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Measuring the Supply and Utilization of Farm Commodities

New Indexes, 1924-54



Agriculture Handbook No. 91

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Washington, D. C. • November 1955

FOREWORD

During the last 30 years, supplies of farm commodities have changed substantially. These changes reflect trends in production, in stocks, and in imports. Significant changes have occurred in utilization, also. These have resulted from trends in domestic civilian consumption, in consumption by the Armed Forces, in exports, and in amounts used for feed and for other purposes.

Research economists have long wanted a broad statistical measure of these changes in the supply and utilization of farm commodities. We hope that the material given here will provide much of the necessary information.

The index of supply-utilization of all farm commodities presented in this report includes a master index and coordinated subindexes. These indexes measure the flow of farm commodities from our farms and from overseas, and out of stocks into use as food or for nonfood purposes in the United States, for civilians and the Armed Forces, into export channels, or back into stocks. Because all components have been worked up in terms of equivalent farm values in constant dollars, these indexes provide the necessary information for simultaneous cross section and time series analyses. The framework of the indexes provide for much flexibility because the value aggregates, given in the appendix, can be shifted around to meet the needs of particular analyses.

Those wanting more detailed breakdowns of the statistics should consult Agriculture Handbook No. 62, Consumption of Food in the United States, 1909-52, and its supplements--also the basic supply-and-distribution tables for individual farm commodities published annually by the Agricultural Marketing Service. The emphasis of the present handbook is upon the aggregate supply and utilization of all farm commodities and of major subgroups.

The handbook was prepared by the staff of the Consumption Section of our Statistical and Historical Research Branch. Marguerite C. Burk was primarily responsible for planning the master index and for writing the general sections. Martin J. Gerra, with the assistance of many technicians throughout the Department, developed most of the statistical procedures. The contributions of other staff members are noted at appropriate points in the text.

The study on which this report is based was carried on under the authority of the Agricultural Marketing Act of 1946 (RMA, Title II).

Frederick V. Waugh, Director
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MEASURING THE SUPPLY AND UTILIZATION OF FARM COMMODITIESCHAPTER 1. SCOPE AND USE

Information on supply and use of major farm commodities has been collected and studied for many years. But hitherto no satisfactory tool has been developed to analyze changes in supply and use of all agricultural commodities as a coordinated whole, or to relate developments in a particular group of commodities or source of supply or channel of distribution to the whole flow through time. The master index of supply-utilization and its subindexes, presented herein, were designed to provide such a tool. ^{1/}

This system of indexes provides a more complete picture of the supply and use of agricultural products in the United States than we have had before. It is an integrated set of measurements for the agricultural economy having certain similarities with interrelated items in the Gross National Product series and the input-output tables for the economy as a whole. It is unique in that it gauges quantitative changes in the structure of the supply and use of the products of an industry through time.

This handbook describes the concepts and methods employed in working up the indexes, discusses their uses and limitations, and compares them with other measures of the same economic phenomena. Text tables contain the indexes and appendix tables carry the value aggregates from which they were derived.

The index of supply-utilization of farm commodities was developed gradually over the last 15 years to meet the needs of World War II and of postwar years for overall statistical measures. Statisticians both within and outside the Department had sought measures of the general level of food supplies, the relative contribution of domestic production, the proportions of supplies or of production moving to our civilian population, to the Armed Forces, or to our allies, and of the significance of changes in stocks. An

^{1/} For description of the food component of this index see: (1) United States Department of Agriculture. Bureau of Agricultural Economics. Consumption of Food in the United States, 1909-52. U. S. Dept. Agr. Handbook No. 62. Pp. 2-28. Washington, D. C. 1953. (2) Burk, Marguerite C., and Gerra, Martin J. "Supply-Utilization of Agricultural Food Products." Agricultural Economics Research. 6:33-41. 1954.

The master index was first presented in a brief article, "Introduction of the Index of Supply-Utilization of All Agricultural Products." The National Food Situation. October 1954. Agr. Mktg. Service. (Processed)

early effort was made to devise a means of measuring exports and imports of agricultural products that could be related to our production. ^{2/} The frequent error of describing the result of subtracting exports from food production as domestic use, neglecting the contribution of imports and changes in stocks, led to the development of the index of total food utilization. ^{3/} This index represented an aggregation of production, imports, and changes in commercial stocks, which was in turn distributed into commercial exports and shipments, Department of Agriculture net purchases (deliveries adjusted for changes in Department held stocks), military takings, and a residual representing domestic civilian use.

After several years' experience with this index, it became apparent that a more refined and inclusive measure was needed. Details of the revisions for the food segment are set forth in Agriculture Handbook No. 62. In brief, they stemmed from conceptual clarification, extension of coverage to all farm commodities, improved statistical handling for processed commodities, and the shift to 1947-49 base and weight periods.

BRIEF DESCRIPTION OF THE MASTER INDEX

The index of supply-utilization of all farm commodities measures their total annual flow from our farms and into the United States from foreign countries and United States Territories, and out of stocks. At the same time it measures their flow into domestic distribution, through Government and commercial channels to foreign countries and United States Territories, and into stocks. (See exhibit A.) The index combines detailed statistics on the supply and distribution of each commodity on the basis of its equivalent farm value, using 1947-49 farm prices for all years covered by the indexes, beginning with 1924. The combination of changing quantities and fixed prices, using a modified Laspeyres formula, ^{4/} provides a measure of changes in quantities in economic terms. The master index and its subindexes include changes in supply and use of farm commodities in unprocessed form and of major products processed from them. To indicate the important basic concept of tracing the flow in terms of the primary farm commodities, the designation of the index has been changed from "agricultural products" to "farm commodities."

As you examine the following sections of this handbook, you will see how certain basic concepts (set forth in chapter 2) and the need for operating within an overall structural design influence the meaning and use of both the

^{2/} Nelson, G. Lois. "Volume of United States Exports and Imports of Foods, 1909-43." Journal of Farm Economics, 26:399-405. 1944.

^{3/} Carried regularly in the National Food Situation from April 1945 to April 1953 and described in United States Department of Agriculture, Bureau of Agricultural Economics. Consumption of Food in the United States, 1909-48. Pp. 2-10. U. S. Dept. Agr. Misc. Pub. No. 691. Washington, D. C. 1949.

^{4/} See chapter 2 for statistical details.

master index and the subindexes. All components had to be fitted together to form a logical structure of indexes for use in economic analysis. Accordingly, the subindexes for production, imports, exports, domestic use, as well as others, do not match existing single purpose indexes. Their differences and similarities with well-known indexes in this same general area, as well as their particular uses and limitations, are carefully noted in chapters 3 and 4.

USES AND LIMITATIONS OF THE MASTER INDEX

This measure has been designed to provide a framework for economic and statistical analysis of what has happened to supplies and use of all farm commodities in particular years and over a period of years as a coordinated whole. (See fig. 1.) It provides a means of ascertaining changes in the general level of our supplies of farm commodities for food use by our civilians and Armed Forces, as well as changes in the level and source of supplies of nonfood farm products. By integrating information on foreign trade with data on domestic production, it permits analysis of the extent of self-sufficiency in farm commodities and of the significance of foreign demand for products of American farms. The index and its components provide basic data for study of overall and specific changes in the utilization of agricultural products in unprocessed and processed forms by United States civilians and Armed Forces, our allies, our Territories, and other countries.

Subindexes provide means of appraising the significance of specific factors that have contributed to changes in the supply and utilization of farm products in the past, and of making future projections. Special subindexes can be developed within the general framework for use in particular studies. For example, it is expected that the subindexes will be useful in measuring the effects of special Government programs on the agricultural economy.

To avoid delay in making the basic indexes generally available, this handbook is published without detailed analytical examples of how the indexes can be used in studying major agricultural problems. But the usefulness of the index for analytical purposes is indicated in the article in Agricultural Economics Research, mentioned earlier. The potentials of these indexes as they are explored further will be reported in special articles and, perhaps, in bulletins.

Meanwhile, certain general limitations of the master index of supply-utilization and the subindexes should be kept in mind. More detailed notes on limitations are given in sections of this handbook pertaining to specific subindexes. Because the indexes are constructed with 1947-49 average farm prices, they do not measure changes in value arising from changes in prices or price relationships, nor do they measure changes in marketing services added to unprocessed farm commodities.

This index measures the total flow of products from farm output into use. For example, it counts quantities of grains used for feed and seed in

Exhibit A.- Structure of the master index of supply-utilization, 1953

Part I. The overall framework

Item	All farm commodities		Food commodities		Nonfood commodities	
	Farm value: in 1947-49: dollars	Percentage: of 1947-49: utilization	Farm value: in 1947-49: dollars	Percentage: of 1947-49: utilization	Farm value: in 1947-49: dollars	Percentage: of 1947-49: utilization
	Mil. dol.	Pct.	Mil. dol.	Pct.	Mil. dol.	Pct.
Production	39,606	101.7	33,422	101.2	6,184	104.7
Imports and inshipments	2,963	7.6	2,487	7.5	476	8.1
Net change in available stocks	-1,586	-4.1	-956	-2.9	-630	-10.7
Total utilization	40,983	105.2	34,953	105.8	6,030	102.7
Domestic use						
Food	24,155	62.0	24,148	73.0	7	.1
Nonfood	14,289	36.7	9,088	27.5	5,201	88.1
Total	38,444	98.7	33,236	100.5	5,208	88.2
Commercial exports and shipments	2,356	6.0	1,534	4.7	822	13.9
USDA export programs						
Stock change	2	1/	2	1/	2/	1/
Deliveries	181	.5	181	.6	2/	1/
Net purchases	183	.5	183	.6	2/	1/

Part II. Supplementary information on supply

Net production	29,110	74.8	3/	3/	3/	3/
Feed and seed from domestic production	10,496	26.9	3/	3/	3/	3/
Gross production	39,606	101.7	33,422	101.2	6,184	104.7
Imports and inshipments						
Supplementary items	1,527	3.9	1,175	3.5	352	6.0
Complementary items	1,436	3.7	1,312	4.0	124	2.1
Total	2,963	7.6	2,487	7.5	476	8.1
Available stocks						
Increase over year	-1,880	-4.9	-1,193	-3.6	-687	-11.7
Decrease over year	294	.8	237	.7	57	1.0
Net change	-1,586	-4.1	-956	-2.9	-630	-10.7
Total flow into utilization	40,983	105.2	34,953	105.8	6,030	102.1

See footnotes on next page.

