

But all major export commodities are expected to share in the expansion; cotton, soybeans and vegetable oils should top the list along with wheat.

These factors point to a record export year:

—Strong economic activity abroad, particularly in Western Europe.

—Alltime high gold and dollar holdings in most countries that buy U.S. commodities for dollars.

—Continuing U.S. sales for foreign currencies to countries short of gold and dollars.

—Lower textile stocks in Western Europe and Japan leading to increased demand for raw cotton imports.

—Poor grain crops, especially in the Soviet bloc countries and low quality grain harvest in Western Europe.

—Continuing U.S. export payments that enable our farm products to move into the world market at competitive prices.

COTTON. Exports of 5 million bales—up 1.4 million from fiscal 1963—are in prospect.

Back of the increase is an expected upturn in mill consumption in importing countries, reduced stocks in both buying and selling nations and smaller crops in exporting countries other than the U.S. Important too is the CCC export sales program that enables U.S. cotton to compete in price with similar foreign cotton.

OILSEEDS AND PRODUCTS. New records are in sight. Exports of edible vegetable oils are expected to top last year's 1,600 million pounds by 200 million. Because the supply of U.S. soybeans is limited, exports will not be much above the record 171 million bushels exported in fiscal 1963. However, soybean meal will likely advance to a new record due to the substantial demand in Western Europe.

ANIMAL PRODUCTS. Larger supplies, better quality and lower prices will help our exports of variety meats to compete more favorably with those of other surplus producers and exports should reach a new high. Similar records are forecast for U.S. hides and skins.

DAIRY PRODUCTS. Larger donations to emerging nations, made under government programs, should push exports well above the $160 million worth shipped in fiscal 1963.

OTHER COMMODITIES. Feed grain exports should be near last year's record of more than 15 million metric tons. Rice will be down slightly. So will fresh fruits, processed citrus fruits and dried beans. Despite the continuing decline in the West German market for U.S. poultry, moderate gains in other markets will result in only a slight decline in our total overseas sales of poultry and poultry products. *(30)*

Rise and Fall of U.S. Poultry Sales Prompts Our Bargaining With EEC

What's behind U.S. concern over the sharp drop in our poultry sales to West Germany?

At issue are the high tariffs imposed since August 1962 by the European Economic Community. West Germany, of course, is a member of the trading community that's trying to increase its own production and internal trade in farm products by setting up common tariffs against imports from nonmembers.

In 1962 West Germany bought over half of all U.S. poultry sold in foreign markets, some 148 million pounds. But most of these sales were made before the new tariff system went into effect in August. Our sales of fresh and frozen broilers in January-July 1963 fell 81 per cent, compared with the same period in 1962. The decline in other poultry products has been much the same.

In effect, the new tariffs have just about priced U.S. poultry out of the German market. In the meantime, French and Dutch sales have increased, mostly because France and the Netherlands, also members of the Community, don't pay the two extra levies the U.S. pays.

The rapid growth of the German market for U.S. poultry in the late 1950s can be traced to two developments in West Germany itself and a third in the United States.

First, West Germany's dollar reserves reached the point where the government could relax the rigid restrictions on imports of many farm products, including poultry. In 1959, quantitative restrictions against all U.S. poultry except broilers and fowl were removed. In 1961 even these limitations were dropped.

Second, German consumers developed a real liking for American-style chicken. Our first large shipments of fresh and frozen poultry to West Germany date back to 1956. Because of Bonn's balance of payments problems at the time, these shipments were made under the P.L. 480 program sponsored by the U.S.

The U.S. then launched a promotional program, which included free samples of American fried chicken for visitors to trade fairs in Cologne, Munich and Hamburg. And U.S. sales soared, from less than $9 million for all poultry in the last three and a half years that imports were restricted to over $32 million in April-December 1961, the first nine months after restrictions were dropped.

A third factor in this fast growing sales picture was the vast improvement in the efficiency of poultry production in the U.S. Until the mid-1950s the relatively high cost of producing U.S. poultry required us to ask an export price that was not particularly attractive to foreign buyers.