Continued -

Exhibit A.- Structure of the master index of supply-utilization, 1953 -Continued

Part III. Supplementary information on utilization

Item	All farm commodities		Food commodities		Nonfood commodities	
	Farm value in 1947-49 : dollars	Percentage of 1947-49 : utilization	Farm value in 1947-49 : dollars	Percentage of 1947-49 : utilization	Farm value in 1947-49 : dollars	Percentage of 1947-49 : utilization
	Mil. dol.	Pct.	Mil. dol.	Pct.	Mil. dol.	Pct.
Domestic use						
Food						
Civilian, domestically produced	21,407	54.9	21,407	64.7	---	---
Civilian, imported	2,092	5.4	2,085	6.3	7	0.1
Military	656	1.7	656	2.0	---	---
Total food use	24,155	62.0	24,148	73.0	7	.1
Nonfood						
Feed and seed	10,588	27.2	7,887	23.9	2,701	45.8
Other nonfood	3,701	9.5	1,201	3.6	2,500	42.3
Total nonfood use	14,289	36.7	9,088	27.5	5,201	88.1
Total domestic use	38,444	98.7	33,236	100.5	5,208	88.2
Commercial exports and shipments	2,356	6.0	1,534	4.7	822	13.9
USDA net purchases for export	183	.5	183	.6	2/	1/
Total utilization	40,983	105.2	34,953	105.8	6,030	102.1

Part IV. Supplementary information on available stocks, in equivalent farm value

Category	Jan. 1, 1952	Jan. 1, 1953	Net change
	Mil. dol.	Mil. dol.	Mil. dol.
CCC price support and other, excluding holdings for foreign supply	1,151	1,065	-86
Under price support loans	752	1,341	589
"Unencumbered" farm and commercial	13,339	13,868	529
Total available stocks	15,242	16,274	1,032

Part V. Supplementary information on military and export accounts

Item	All farm commodities		Food commodities		Nonfood commodities	
	Farm value in 1947-49 : dollars	Percentage of 1947-49 : utilization	Farm value in 1947-49 : dollars	Percentage of 1947-49 : utilization	Farm value in 1947-49 : dollars	Percentage of 1947-49 : utilization
	Mil. dol.	Pct.	Mil. dol.	Pct.	Mil. dol.	Pct.
Military account						
Military takings	3/	3/	656	2.0	3/	3/
Military shipments for civilian relief	37	0.1	37	.1	2/	1/
Export account						
Commercial exports and shipments	2,356	6.0	1,534	4.7	822	13.9
Government deliveries						
USDA deliveries	181	.5	181	.6	2/	1/
Military shipments for civilian relief	37	.1	37	.1	2/	1/
Total exports	2,574	6.6	1,752	5.4	822	13.9

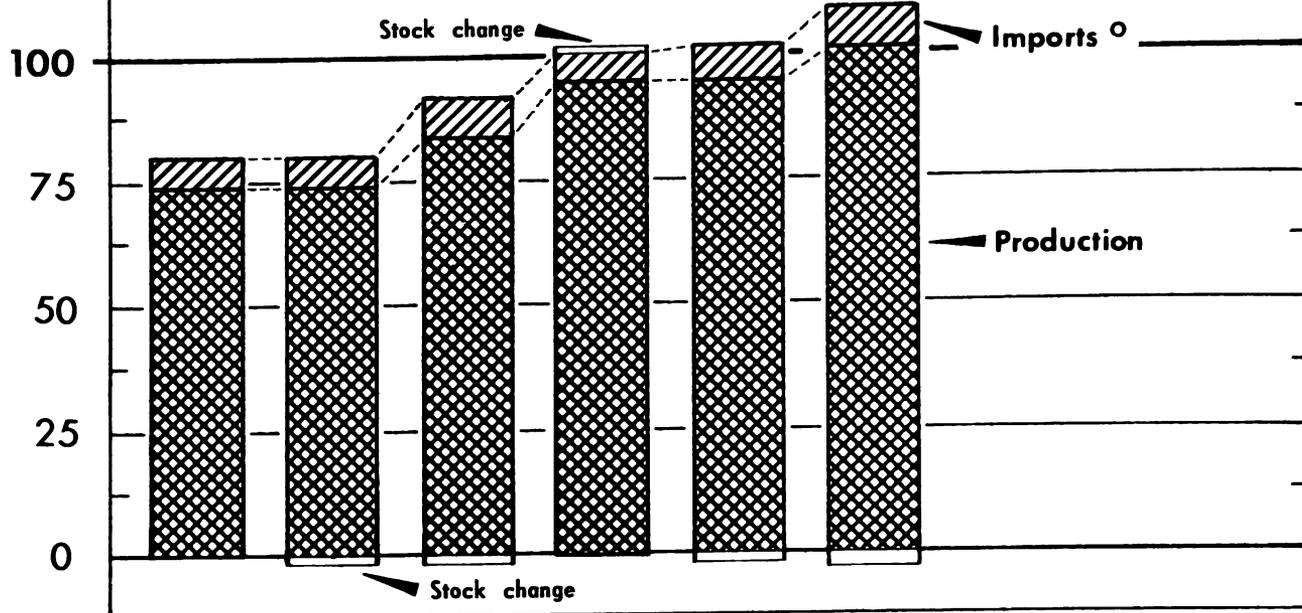
1/ Less than 0.05 percent. 2/ Less than 0.5 million dollars. 3/ Not available.

Note: Some figures in this exhibit differ slightly from those in other parts of this handbook because these figures have been forced to add to certain given totals.

WHAT THE INDEX OF SUPPLY-UTILIZATION MEASURES

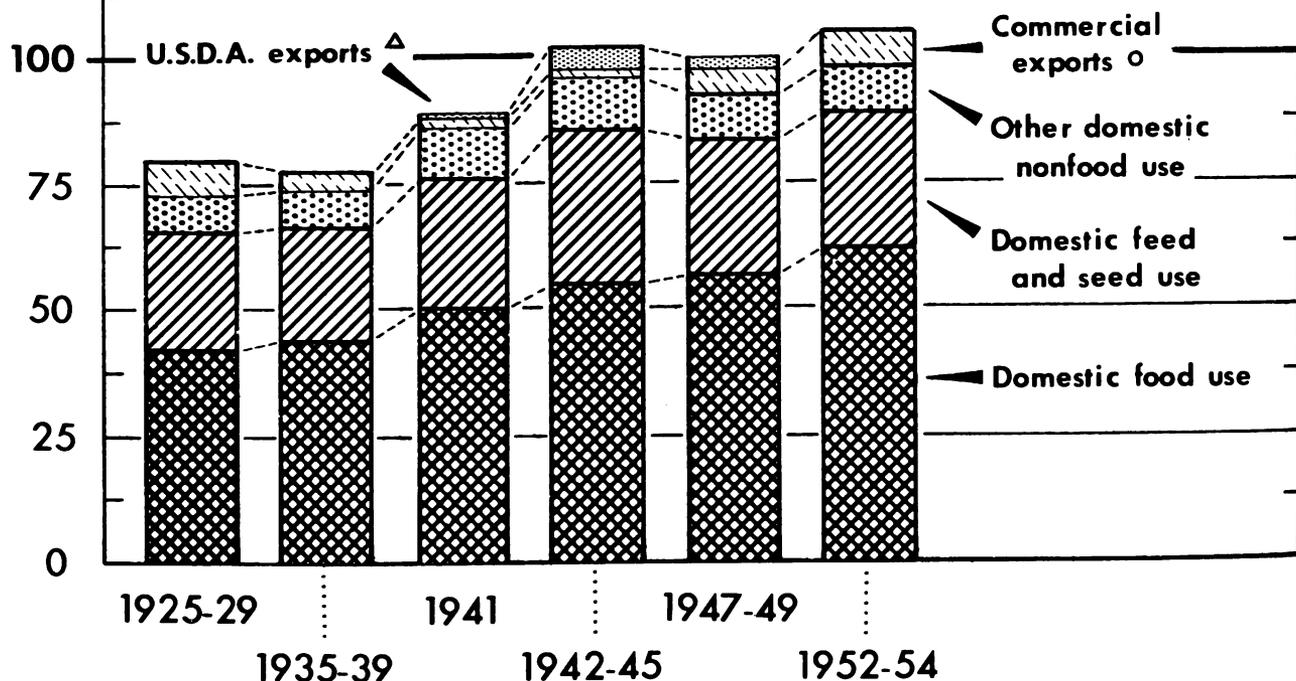
% OF 1947-49 TOTAL UTILIZATION

A. SOURCES OF SUPPLY OF ALL FARM COMMODITIES *



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B. FLOW OF ALL FARM COMMODITIES INTO USE *



* BASED ON FARM VALUE EQUIVALENTS IN 1947-49 DOLLARS

○ INCLUDES TRADE WITH U. S. TERRITORIES

△ NET PURCHASES FOR EXPORT BY U. S. DEPT. OF AGRICULTURE

the value of crop output moving into utilization and again in the value of livestock products and later crop output. In this sense, the index shows gross flow. To cope with difficulties likely to arise from this double-counting, separate value aggregates and subindexes for feed and seed are given at appropriate points in the following chapters. This provides net measures for use on particular problems while retaining the basic total flow concept. It is a good illustration of the flexibility of this system of indexes.

The meaning of "production" employed in the development of this index differs from that used by either the index of farm output or the index of farm marketings and home consumption, as described in chapter 3. This index does not include unharvested crops. It counts grains in the year produced even though they may be retained on the farm for feed and seed use or for future sale. Livestock animals are counted only when slaughtered. Rubber, silk, forest, greenhouse, and nursery products are excluded.

As noted in tables 1, 2, and 3, we use changes in stocks from beginning to end of each year rather than total stocks at either point. This is the result of the fact that information on all holdings of farm commodities at all levels of distribution is not reported. Changes in reported stocks, however, are believed to give a reasonably adequate measure of overall stock changes for the purpose of measuring total flow and utilization.

Finally, use of these indexes is limited by the basic concept of total flow of farm commodities in each year. They do not indicate total supply available at any one time in the year, but the index of total utilization does measure how much has flowed into the several channels for final distribution and use during the year. 5/

As indicated in the foregoing paragraphs, chapter 2 contains details of the construction of the master index, chapter 3 is devoted to the measures of changes in supplies, and chapter 4 to changes in use.

5/ See Gerra, Martin J. "Visualizing Changes in the Supply and Use of Our Farm Products," The Agricultural Situation, Vol. 38, No. 10. Pp. 6-8. October 1954. U. S. Dept. Agr., Agr. Mktg. Service. Washington, D. C.

Table 1.-- Master index of supply-utilization of all farm commodities, 1924-54 1/

Section a. Percentage of total utilization in each year

Calendar year	Production		Imports and shipments		Net change in available stocks		Total utilization		Domestic use		Commercial exports and shipments		USDA export program	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1924	94.2	6.7	-0.9	100.0	52.7	38.1	90.8	9.2	---	---	---	---	---	
1925	92.8	7.1	.1	100.0	51.8	39.7	91.5	8.5	---	---	---	---	---	
1926	94.0	7.6	-1.6	100.0	53.1	38.1	91.2	8.8	---	---	---	---	---	
1927	91.6	7.2	1.2	100.0	51.0	39.9	90.9	9.1	---	---	---	---	---	
1928	93.6	7.1	-7	100.0	51.9	39.5	91.4	8.6	---	---	---	---	---	
1929	92.0	8.0	7/	100.0	52.7	39.4	92.1	7.9	---	---	---	---	---	
1930	94.0	7.3	-1.3	100.0	55.0	37.9	92.9	7.1	---	---	---	---	---	
1931	97.9	6.7	-4.6	100.0	55.3	38.0	93.3	6.5	---	---	---	---	---	
1932	95.7	5.6	-1.3	100.0	53.7	39.2	92.9	7.0	---	---	---	---	---	
1933	90.4	6.5	3.1	100.0	54.4	39.3	93.7	6.3	---	---	---	---	---	
1934	87.4	6.5	6.1	100.0	58.8	35.8	94.6	5.4	---	---	---	---	---	
1935	95.2	8.6	-3.8	100.0	57.0	38.0	95.0	5.0	---	---	---	---	---	
1936	86.1	8.5	5.4	100.0	56.7	38.8	95.5	4.5	---	---	---	---	---	
1937	99.9	9.3	-9.2	100.0	57.2	37.7	94.9	5.1	---	---	---	---	---	
1938	97.1	7.1	-4.2	100.0	55.8	38.3	94.1	5.9	---	---	---	---	---	
1939	93.5	7.3	-8	100.0	55.8	39.4	95.2	4.8	---	---	---	---	---	
1940	95.6	7.3	-2.9	100.0	56.5	39.9	96.4	3.6	---	---	---	---	---	
1941	94.0	8.4	-2.4	100.0	55.3	41.0	96.3	2.1	0.3	---	---	---	1.6	
1942	96.5	5.3	-1.8	100.0	53.4	41.4	94.8	1.2	.9	---	---	---	4.0	
1943	89.8	6.0	4.2	100.0	51.7	42.1	93.8	1.1	.3	---	---	---	5.1	
1944	93.2	7.0	-2	100.0	55.5	39.0	94.5	1.6	-.2	---	---	---	3.9	
1945	91.9	6.4	1.7	100.0	56.2	38.3	94.5	2.7	-.6	---	---	---	2.8	
1946	92.5	6.5	1.0	100.0	55.2	37.6	92.8	3.8	-.5	---	---	---	3.4	
1947	91.6	6.3	2.1	100.0	56.7	35.9	92.6	5.0	.3	---	---	---	2.4	
1948	99.5	7.3	-6.8	100.0	58.0	36.3	94.3	4.4	-.2	---	---	---	1.3	
1949	95.7	6.8	-2.5	100.0	57.3	35.9	93.2	5.5	-.2	---	---	---	1.3	
1950	92.6	7.3	.1	100.0	56.0	37.2	93.2	5.7	-.1	---	---	---	1.1	
1951	90.4	7.0	2.6	100.0	55.3	36.3	91.6	6.7	.2	---	---	---	1.7	
1952	95.4	7.2	-2.6	100.0	57.5	35.6	93.1	6.7	-.1	---	---	---	.2	
1953	96.7	7.2	-3.9	100.0	58.9	34.9	93.8	6.4	7/	---	---	---	.4	
1954 2/	96.7	6.3	-3.0	100.0	59.7	33.5	93.2	6.4	---	---	---	---	.4	

See footnotes at end of table.

Table 1.- Master index of supply-utilization of all farm commodities, 1924-54 1/ - Continued^a

Section b. Percentage of total utilization in 1947-49

Calendar year	Production	Imports and shipments	Net change in available stocks	Total utilization	Domestic use		Commercial exports and shipments	USDA export program			
	Percent	Percent	Percent	Percent	Food	Nonfood	Percent	Stock change	Deliveries	Percent	Percent
1924	72.1	5.1	-0.7	76.5	40.4	29.2	69.6	---	---	---	---
1925	73.1	5.6	7/	78.7	40.8	31.2	72.0	---	---	---	---
1926	73.7	6.0	-1.3	78.4	41.6	29.8	71.4	---	---	---	---
1927	74.3	5.7	1.0	81.0	41.3	32.3	73.6	---	---	---	---
1928	75.0	5.7	-5	80.2	41.6	31.7	73.3	---	---	---	---
1929	74.0	6.5	7/	80.5	42.5	31.6	74.1	---	---	---	---
1930	72.6	5.7	-9	77.4	42.5	29.5	72.0	---	---	---	---
1931	76.1	5.2	-3.6	77.7	43.0	29.5	72.5	---	---	8/0.1	0.1
1932	75.2	4.4	-1.0	78.6	42.3	30.8	73.1	---	---	8/1	.1
1933	70.9	5.1	2.5	78.5	42.6	30.9	73.5	---	---	---	---
1934	64.8	4.8	4.6	74.2	43.6	26.6	70.2	---	---	---	---
1935	70.1	6.4	-2.8	73.7	42.1	27.9	70.0	---	---	---	---
1936	66.5	6.5	4.0	77.0	43.7	29.9	73.6	---	---	---	---
1937	77.7	7.3	-7.2	77.8	44.4	29.3	73.7	---	---	---	---
1938	76.8	5.6	-3.3	79.1	44.2	30.3	74.5	---	---	---	---
1939	77.5	6.1	-7	82.9	46.2	32.7	78.9	---	---	---	---
1940	81.0	6.2	-2.5	84.7	47.8	33.8	81.6	---	---	---	---
1941	84.1	7.5	-2.2	89.4	49.5	36.6	86.1	0.2	1.2	---	1.4
1942	92.7	5.2	-1.8	96.1	51.4	39.8	91.2	.9	2.8	---	3.7
1943	93.9	6.1	4.4	104.4	53.8	44.0	97.8	.4	5.0	---	5.4
1944	97.6	7.3	-3	104.6	58.1	40.7	98.8	1.7	4.3	---	4.1
1945	95.0	6.6	1.7	103.3	58.2	39.5	97.7	1.7	3.5	---	2.9
1946	97.8	6.7	1.1	103.6	57.2	39.0	96.2	2.7	3.9	---	3.5
1947	93.5	6.4	2.1	102.0	57.8	36.7	94.5	3.9	2.2	---	2.5
1948	97.4	7.1	-6.6	97.9	56.8	35.6	92.4	5.0	1.4	---	1.2
1949	95.8	6.8	-2.6	100.0	57.3	35.9	93.2	4.3	1.5	---	1.3
1950	95.1	7.4	.2	102.7	57.5	38.3	95.8	5.5	1.2	---	1.1
1951	96.0	7.4	2.7	106.1	58.8	38.4	97.2	5.8	1.5	---	1.7
1952	100.0	7.5	-2.6	104.9	60.3	37.2	97.5	7.2	.4	---	.3
1953	101.7	7.6	-4.1	105.2	62.0	36.7	98.7	7.1	.5	---	.5
1954 2/	102.2	6.7	-3.2	105.7	63.1	35.4	98.5	6.0	7/	---	.4

1/ Covers food and nonfood farm commodities. Relationships were developed from quantitative data on supply and use of unprocessed and processed farm commodities multiplied by average prices in 1947-49. All values were adjusted to farm values. 2/ Includes farm and commercial stocks and holdings under price support and domestic supply programs. Minus sign means an addition to stocks, plus sign means a withdrawal from stocks. 3/ Excludes deliveries of the Department of Agriculture. 4/ Stocks held for export. Here, minus sign means a withdrawal from stocks; plus sign means an addition. 5/ Shipments out of this country. 6/ Represents net quantities withdrawn from domestic commercial channels. 7/ Less than 0.05 percent. 8/ Federal Farm Board export. 9/ Preliminary.