By the turn of the decade our prices were highly competitive with those of other poultry exporting countries. *(24)*

Dutch Treat

USDA's Food Exhibition and Symposium in Amsterdam November 7-24 is part of our effort to increase U.S. markets for farm products.

Trying to gain an objective measure of the project's success will be a firm under ERS contract. The research group will:

—Interview European opinion leaders, food handlers, consumers and U.S. exhibitors before, during and after the affair.

—Audit retail food stores in the Amsterdam area to measure any change in the availability of U.S. foods. *(25)*

News Pickups

HEMISPHERE TRADE. First figures indicate fiscal 1963 was the best year ever for U.S. farm exports to Canada and Latin America. Shipments topped $1 billion, representing nearly 20 per cent of our world exports. Canada was our best customer, fruit and preparations our best sellers north of the border. Brazil was second, taking mostly wheat.

COMMON MARKET TRADE. In the first 12 months under the Market's variable levy system, U.S. farm exports fell 10 per cent. Sales for the year ending July 30 were just over $1 billion, compared with $1.2 billion in 1961-62. Exports of commodities subject to levies were down 26 per cent, nonlevy commodities less than 1 per cent. Hardest hit were wheat and flour, feed grains, eggs and poultry.

BRAZIL. Bulgaria plans to build an onion dehydrating plant for the northeastern state of Pernambuco. Sofia will send along technicians to show farmers how to improve onion production and processing. Total package, worth $500,000, will be paid in exports to Bulgaria.

POLAND. No more price hikes. So the government promised last March when it raised prices on coal, gas and electricity. The pledge lasted only until September, when a poor crop year was given as the reason for upping prices on many consumer items, mostly foodstuffs. *(26)*

FINANCIAL REPORT: Some countries are in an excellent financial position. Others are just as certainly in a poor position. But most are not so clearly defined. Even though there is no exact mathematical formula for placing a country in one financial category or another, many people need a general guide. Such a guide is useful in assessing a country's ability to pay for imports in dollars, either cash or on a deferred payment basis. It also helps to evaluate the country's ability to handle the burden of additional debt servicing or to adopt internal monetary policies that may be required to qualify for foreign assistance programs. ERS periodically updates such a general guide, using the best available information on each country's foreign exchange reserves, export-import balance, balance of payments position, external indebtedness and similar indicators. *(27)*

Country	Aug. 1963	Sept. 1962	Feb. 1962	Oct. 1961	Mar. 1961	Aug. 1960	Oct. 1959
Australia	E	E	E	E	E	E	G
Austria	E	E	E	E	E	E	E
Bahrein, State of	E	E	E	E	E	E	E
Belgium-Luxembourg	E	E	E	E	E	E	E
Canada	E	G	E	E	E	E	E
France	E	E	E	E	E	E	G
Germany, Fed. Rep. of	E	E	E	E	E	E	E
Italy	E	E	E	E	E	E	E
Kuwait	E	E	E	E	E	E	E
Netherlands	E	E	E	E	E	E	E
Panama	E	E	E	E	E	E	E
Saudi Arabia	E	E	E	G	G	G	F
Spain	E	G	G	F	P	P	P
Sweden	E	E	E	G	G	E	G
Switzerland	E	E	E	E	E	E	E
United Kingdom	E	E	E	G	E	E	E
Denmark	G	G	G	G	G	G	G
El Salvador	G	G	G	G	G	G	G
Ireland	G	G	G	G	G	G	G
Israel	G	G	F	P	P	P	P
Japan	G	G	G	G	E	E	E
Lebanon	G	G	G	G	G	G	G
Libya	G	F	F	P	P	F	P
Malaya, Fed. of	G	G	G	G	G	G	G
Mexico	G	G	G	G	G	G	G
Netherlands Antilles	G	G	G	G	G	G	G
New Zealand and W. Samoa	G	F	F	F	G	G	G
Nigeria	G	G	G	G	G	–	–
Norway	G	G	G	G	G	G	G
Portugal	G	G	G	G	E	E	E
Rhodesia & Nyasaland, Fed. of	G	G	G	G	F	G	G
South Africa, Rep. of	G	F	F	F	F	G	G
Sudan	G	G	G	G	F	F	P
Surinam	G	G	G	G	G	G	G
Thailand	G	G	G	G	G	G	G
Venezuela	G	G	G	G	G	G	E
Afghanistan	F	F	F	F	F	F	F
Algeria	F	F	–	–	–	–	–
Burma	F	F	F	F	F	F	F
China (Taiwan)	F	P	P	P	P	P	P
Costa Rica	F	F	F	F	F	F	G
Dominican Rep.	F	P	P	P	F	F	F
Ecuador	F	F	F	F	G	G	G
Ethiopia	F	F	F	F	F	F	P
Finland	F	F	F	F	F	F	F
Free Ter. of Trieste Palestine, and Arabia Pen. States	F	F	F	F	F	F	F

Country	Aug. 1963	Sept. 1962	Feb. 1962	Oct. 1961	Mar. 1961	Aug. 1960	Oct. 1959
Ghana	F	G	G	G	G	G	G
Greece	F	F	P	P	P	P	P
Guatemala	F	F	F	F	F	F	F
Honduras	F	F	F	F	F	F	F
Iran	F	F	F	F	F	F	G
Iraq	F	F	F	F	F	F	F
Jamaica	F	–	–	–	–	–	–
Liberia	F	G	G	G	G	G	G
Nicaragua	F	F	F	F	F	F	F
Peru	F	F	F	F	P	P	P
Philippines, Rep. of	F	F	F	F	F	F	P
Tanganyika	F	–	–	–	–	–	–
Uganda	F	–	–	–	–	–	–
Argentina	P	P	F	F	P	P	P
Bolivia	P	P	P	P	P	P	P
Brazil	P	P	P	P	P	P	P
Burundi	P	P	–	–	–	–	–
Cambodia	P	P	P	P	P	P	P
Ceylon	P	P	P	P	P	F	F
Chile	P	P	P	P	P	P	P
Colombia	P	P	P	P	P	P	P
Congo (Leopoldville)	P	P	P	P	P	P	G
Cuba	P	P	P	P	P	P	F
Cyprus	P	P	P	P	P	–	–
Guinea	P	P	P	P	P	P	P
Haiti	P	P	P	P	P	P	P
Iceland	P	P	P	P	P	P	P
India	P	P	P	P	P	P	P
Indonesia, Rep. of	P	P	P	P	P	P	P
Jordan	P	P	P	P	P	P	P
Korea, Rep. of	P	P	P	P	P	P	P
Laos	P	P	P	P	P	P	P
Mali	P	–	–	–	–	–	–
Morocco	P	P	P	P	P	P	P
Nepal	P	P	P	P	P	P	P
Pakistan	P	P	P	P	P	P	P
Paraguay	P	P	P	P	P	P	P
Rwanda	P	P	–	–	–	–	–
Sierra Leone	P	P	P	P	–	–	–
Somali Rep.	P	P	P	P	P	–	–
Syrian Arab Rep.	P	P	P	P	P	P	P
Tunisia	P	P	P	P	P	P	P
Turkey	P	P	P	P	P	P	P
United Arab Rep. (Egypt)	P	P	P	P	P	P	P
Uruguay	P	P	P	P	P	P	P
Viet-Nam, S.	P	P	P	P	P	P	P
Yugoslavia	P	P	P	P	P	P	P

Excellent: More than ample foreign exchange holdings to pay for usual imports; balance of payments situation satisfactory or favorable. Outlook: favorable. **Good:** Exchange holdings, if prudently managed, are adequate to meet current import needs without difficulty; balance of payments situation is stabilized. Outlook: favorable or stable and without major adverse elements. **Fair:** Payment difficulties limit the country's ability to import freely; reserves are either (a) barely sufficient to maintain essential imports, with the outlook tolerable to favorable or (b) currently adequate but deteriorating, with no indication of reversal of the trend; balance of payments situation is either basically weak or shifting to unfavorable. **Poor:** Exchange holdings are low or being depleted; balance of payments situation is unfavorable and earnings are insufficient for import needs; deficit is financed by drawing down on reserves and/or foreign borrowing and assistance; import capability is severely limited and foreign indebtedness is often large. Outlook: uncertain or unfavorable.