Table 2.- Index of supply-utilization of farm food commodities, 1924-54 1/

Calendar year	Section a. Percentage of total utilization in each year										USDA export program			
	Production	Imports and shipments	Net change in available stocks 2/	Total utilization	Domestic use				Commercial exports and shipments 5/	Stock change 6/	Deliveries 7/	Net purchases 8/		
					Food	Military 3/	Nonfood 4/	Total					Percent	Percent
1924	93.4	6.6	9/	100.0	63.5	---	31.0	94.5	5.5	---	---	---		
1925	91.9	6.9	1.2	100.0	62.5	---	33.4	95.9	4.1	---	---	---		
1926	93.3	7.5	-.8	100.0	64.3	---	31.7	96.0	4.0	---	---	---		
1927	92.8	7.2	9/	100.0	63.0	---	32.4	95.4	4.6	---	---	---		
1928	94.3	7.2	-1.5	100.0	63.0	---	33.1	96.1	3.9	---	---	---		
1929	91.4	8.0	.6	100.0	64.1	---	32.1	96.2	3.8	---	---	---		
1930	92.3	7.3	.4	100.0	65.4	---	31.5	96.9	3.1	---	---	---		
1931	96.0	6.8	-2.8	100.0	65.6	---	31.6	97.2	2.6	---	---	0.2		
1932	96.1	6.0	-2.1	100.0	64.3	---	33.4	97.7	2.1	---	10/0.2	.2		
1933	90.1	6.5	3.4	100.0	65.1	---	33.1	98.2	1.8	---	10/0.2	---		
1934	87.5	6.6	5.9	100.0	68.9	---	29.4	98.3	1.7	---	---	---		
1935	96.2	9.0	-5.2	100.0	69.4	---	29.2	98.6	1.4	---	---	---		
1936	85.7	8.4	5.9	100.0	67.6	---	31.1	98.7	1.3	---	---	---		
1937	98.8	9.1	-7.9	100.0	69.4	---	28.9	98.3	1.7	---	---	---		
1938	95.5	7.2	-2.7	100.0	66.1	---	30.6	98.7	3.3	---	---	---		
1939	93.2	7.4	-6.6	100.0	66.6	---	30.9	97.5	2.5	---	---	---		
1940	95.3	7.2	-2.5	100.0	67.5	---	30.8	98.3	1.7	---	---	---		
1941	95.2	7.8	-3.0	100.0	64.9	1.3	30.9	97.1	1.3	0.3	1.3	1.6		
1942	96.8	4.6	-1.4	100.0	59.3	4.1	31.7	95.1	.8	1.1	3.0	4.1		
1943	90.4	5.7	3.9	100.0	54.5	6.1	33.7	94.3	.6	.4	4.7	5.1		
1944	93.0	6.9	.1	100.0	55.7	9.0	30.3	95.0	.8	-.1	4.3	4.2		
1945	92.8	5.8	1.4	100.0	57.6	8.5	29.8	95.9	1.1	-.7	3.7	3.0		
1946	95.1	5.7	-.8	100.0	63.7	2.2	29.1	95.0	1.9	-.6	3.7	3.1		
1947	100.3	6.0	2.3	100.0	64.4	2.3	27.4	94.1	3.3	.4	2.2	2.6		
1948	94.9	6.8	-7.1	100.0	65.8	2.8	27.2	95.8	2.7	-.2	1.7	1.5		
1949	94.7	6.8	-1.7	100.0	64.7	2.7	28.1	95.5	2.9	-.2	1.8	1.6		
1950	89.8	6.9	-1.6	100.0	65.5	1.4	28.6	95.5	3.2	-.1	1.4	1.3		
1951	95.0	6.8	3.4	100.0	63.0	2.7	27.7	93.4	4.6	.3	1.7	2.0		
1952	95.6	7.0	-2.0	100.0	65.9	2.0	26.6	94.5	5.2	-.1	.4	.3		
1953	95.6	7.1	-2.7	100.0	67.2	1.9	26.0	95.1	4.4	9/	.5	.5		
1954	96.1	6.3	-2.4	100.0	68.1	1.6	25.2	94.9	4.7	9/	.4	.4		

See footnotes at end of table.

Table 2.- Index of supply-utilization of farm food commodities, 1924-54 1/ - Continued

Calendar year	Section b. Percentage of total utilization in 1947-49													
	Imports and shipments		Net change in available stocks		Total utilization		Domestic use			Commercial exports and shipments		USDA export program		
	Percent	Percent	Percent	Percent	Percent	Percent	Food	Military	Nonfood	Percent	Percent	Stock change	Deliveries	Net purchases
							Civilian	3/	4/		5/	6/	7/	8/
1924	70.0	4.9	9/	74.9	47.6	---	23.2	---	70.8	4.1	---	---	---	---
1925	70.7	5.3	0.9	76.9	48.1	---	25.6	---	73.7	3.2	---	---	---	---
1926	71.2	5.7	-.6	76.3	49.0	---	24.2	---	73.2	3.1	---	---	---	---
1927	71.7	5.6	9/	77.3	48.7	---	25.1	---	73.8	3.5	---	---	---	---
1928	73.4	5.6	-1.2	77.8	49.1	---	25.7	---	74.8	3.0	---	---	---	---
1929	71.4	6.2	.5	78.1	50.0	---	25.1	---	75.1	3.0	---	---	---	---
1930	70.8	5.6	.3	76.7	50.1	---	24.2	---	74.3	2.4	---	---	---	---
1931	73.9	5.3	-2.2	77.0	50.6	---	24.3	---	74.9	1.9	---	---	---	---
1932	74.4	4.6	-1.6	77.4	49.8	---	25.9	---	75.7	1.6	---	---	---	---
1933	69.5	5.0	2.6	77.1	50.2	---	25.5	---	75.7	1.4	---	---	---	---
1934	65.2	4.9	4.4	74.5	51.3	---	21.9	---	73.2	1.3	---	---	---	---
1935	68.5	6.4	-3.7	71.2	49.4	---	20.8	---	70.2	1.0	---	---	---	---
1936	65.2	6.4	4.4	76.0	51.4	---	23.7	---	75.1	.9	---	---	---	---
1937	74.4	6.9	-6.0	75.3	52.2	---	24.0	---	74.0	1.3	---	---	---	---
1938	74.9	5.7	-2.1	78.5	51.9	---	21.8	---	75.9	2.6	---	---	---	---
1939	75.9	6.0	-.5	81.4	54.3	---	25.1	---	79.4	2.0	---	---	---	---
1940	79.6	6.0	-2.1	83.5	56.4	---	25.7	---	82.1	1.4	---	---	---	---
1941	83.7	6.8	-2.6	87.9	57.1	1.1	27.2	1.1	85.4	1.1	---	---	---	---
1942	92.4	4.4	-1.3	95.5	56.7	3.9	30.3	3.9	90.9	.8	---	---	---	---
1943	94.6	6.0	4.0	104.6	57.0	6.4	35.2	6.4	98.6	.6	---	---	---	---
1944	98.5	7.3	.1	105.9	59.0	9.5	32.1	9.5	100.6	.9	---	---	---	---
1945	96.2	6.1	1.4	103.7	59.8	8.8	30.9	8.8	99.5	1.1	---	---	---	---
1946	97.3	5.8	-.8	102.3	65.1	2.2	29.8	2.2	97.1	2.0	---	---	---	---
1947	93.8	6.1	2.4	102.3	65.8	2.4	28.1	2.4	96.3	3.4	---	---	---	---
1948	97.9	6.6	-6.9	97.6	64.2	2.7	26.6	2.7	93.5	2.7	---	---	---	---
1949	95.1	6.8	-1.7	100.2	64.8	2.7	28.2	2.7	95.7	2.9	---	---	---	---
1950	96.0	7.0	-1.6	101.4	66.4	1.4	29.0	1.4	96.8	3.2	---	---	---	---
1951	94.6	7.2	3.6	105.4	66.4	2.9	29.2	2.9	98.5	4.8	---	---	---	---
1952	99.4	7.3	-2.1	104.6	68.9	2.1	27.8	2.1	98.8	5.5	---	---	---	---
1953	101.2	7.5	-2.9	105.8	71.0	2.0	27.5	2.0	100.5	4.7	---	---	---	---
1954	102.6	6.7	-2.6	106.7	72.6	1.7	26.8	1.7	101.1	5.1	---	---	---	---

1/ Covers farm commodities normally used for food in the United States, including their nonfood use. Relationships were developed from quantitative data on supply and use of unprocessed and processed farm commodities multiplied by average prices in 1947-49. All values were adjusted to farm values. For methodology see Agriculture Handbook 62, Consumption of Food in the United States, 1909-52. 2/ Includes farm and commercial stocks and holdings under price support and domestic supply programs. Minus sign means an addition to stocks, plus sign means a withdrawal from stocks. 3/ Includes civilian feeding in areas occupied by our Armed Forces. 4/ Includes seed, feed, industrial alcohol, alcoholic beverages, etc. 5/ Excludes deliveries by the Department of Agriculture. 6/ Stocks held for export. Here, minus sign means a withdrawal from stocks; plus sign means an addition. 7/ Shipments out of this country. 8/ Represents net quantities withdrawn from domestic commercial channels. 9/ Less than 0.05 percent. 10/ Federal Farm Board exports. 11/ Preliminary.