SPACE AGE FOODS

New is the word for 1964—enough new food products on the shelves to make the cook hustle just to keep up with them, as manufacturers vie for the attention and pleasure of the housewife.

Among the new products already on the shelves or in the laboratories are:

Squeeze tubes. One company is putting out a baby food in a container modeled after the ones used by astronauts on their space flights. The aluminum tube is fitted with a hollow-handled plastic spoon which can be attached to the neck of the tube. Just squeeze, and you have a spoonful of food for the baby—or for a bedridden patient.

Gelled applesauce. Developed by USDA laboratories, the new apple product has the consistency of cranberry sauce and can be served in much the same way. When heated, the sauce turns to liquid and can be poured into salad molds and chilled for serving.

Dried, blanched fruits. An adaptation of old processes, the new method compares favorably in quality with traditional sun-dried fruits. It makes it easier to dry such fruits as peaches, which don't sun-dry satisfactorily.

Bulgar — back again. Introduced as a canned, cooked form of the ancient wheat food, the newer product is an "instant" dry version. Look for bulgar to take its place in such foods as soups, main dishes and desserts.

Frozen avocado salad. The USDA laboratories have come up with a way to freeze guacamole, a favorite southwestern recipe borrowed from Mexican cooks. The frozen version should help to take the guesswork out of finding enough just-ripe avocados to whip up the salad.

Instant omelets. The blend of dried ingredients and whole egg solids will store on the pantry shelf until it is time for a quick breakfast or a spur of the moment supper. The instant omelets are already being introduced in markets throughout the country.

Instant sweetpotato flakes. Restaurant chefs and food processors have already had a try at the sweetpotato flakes. Now they appear to be headed for the retail shelf.

And the food manufacturer will keep on turning out new products to please the housewife. *(31)*

Plentiful Beef Supply Will Help Hold 1964 Retail Food Prices Close to 1963

Food prices probably won't go up next year as much as they did in 1963.

ERS economists report the estimated 1½ per cent increase in retail food prices this year was due to unusual factors that aren't likely to recur in the coming year.

Among these factors was the Florida freeze which resulted in reduced supplies of citrus fruits and winter vegetables and sharply higher retail prices—6 per cent higher on the average in the first 9 months of 1963 than in the same period in 1962.

Another factor was the increase in sugar prices. True, sugar and other sweeteners make up only a small part of the family food budget. Prices averaged 7 per cent higher in the first 3 quarters of 1963 than in the same period last year.

While prices for fruits, vegetables and sweeteners climbed in 1963, prices for such items as meat and poultry averaged below 1962 levels. Also, prices of dairy products, fats and oils were at or below last year's levels.

On balance, it looks like larger supplies of livestock products, particularly beef, will keep retail prices for meat in 1964 around levels for this year. Fewer processed fruits and vegetables, plus continuing low supplies of citrus, may cause some upward price pressures to develop. But all in all, retail food prices won't go up much.

However, eating out will cost more in 1964. But this isn't a new trend. Since the government began keeping records back in 1953, the cost of meals in restaurants and other away-from-home eating places has gone up at a rate of about 2½ per cent a year. This steady rise reflects not only increased cost of food but also higher labor and other costs in preparing and serving restaurant meals. *(32)*

RECENT PUBLICATIONS

The following publications are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources *are published by ERS. Single copies are available free from the Division of Information, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications may be obtained from the issuing agencies of the respective states.*

MULTIPLE-PRODUCT PROCESSING OF CALIFORNIA FROZEN VEGETABLES. Robert H. Reed, Marketing Economics Division, ERS, and L. L. Sammet, Professor of Agricultural Economics, University of California, Berkeley.