Table 3.- Index of supply-utilization of farm nonfood commodities, 1924-54 1/

Calendar year	Section a. Percentage of total utilization in each year										USDA export program			
	Production	Imports and shipments	Net change in available stocks 2/	Total utilization	Domestic use	Commercial exports and shipments 3/	Stock change 4/	Deliveries 5/	Net purchases 6/	Percent	Percent	Percent	Percent	Percent
1924	93.0	7.2	-5.2	100.0	73.2	26.8	---	---	---	---	---	---	---	---
1925	93.7	8.4	-5.1	100.0	69.9	30.1	---	---	---	---	---	---	---	---
1926	97.0	7.9	-5.5	100.0	68.6	31.4	---	---	---	---	---	---	---	---
1927	80.7	7.0	6.3	100.0	71.4	28.6	---	---	---	---	---	---	---	---
1928	60.1	7.2	2.7	100.0	69.6	30.4	---	---	---	---	---	---	---	---
1929	94.7	8.5	-3.2	100.0	73.0	27.0	---	---	---	---	---	---	---	---
1930	102.4	7.5	-9.9	100.0	72.4	27.6	---	---	---	---	---	---	---	---
1931	103.1	6.2	-14.3	100.0	72.3	27.7	---	---	---	---	---	---	---	---
1932	93.7	3.9	2.4	100.0	68.9	31.1	---	---	---	---	---	---	---	---
1933	91.9	6.1	2.0	100.0	70.7	29.3	---	---	---	---	---	---	---	---
1934	97.2	5.4	7.4	100.0	73.8	26.2	---	---	---	---	---	---	---	---
1935	90.6	7.1	2.3	100.0	78.7	21.3	---	---	---	---	---	---	---	---
1936	83.5	8.9	2.6	100.0	78.6	21.4	---	---	---	---	---	---	---	---
1937	105.0	10.3	-15.3	100.0	79.2	20.8	---	---	---	---	---	---	---	---
1938	105.0	6.1	-11.7	100.0	80.5	19.5	---	---	---	---	---	---	---	---
1939	94.0	7.0	-1.8	100.0	82.9	17.1	---	---	---	---	---	---	---	---
1940	97.4	7.5	-4.9	100.0	86.3	13.7	---	---	---	---	---	---	---	---
1941	88.1	11.6	.3	100.0	92.6	6.2	---	---	---	---	---	---	---	---
1942	94.0	9.6	-4.2	100.0	93.5	3.1	7/	1.2	---	---	---	---	---	1.2
1943	86.6	7.5	5.9	100.0	90.0	5.0	7/	3.4	---	---	---	---	---	3.4
1944	94.0	7.8	-2.6	100.0	91.2	6.4	7/	5.0	---	---	---	---	---	5.0
1945	86.4	9.5	4.1	100.0	86.4	11.6	7/	2.4	---	---	---	---	---	2.4
1946	79.0	10.5	10.5	100.0	81.9	13.9	7/	2.0	---	---	---	---	---	2.0
1947	91.0	8.5	.5	100.0	84.2	14.3	-0.6	4.2	---	---	---	---	---	4.2
1948	95.6	9.9	-5.5	100.0	86.0	13.8	7/	2.1	---	---	---	---	---	2.1
1949	99.9	7.1	-7.0	100.0	79.8	20.1	7/	.2	---	---	---	---	---	.2
1950	81.7	9.3	9.0	100.0	81.3	18.6	7/	.1	---	---	---	---	---	.1
1951	93.9	7.9	-1.8	100.0	81.8	18.1	7/	.1	---	---	---	---	---	.1
1952	97.3	8.3	-5.6	100.0	84.9	15.1	7/	7/	---	---	---	---	---	7/
1953	102.5	7.9	-10.4	100.0	86.4	13.6	7/	7/	---	---	---	---	---	7/
1954	99.7	6.7	-6.4	100.0	83.4	16.6	7/	7/	---	---	---	---	---	7/

8/

See footnotes at end of table.

Continued -

Table 3.- Index of supply-utilization of farm nonfood commodities, 1924-54 1/ - Continued

Calendar year	Section b. Percentage of total utilization in 1947-49									
	Production	Imports and shipments	Net change in available stocks	Total utilization	Domestic use	Commercial exports and shipments	Stock change	Deliveries	Net purchases	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1924	84.0	6.2	-4.5	85.7	62.7	23.0	---	---	---	---
1925	86.2	7.4	-4.5	89.1	62.3	26.8	---	---	---	---
1926	87.6	7.1	-5.0	89.7	61.5	28.2	---	---	---	---
1927	88.7	7.2	6.5	102.4	73.1	29.3	---	---	---	---
1928	84.2	6.7	2.5	93.4	65.0	28.4	---	---	---	---
1929	88.7	7.9	-3.0	93.6	68.3	25.3	---	---	---	---
1930	83.4	6.1	-8.1	81.4	58.9	22.5	---	---	---	---
1931	88.3	5.1	-11.7	81.7	59.1	22.6	---	---	---	---
1932	80.3	3.4	2.1	85.8	59.1	26.7	---	---	---	---
1933	79.5	5.2	1.8	86.5	61.1	25.4	---	---	---	---
1934	62.7	3.9	5.4	72.0	53.1	18.9	---	---	---	---
1935	79.8	6.3	2.0	88.1	69.3	18.8	---	---	---	---
1936	73.7	7.4	2.2	83.3	65.5	17.8	---	---	---	---
1937	96.2	9.4	-14.0	91.6	72.6	19.0	---	---	---	---
1938	87.0	5.0	-9.6	82.4	66.3	16.1	---	---	---	---
1939	86.1	6.4	-1.7	90.8	75.3	15.5	---	---	---	---
1940	89.2	6.9	-4.5	91.6	79.1	12.5	---	---	---	---
1941	85.5	11.3	.3	97.1	89.9	6.0	---	---	---	1.2
1942	94.6	9.6	-4.2	100.0	93.5	3.1	7/	3.4	3.4	3.4
1943	89.3	7.8	6.0	103.1	92.9	5.1	7/	5.1	5.1	5.1
1944	92.8	7.7	-2.6	97.9	89.3	6.2	7/	2.4	2.4	2.4
1945	88.0	9.7	4.2	101.9	88.1	11.8	7/	2.0	2.0	2.0
1946	87.3	11.6	11.6	110.5	90.6	15.3	7/	4.6	4.6	4.6
1947	91.5	8.5	.5	100.5	84.6	14.4	-0.6	2.1	2.1	1.5
1948	95.6	9.9	-5.5	100.0	86.0	13.8	7/	.2	.2	.2
1949	99.4	7.1	-7.0	99.5	79.4	20.0	7/	.1	.1	.1
1950	89.9	10.3	9.9	110.1	89.5	20.5	7/	.1	.1	.1
1951	103.6	8.8	-2.0	110.4	90.3	20.0	7/	.1	.1	.1
1952	103.6	8.9	-6.0	106.5	90.4	16.1	7/	7/	7/	7/
1953	104.7	8.1	-10.7	102.1	88.2	13.9	7/	7/	7/	7/
1954	99.9	6.7	-6.4	100.2	83.6	16.6	7/	7/	7/	7/

1/ Covers farm commodities not ordinarily used for food in the United States. Relationships were developed from quantitative data on supply and use of unprocessed and processed farm commodities multiplied by average prices in 1947-49. All values were adjusted to farm values. 2/ Includes farm and commercial stocks and holdings under price support and domestic supply programs. Minus sign means an addition to stocks, plus means a withdrawal from stocks. 3/ Excludes deliveries by the Department of Agriculture. 4/ Stocks held for export. Here, minus sign means a withdrawal from stocks; plus sign means an addition. 5/ Shipments out of this country. 6/ Represents net quantities withdrawn from domestic commercial channels. 7/ Less than 0.05 percent. 8/ Preliminary.

Exhibit B.- Supply-utilization of soybeans, 1953

Part I. Bean account				Part II. Crushing account			
Item	Quantity	Average	Farm	Item	Quantity	Average	Whole-
		1947-49 farm price per bushel	value			1947-49 wholesale price	sale value
	1,000 bu.	Dol.	Mil. dol.		1,000 lb.	Dol.	Mil.dol.
Supply		2.59		Production of oil	2,515,497	0.183 per lb.	460
Production	268,528		695		1,000 tons		
Imports	---		---	Production of cake and meal	5,557	81.62 per ton	454
Change in stocks 1/	35,963		93	Total			914
Total flow into utilization	304,495		788	Derivation of ratio to deflate wholesale values to equivalent farm values:			
Utilization				Farm value of soybeans crushed = 598 mil. dol.			
Seed	20,539		53	Total wholesale value of products = 914 mil. dol. = 65.4 pct.			
Feed	1,852		5	from crushing			
Commercial exports and shipments	38,770		100				
Net USDA purchases for export	2,836		7				
To crushing mills	230,828		598				
Unreported utilization	9,670		25				