Economic and engineering research procedures are used in a synthesis of costs for a series of different plants designed for single-product output of six major frozen vegetables—broccoli, Brussels sprouts, green peas, lima beans, and spinach. The report is in two sections: (1) Analysis of Operations and Costs, and (2) Labor and Equipment Standards and Requirements for Preparation and Packaging. The report should supply useful information to management of individual firms in efforts to improve operating efficiency, in planning new investments, and in determining short-run adjustments in product mix.

THE RURAL SCHOOL DROPOUT—A TEN-YEAR FOLLOW-UP STUDY OF EASTERN KENTUCKY YOUTH. E. Grant Youmans, Economic and Statistical Analysis Division. Bulletin of the Bureau of School Service, University of Kentucky. Vol. XXXVI, No. 1.

This is one of several reports on a survey made jointly by the Agricultural Experiment Station, University of Kentucky, and the U.S. Department of Agriculture. In 1950, a total of 757 boys were enrolled in the eighth grade of the public schools in 11 eastern Kentucky counties. In 1960, 307 of these youths were interviewed. More than half the respondents had dropped out of school before completing the twelfth grade, and among these, the larger proportion had received only eight years of formal education. The report discusses the work life and community life of the young men who were interviewed.

SIMPLE METHODS OF ESTIMATING CERTAIN NONLINEAR FUNCTIONS WITH EMPHASIS ON AGRICULTURAL DATA. Richard H. Day, Farm Production Economics Division. AH-256.

Two elementary methods are presented for fitting three different nonlinear functions to empirical data by means of simple linear regressions. Iterative least squares methods which have been developed for estimating parameters of nonlinear functions sometimes lead to certain difficulties in application. Because this is so, the methods developed in this handbook are useful tools for application. The relative merits of this approach versus the nonlinear iterative approach are briefly described.

TRUCK CROP PRODUCTION PRACTICES, IMPERIAL COUNTY, CALIFORNIA—LABOR, POWER, AND MATERIALS BY OPERATION. Earl E. Gavett, Farm Production Economics Division. ERS-128.

This report contains information from Imperial County, California, on labor requirements, production practices, and costs involved in the production of

Sources for this issue:

1. Farm Cost Situation, FCS-35 (P); 2. T. F. Hady, "The Impact of Estate and Inheritance Taxes on the Farm Enterprise," Agr. Finance Rev., June '63 (P); 3. F. L. Garlock and others, The Balance Sheet of Agriculture, 1963, AIB-281 (P); 4. W. B. Sundquist and others, Equilibrium Analysis of Profitable Adjustments on Farms in Lake States Dairy Region, 1965, Minn. Agr. Expt. Sta. (M); 5. A. R. Bird, Least Cost Organization of Eastern Massachusetts Dairy Farms for Four Levels of Gross Income, Mass. Agr. Expt. Sta. (M); 6. L. W. Van Meir, Factors in Regional Location of Cattle Feeding (S); 7. E. E. Gavett, Truck Crop Production Practices, Imperial County, California, ERS-128 (P); 8. E. E. Gavett, Truck Crop Production Practices, Monterey County, California, ERS-129 (P); 9. R. E. Hatch and others, Production Requirements, Cost and Expected Returns for Crop Enterprises on Clay Soils in the Lower Rio Grande Valley of Texas, Tex. Agr. Expt. Sta. (M); 10. Fallout Facilities and Fuels on Farms in 24 Central and Southern States, SRS 3 (P); 11. W. G. Adkins, Incomes of Rural Families on the Blackland Prairies, Tex. Agr. Expt. Sta. MP-659 (P); 12. G. B. Crowe, The Effect of Technology on Cotton Production (S); 13., 14. V. W. Davis (SM); 15. R. N. Van Arsdall, Should You Specialize and Increase Size of Enterprise? (S); 16. F. D. Stocker, Planning in an Environment of Sparse and Declining Population (S); 17. W. K. Burkett, Income Problems of Rural Families in South Central Kentucky (M); 18. E. C. Hunter, Coordinated Livestock Marketing as an Integrated Operation (S); 19. C. J. Vosloh, Jr. (SM); 20. J. R. Corley, The Changing Transportation Structure and Rates and Their Implications (S); 21. W. E. Clement, Use of and Promotional Practices for Dairy Products in Public Eating Places, MRR-626 (P); 22. D. Oldenstadt, Producer Group Action in Agricultural Marketing (S); 23. W. T. Manley and others, Competitive Practices in Marketing Florida and Texas Fresh Grapefruit, MRR-629 (P); 24. W. C. Paddock, "Developments in U.S. Poultry Trade With West Germany," Poultry and Egg Situation, PES-227 (P); 25. W. S. Hoofnagle (SM); 26. Development and Trade Analysis Division and Regional Analysis Division (SM); 27. G. P. Rice and W. E. Elrod, Jr., "External Financial Positions of Foreign Countries," Foreign Agricultural Trade, July-Aug. '63 (P); 28. F. L. Garlock (SM); 29. K. E. Ogren, The Marketing Outlook and the Consumer (S); 30. R. L. Tontz (SM); 31. P. B. Dwoskin, Markets and New Products (S); 32. S. J. Hiemstra (SM).