Part III. Products account									
Item	Quantity	Oil				Cake and meal			
		Average	Wholesale	Equivalent		Average	Wholesale	Equivalent	
		1947-49	value	farm		1947-49	value	farm	
		price	per pound	value 2/		price	per ton	value 2/	
		per pound				per ton			
	1,000 lb.	Dol.	Mil.dol.	Mil.dol.	1,000 tons	Dol.	Mil.dol.	Mil.dol.	
Supply		0.183				81.62			
Production	2,515,497		460	301	5,557		454	297	
Imports	---		---	---	21		2	1	
Change in stocks 1/	29,018		5	3	-16		-1	-1	
Total flow into utilization	2,544,515		465	304	5,562		455	297	
Utilization		0.183				81.62			
Domestic food use	2,127,821		389	87.0	265		5	1.1	3
Domestic nonfood use, total	267,184		49	11.0	33		443	97.4	290
Feed					5,425		438	96.3	287
Other					59		5	1.1	3
Commercial exports and shipments	48,769		9	2.0	6		7	1.5	4
Net USDA purchase for export	-119		---	---	---		---	---	---
Total reported	2,443,655		447	100.0	304		455	100.0	297

Part IV. Combined account for beans and products, farm value				
Item	Beans	Oil	Cake and meal	Total
	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.
Supply				
Production	695	4/	4/	695
Imports	---	---	1	1
Changes in stocks 1/	93	3	-1	95
Total flow into utilization	788	3	---	791
Utilization				
Domestic food use	---	265	3	268
Domestic nonfood use, total	58	33	290	381
Seed	53	---	---	53
Feed	5	---	287	292
Other	---	33	3	36
Commercial exports and shipments	100	6	4	110
Net USDA purchase for export	7	---	---	7
Unreported utilization	25	---	---	25

CHAPTER 2. CONSTRUCTION OF THE MASTER INDEX 6/

This chapter first explains why we developed the master index of supply-utilization of farm commodities in its particular form. Then it describes the major steps we took in putting together the mass of statistical data we had assembled on the flow of farm commodities from the three categories of supply into the specified channels of utilization. It also contains descriptions of the special handling required for data on imports, stocks, and military use, and of particular problems encountered in working with some commodities.

We had three principal objectives in constructing this statistical tool: (1) To provide statistical measures of changes in quantity of farm resources supplied and used from year to year for economic analysis; (2) to combine all farm commodities moving into distribution in raw and processed forms on some kind of an equivalent basis which would have economic meaning; (3) to provide a statistical framework within which data on volume movements of commodities from sources of supply into channels of distribution could be separated or combined for analytical purposes without concern for changes in price through time and through the marketing process.

BASIC CONCEPTS AND DEFINITIONS

These guiding objectives governed the formulation of the basic concepts and definitions for the master index and the subsequent handling of the data.

To measure changes in quantities supplied and used through time, we adopted the Laspeyres type of constant price weighted index, using weighted average farm prices of the postwar base period, 1947-49. Under this formula, the quantities of farm commodities are combined on the basis of their value relationships or economic importance. Accordingly, shifts in supply and utilization from lower priced items, reflecting lower costs of production and consumer preference to higher priced commodities, do affect the aggregate values and the indexes, even though total tonnages may remain unchanged or even decline. Pertinent statistical details appear in the following section.

Farm Equivalents of Processed Products

We wanted to take account of foreign trade, changes in stocks, and other parts of the flow of products processed from farm commodities. So we had to convert data on quantities of processed items at several stages in the distribution process to some kind of equivalents of the farm commodities used in producing them. We rejected the idea of using physical conversion factors such as the 16 percent crushing ratio of oil from soybeans because we recognized the fact that oil represents more than 17 percent or so of the total joint demand for soybeans in products, compared with about 83 percent for

6/ Prepared by Marguerite C. Burk and Martin J. Gerra.

soybean cake and meal. The answer to our question of how we were to measure equivalents was apparent as soon as we began to think in terms of prices as well as quantities, that is, value. For example, the total farm value of soybeans crushed was apportioned between oil and cake and meal according to the ratio of the returns to millers for their sales of oil and of cake and meal. This method reflects the theory of joint demand. Although details of such computations are given below, at this point it may be helpful to refer to exhibit B. There you will see how the ratios were developed for each year by using weighted average wholesale or primary market prices for individual products in the base period and the annual output of each product, then comparing the total wholesale value of the products with the farm value of the physical quantity of the raw commodity processed. This ratio was applied to reduce wholesale values of the processed items being used for each category of supply and utilization to their equivalent farm value.

Choice of Measures for Production

One of our most difficult decisions was where and when to measure production. Should we count in each year's production the total quantity of crops produced, whether harvested or not, and whether sold or not? Should our measure of the entry of livestock products into the flow from farms to users include increases in number and weights of livestock animals remaining on farms? Or should we work with a marketing concept?

To reach such decisions, we went back to our guiding objectives. Since our aim was to measure changes in utilization, we excluded quantities of crops not harvested and excess cullage of harvested crops. "Production" of crops is reported during the year by the Agricultural Estimates Division and is clearly differentiated from marketings. Our plans for measuring sources of supply provided for use of reported data on changes in farm stocks of grains and other crop items. We decided, therefore, to measure crops at the point of harvest rather than of sale or marketing.

For a number of reasons, including the problems of dealing with gains and losses in weights of live animals kept on farms in our measure of flow, a concept of marketings for consumption was adopted for livestock products. But milk, meats and other products used for feed and for food on farms where produced were counted as part of each year's production. To avoid duplication of breeding and feeder stock, we used data on live animals slaughtered. Complications in interpreting the indexes which might arise because of the shift from farm produced to industrially produced power were avoided by excluding horses and mules. Game animals were excluded because they are usually not farm produced. But at some future time it may prove desirable to include commercially produced rabbits.

Because of our desire to measure total flow of goods produced by agriculture, whether back into farm production or outside the agricultural economy, we made no adjustments in either crop or livestock production for grains and other commodities used for feed and seed whether on farms where produced or purchased supplies. But we did keep track of feed and seed separately; and data on net production are developed in chapter 3.

Forestry products (except maple sirup and sugar) and greenhouse and nursery products (except vegetables), fishery products, and spices were excluded on the grounds that they are not generally regarded as farm commodities.

Role of Stocks in the Master Index

One of the major problems in planning the index was how to handle stocks on farms and at the various stages in distribution. Depletion of stocks is often considered to be a source of supply, but stock accumulation could not be viewed as a "use" in the framework of the master index because the same commodities would flow into channels of utilization in succeeding years. Moreover, we discovered that commodities purchased by the United States Department of Agriculture for price support and stockpiled would turn up in other utilization channels later on. Purchases specifically for delivery to our allies or for relief might be accumulated temporarily, but they usually moved out of the country in the following year.

These considerations led to the handling of changes in stocks--other than those held by United States Department of Agriculture for supply programs as a source of domestic supply--by denoting accumulations with the negative sign, depletions with the positive sign, as in tables 1, 2, and 3. Note the use of changes in reported stocks rather than total stocks. Thus, the algebraic addition of production, imports, and change in such stocks in each year would equal the sum of the flows into domestic use (including military procurement), commercial exports and shipments to Territories of the United States, and net purchases of the Department of Agriculture for its export programs. These net purchases were, in turn, the Department's deliveries abroad plus or minus the change in stocks held for export. The handling of some rather complicated transfers between Government programs for domestic distribution, Army surpluses, and special relief programs can be traced in detail by means of data available in Agriculture Handbook No. 62.

During the 3-year period of preparation of this index the handling of United States Department of Agriculture stocks was revised to conform with the method indicated in the preceding paragraph; the accumulation of stocks by the Department under the price support program indicated the inadequacy of our classification. When the index for food commodities was originally developed, stocks of grains (excluding rice), and of potatoes and oilseeds held by the Department during 1941-46 were kept with commercial stocks because they were principally for price support. For convenience, stocks of eggs and other commodities originally bought under price support but frequently transferred in 1941-46 to the supply program were kept with supply program stocks in the Department account. Thus, we had put Commodity Credit Corporation's price-support stocks of some commodities with available commercial stocks so that their accumulation did not enter into the utilization accounts. But price support stocks of other commodities were carried in the stock account under the foreign supply program of the Department. Accordingly, they were counted as used in the year purchased although transfers to civilian and military accounts were carefully tabulated.

After 1946, price support stocks of food commodities other than grains, potatoes, and oilseeds, and of cotton, tobacco, shorn wool, and mohair had increased significance. Statistics on all commodities were therefore reviewed, and stocks acquired under price support were put with available stocks on the supply side of the supply-utilization index, whereas stocks of the same commodities that were being held specifically for export programs were put into the Department account. This revised procedure provides a cleaner measure of net purchases for export beginning in 1947 though it leaves a relatively insignificant break in Department of Agriculture stock series between the end of 1946 and the beginning of 1947. The Department account is described further in chapter 4.

Imported Commodities

Conceptual difficulties encountered in fitting imports into the general scheme of the master index of supply-utilization of farm commodities posed several questions. Which commodities that we import are to be regarded as farm commodities? What are their equivalent farm prices? Commodities produced in the United States presented no problems. But what about rubber, silk, spices, coffee, bananas, and babassu kernels? We used a substitution test for deciding what to include as farm commodities. It was admittedly somewhat arbitrary. We ruled out rubber and silk, on the basis that they compete more directly with industrial products--now synthetic rubber and rayon and nylon. Spices were omitted because information on United States production is so meager, their relative importance is so minor, and some of them are really forestry products. But we included coffee, tea, cocoa, bananas, and the oilseeds on the grounds that they competed rather directly with commodities produced in the United States.

Because we had already decided to include farm equivalents of processed commodities in all segments of the index, the handling of imported oils, for example, presented no conceptual difficulties, even though their byproducts were not imported.

We rejected the idea of using prices paid foreign producers of imported commodities not produced here but judged to be farm commodities. Values computed with such prices, even if we were able to get them, would overstate the competitive position of imports with domestic products because of transportation and handling costs. We decided to use prices at the level of the first domestic transaction (usually at the dock) because that is the level at which imported commodities which have undergone little or no processing may be competitive with domestically produced commodities. It is also the point at which these commodities enter into domestic channels for processing and distribution to final consumers. (For imported tree nuts it was necessary to derive an average import price. This we did by dividing census figures for value of imports by quantity imported.)

Exported Commodities

As in all other parts of the supply-utilization index, except production, we included in exports both raw farm products and products processed from

farm commodities insofar as we could trace them. We have put shipments to U. S. Territories with exports to foreign countries as part of our process of deriving total consumption in continental United States. As adequate data on production and stocks are not available for U. S. Territories, estimates of use of farm commodities in those areas have not been developed.

We did, however, meet with a major problem in the area of exports. Should supplies procured by our Armed Forces for civilian relief and rehabilitation in occupied and liberated areas, and those which were procured for troop use but diverted to foreign civilian use, be counted as deliveries for export or as domestic procurement? There are two aspects to this problem. Military procurement for troop use was obviously a domestic use and civilian feeding in occupied areas was directly related to military objectives. During World War II, and immediately after, supplies procured for troop use and for foreign civilian use were transferred back and forth between programs at the will of the theatre commanders. We decided against trying to develop data on military stock changes; so we could not balance out military procurement for civilian programs and reports on shipments of supplies from the United States for such programs.

The other aspect of this problem was our desire to measure total movement from continental United States other than for use by our troops. For this, we needed to use delivery or shipment data, considering them with other exports.

After considering both alternatives (which were irreconcilable), we decided to use both concepts, but not at the same time. For the basic framework of the supply-utilization index, we counted military procurement for civilian use with military procurement under a broad definition of domestic use by our Armed Forces and excluded such supplies from Department of Agriculture deliveries for export and from commercial exports and shipments. Thus we avoided double counting. Then, to get a more complete picture of farm commodities moving out of the country, we developed a separate set of data on the value of shipments for civilian relief and rehabilitation for the section of chapter 4 on exports. These can be combined with data on deliveries for export by the Department of Agriculture to get a total for Government deliveries, and then with exports and shipments through commercial channels to get a complete measure for all exports and shipments. This illustrates the flexibility of this set of indexes. They permit special combinations of data for particular analyses.

Domestic Utilization

This broad category is used for all farm commodities combined because data on military procurement of nonfood commodities are not yet available. The index of supply-utilization of farm food commodities does, however, separate civilian and military uses. As explained in the section on exports, military procurement of food commodities includes purchases for use of United States troops (and for allied troops supplied by our troops) and for distribution to civilians in occupied and liberated areas. A system for reporting

to the Department of Agriculture military takings of textiles and textile end products, and eventually those of other nonfood farm commodities, is now being set up; but development of historical data will be time-consuming.

Domestic utilization as measured for this index, however, differs from the concept generally used for fibers. With the concept generally used, for example, total quantity of cotton processed by United States mills as domestic use would be counted. Following our basic reasoning and methodology, we count cotton equivalents of textiles and textile end products in exports, and exclude them from our domestic residuals. Further, we include in domestic use farm value equivalents of imported products such as fabrics and garments. The residual character of our estimates of domestic disappearance of food for civilian use is discussed at length in chapter 2 of Agriculture Handbook No. 62.

Food commodities moving into domestic civilian utilization are aggregated in this index in terms of equivalent farm commodities (excluding fishery products, game, spices) and farm prices. This is in contrast to their handling in the index of civilian per capita food consumption which is developed in terms of food products measured at retail and which uses average retail prices. The index being described here measures the use of farm resources for food. The other measures changes in the level of civilian food consumption, including marketing services sold with food at retail.

Food-Nonfood Breakdown

When working with supplies of farm commodities, we find it convenient to handle food and nonfood commodities separately. The index of supply-utilization of farm food commodities covers all commodities having any food use in the United States. Thus it includes pulled wool, because pulled wool comes from sheep and lambs slaughtered for meat. All other farm commodities are classified as nonfood and included in the index of supply-utilization of farm nonfood commodities. They include shorn wool as well as cotton, tobacco, and inedible oils. Because the Department of Agriculture bought linseed oil for food use by the Soviet Union during the war, we classified it as a food commodity. 7/

In moving to the utilization side of our indexes, we shifted to a distinction between food and nonfood use. We exclude from food use, for example, the equivalent farm value of millfeeds although they are a part of the utilization of wheat, a food commodity, and include them in the nonfood category of the index of supply-utilization of farm food commodities. See exhibit A.

7/ This is contrary to our basic definition of food commodities, so the classification of flax and linseed oil will be revised to nonfood at a later date. There will be only a negligible effect on the food-nonfood breakdown.

STATISTICAL NOTES

Like most other indexes prepared by the Department of Agriculture, the master index of supply-utilization of all farm commodities and its subindexes were set up on the basis of the index formula developed by Laspeyres. Following this formula, we multiplied the quantities of individual farm commodities given in each category of the supply and distribution table for all years by average farm prices for 1947-49 to compute their values. Next we added up the values for all commodities in each category, year by year. The indexes were derived by comparing the aggregate values in each year with the matching average for the base period 1947-49. Similarly, the percentages of total utilization in each year were calculated by comparing the aggregate values in each category with the aggregate value of total utilization in that year.

The usual symbolism for the Laspeyres formula is $\frac{\sum p_0 q_t}{\sum p_0 q_0}$. The Σ sign means summation. For this set of indexes, the p's are farm prices. P_0 indicates the price in the base period, described as "0." The q's are the quantities of unprocessed farm commodities accounted for in each category of the supply and distribution table for each year. The q_0 means the quantity in the base period; the q_t signifies the quantity in year t. Note that these q's apply only to unprocessed commodities. To indicate that we also worked into our indexes the equivalent values of processed items, we have modified the usual symbolism to $I_t = \frac{V_t}{V_0}$ where

I_t = index number for year t

V_t = the total value in constant 1947-49 dollars of both unprocessed farm commodities and the equivalent farm value of processed commodities supplied by the particular source or flowing into the specified channel in year t.

V_0 = the total farm-equivalent value in constant 1947-49 dollars of farm commodities used in unprocessed and processed forms in the base period 1947-49 for the index through time. To derive percentages of total utilization in each year, V_0 becomes the total farm-equivalent value of total utilization in that year. See exhibit A.

Although an adequate discussion of the theoretical implications of the Laspeyres index formula is beyond the scope of this handbook, a few notes are given here to aid non-technical readers. Prices are used to weight or combine the changing quantities, because they are considered to be good indicators, when used with quantities, of the relative economic importance of

individual commodities in the total agricultural picture. As the basic formula indicates, the same p's or prices are used for every year. Therefore, changes in computed values are caused by changes in the q's or quantities. These changes can be of two types. First, the quantity of every commodity might be 5 percent higher in year A than in year B. If so, the index would be 105. Second, quantities of some commodities may increase more than others from year A to year B. If the items with larger increases are relatively high in value, that is, in pq, they will have greater effect on the total value of year B, and therefore on the index, than if the larger increases were in minor items. For example, a 5 percent increase in use of cattle and calves is of much greater significance to the master index than a 10 percent increase in honey.

Reference again to exhibit A may help the reader visualize the structure of this index, particularly if he remembers that a similar table is involved for every year of the 31-year period now covered by the index. Likewise, a computation such as that demonstrated by exhibit B is necessary for most commodities for every year.

The period 1947-49 was used for the base of all indexes through time and as the source of the price weights, following the recommendation of the Office of Statistical Standards of the Bureau of the Budget. It should be stressed that adoption of a particular base period does not necessarily signify a "normal period" in some long-run economic sense. It is usual, however, to adopt a fairly recent period, which is relatively free of marked distortions in the price-production structure. Adoption of fixed base-period prices freezes into the index-weighting structure the economic relationships that existed in the period selected. If the base-period price weights used to express values in constant dollars were \$1.00 for commodity A and \$3.00 for commodity B, a unit change in the quantity utilized of A would influence the total movement of the index only a third as much as a unit change for B. But 10 years later, because of shifts in consumer demand, commodity A might sell for \$3.00 and commodity B for \$1.00. The effect of a unit change in A is now three times as important in the economy as a unit shift in B. But, as the index was constructed with base-period prices as weighting factors, a unit change in A still has only one-third the effect on the total movement of the index as a change in B.

As these price relationships change over time, comparisons among several years that are remote from the base period are not as valid as direct comparisons between specified years and the base, which give relatively accurate approximations of trend. So far as 1947-49 more closely represents the economic relationships existing at present than do prewar relationships, it is to be preferred to the more distant date. After careful testing of the results of linking to prewar price weights (1925-29 and 1935-39) for prewar years, it was concluded that the differences in the estimates for the index were insignificant and did not merit the extensive statistical computations that would be involved. Hence, 1947-49 price weights were used throughout.

Prices Used

The weighted average farm prices used for deriving the value aggregates as a first step toward combining commodities were obtained by: (1) Multiplying the average midmonth prices received by farmers 8/ by the volume of monthly sales to obtain calendar-year average prices at the farm level for each commodity; and (2) weighting these annual prices by the yearly production of each commodity to get the average 1947-49 farm prices. The use of monthly sales weights permitted each monthly price to influence the yearly price according to the relative importance each month's marketing returns bore to annual marketed value. By weighting each of these annual prices by the quantity of the commodity produced in the given year, an allowance was made for year-to-year changes in the value of farm production not marketed (that is, supplies retained on farms for home consumption, feed, or seed). All quantity data for processed items were combined by use of weighted-average 1947-49 wholesale prices.9/ Weighting factors used were the annual production of the processed items for each of the 3 base years. If available, price data used were United States annual averages; otherwise, they were annual averages at the most representative markets.