Note: The Outlook Chartbook section of this issue is designed as a detachable separate. It supplements the *Handbook of Agricultural Charts* published in September. Write the above address for Agriculture Handbook No. 258.

Speech (S); published report (P); report in process (M); Special material (SM).

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OFFICIAL BUSINESS

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truck crops for fresh market and processing. California leads the nation in the production of truck crops and Imperial County is the great winter vegetable producing area of the West. Truck crops, in general, require intensive labor. These requirements are highly seasonal—with several labor peaks, the highest occurring at harvestime. Thinning and weeding are two operations still performed largely by hand labor.

AGE-GRADE SCHOOL PROGRESS OF FARM AND NONFARM YOUTH: 1960. James D. Cowhig, Economic and Statistical Analysis Division. AER-40.

Results of the 1950 and 1960 Censuses are used to compare the school progress of farm and nonfarm children in 1960 and to describe the changes that occurred over the decade. Highlights of the study show that between 1950 and 1960 the proportion of rural-farm children enrolled in school increased substantially. During the same decade improvement took place in the proportion of farm and urban children enrolled in grades expected for their age.

COSTS AND ECONOMIES OF SCALE IN TURKEY PROCESSING PLANTS. George B. Rogers and Earl H. Rinear, Marketing Economics Division. MRR-627.

Gains in turkey processing efficiency have occurred in recent years with the adoption of new technology, increases in plant size, better use of capacity and changes in the industry. The report measures possibilities for reductions in costs and gains in efficiency. According to data from 25 plants surveyed, average costs per pound decline when plant size increases. Plant managers can use these data to compare their present situations with similar plants and plan for the future.

RURAL RESIDENTS AND URBAN EXPANSION. Charles Press and Rodger Rice, Institute for Community Development and Services, Michigan State University, cooperating with Farm Production Economics Division. ERS-132.

This report deals with the opinions of nonfarm residents concerning urban expansion into farm areas. The 1962 study was made in a township lying on the fringe of a growing metropolitan area. An earlier study used the opinions of farmers in the same area. The purpose of the two studies was to obtain information on attitudes residents of such an area might be expected to have toward the increasing urbanization of their area.

SCHOOL DROPOUT RATES AMONG FARM AND NONFARM YOUTH: 1950 AND 1960. James D. Cowhig, Economic and Statistical Analysis Division. AER-42.

Information from the 1950 and 1960 Censuses of Population is used to derive estimates of the number and proportion of farm and nonfarm youths who dropped out of school before finishing high school. Between 1950 and 1960 school dropouts among 14-to-24-year-olds declined. Dropout rates are shown by age and residence for the entire United States, and the South separately. The prevalence of dropouts among 19-year-olds is shown for each of the 50 states by residence, and by color for the southern states.