Quantities Used

Statistical data on sources of supply of major farm commodities and on their annual flow into major channels of utilization--export, military takings, civilian use--have been developed and published by the Bureau of Agricultural Economics, now the Agricultural Marketing Service. For convenience, they have often been presented as tables of supply and distribution.10/ These were the principal sources of information on quantities produced, imported, taken from or put into stocks, exported, and so

8/ Prices received by farmers for their products sold at local markets or at the point to which they deliver their products in their own conveyances or in local conveyances hired for the purpose. These prices, monthly sales, and annual production data are reported by the Department of Agriculture.

9/ As reported by the Agricultural Marketing Service, the Bureau of Labor Statistics, and trade papers. Wholesale prices as used here are prices at the first transaction level, that is, primary market prices.

10/ Tables on all major commodities having food use will be found in Agriculture Handbook No. 62. Pertinent information on nonfood commodities can be found in:

- U. S. Dept. of Agr. Statistical Bulletins, Washington, D. C.
- No. 142 Wool Statistics and Related Data. September 1954.
- No. 159 Grain and Feed Statistics. March 1955.
- No. 99 Statistics on Cotton and Related Data. June 1951 and Supplement for 1954 to Statistical Bulletin No. 99. September 1954.
- No. 147 Oilseeds, Fats and Oils, and Their Products, 1909-53. June 1954.
- No. 58 First Annual Report on Tobacco Statistics. May 1937.
- No. 138 Annual Report on Tobacco Statistics. December 1953.

on. In some instances, supplemental data on processed commodities had to be developed. For other items, it was necessary to shift from a marketing year to the calendar year which was used through the whole supply-utilization index. This was done when data for some rather minor items had not been assembled on a comparable basis. Details on individual commodity groups are given in a later section of this chapter.

Components of Supply-Utilization Index for Each Year

Value aggregates were computed in two steps for each category or source of supply and for each utilization category or channel of distribution. (1) We obtained values for unprocessed commodities by multiplying the quantities of the raw commodities given in each category of each commodity's supply and distribution table on a farm basis as they leave the farm by the related base-period prices paid to farmers. (2) In order to take into account the imports, changes in stocks, and uses of processed commodities, the wholesale or primary market values of joint products were computed separately for each commodity, using quantities of processed items and wholesale prices. Then these were adjusted back to equivalent farm values on the basis of the ratio of the farm value of the raw farm commodities used in processing to the total wholesale value of the processed items.

The total value aggregate for all quantities entering into utilization was computed by adding the value aggregates for production, imports, and change in stocks. This total was equal by definition to the sum of the value aggregates for all channels of distribution or use. By comparing the value aggregates for each category with that for total utilization in each year, data for section a of tables 1, 2, and 3 were obtained--percentage of total utilization in each year.

Measurement of Changes in Supply and Utilization through Time

Relationships of the value aggregate for each category in each year to that for total utilization in 1947-49 were readily computed. These provide the percentages for section b of tables 1, 2, and 3. Furthermore, comparisons of various sets of value aggregates provide the basis for a great number of subindexes, some of which are illustrated in chapters 3 and 4. As prices were held constant, it is evident that this type of index shows the change in total value between a given year and the base period caused by changes in quantity, shifts among farm commodities, and shifts among end uses.

Figures in the tables of this handbook are computed from unrounded data. No attempt is made to adjust details to totals except for the figures in tables 1 to 3.

Soybeans Used to Illustrate Statistical Procedure

To illustrate the handling of commodities supplied from domestic production and imports and used in raw and processed forms for food and nonfood

purposes, we give here an outline of the procedure used for soybeans as beans and as the two joint-products which are oil and cake and meal. As you can see in exhibit B, three supply and distribution tables were developed, for beans and the two products. Total disappearance or use of soybeans as such was derived as the sum of changes in stocks, farm production, and imports of beans. The categories of bean use were seed and feed (a nonfood use), exports, and use for crushing (although this was only an interim category). Quantities in each category of the table were multiplied by the average farm price of soybeans in 1947-49 to obtain the supply and distribution of soybeans in terms of farm value. (See fig. 2.)

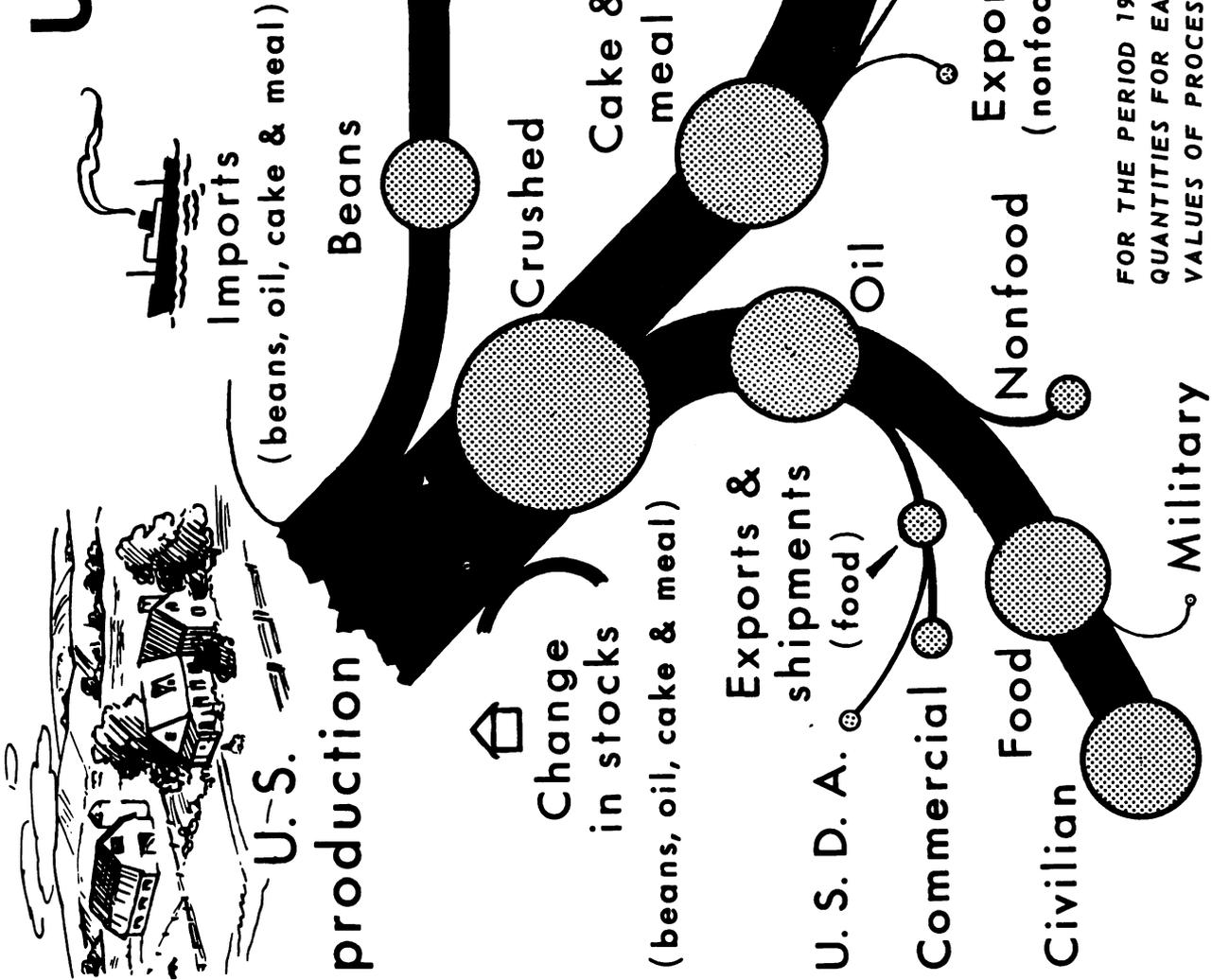
The next step was to derive the ratio between the farm value of soybeans crushed (obtained above) and the wholesale value of oil and of cake and meal produced from the process. The primary market prices or, as more commonly described, the wholesale market prices as reported by the Bureau of Labor Statistics for 1947-49 were used with the quantities of processed joint-products produced to compute the necessary wholesale value. The resulting ratio was used to reduce the readily computed wholesale values of imports and stocks of oil and of cake and meal to their equivalent values at the farm level. These were added to the farm values of soybean imports and of stocks, as well as on the distribution side to the value of soybeans sold for crushing.

A similar procedure was followed to derive the equivalent farm values of the processed commodities moving out of current production, imports, and stocks (1) into food commodities, and in turn distributed among the categories of food use by United States civilians, the Armed Forces, Department of Agriculture purchases, and for exports and (2) into nonfood use as feed in this country and abroad.

The final step was to add the aggregates of direct soybean uses (feed and seed used on farms where grown and quantities sold to other farmers for feeding) obtained earlier, to the food, nonfood, export, and other categories for processed items indicated above. The total aggregates for each of these categories were then compared with the total value of soybeans utilized each year in all forms. The result of this computation was the percentage utilization of soybeans in a given year. All values are in terms of constant dollars. This procedure was used in order later to show changes in quantities from year to year rather than changes in value arising from price changes.

The same general procedure was followed for each of the farm products included in the master index. The index as published, however, shows distribution to broad categories only. Although estimates for individual industries are not precise, totals for broad classes of utilization are regarded as sufficiently reliable for analysis of shifts in utilization.

UTILIZATION OF SOYBEANS



FOR THE PERIOD 1947-49. DATA DERIVED BY MULTIPLYING QUANTITIES FOR EACH CATEGORY BY 1947-49 PRICES AND ADJUSTING VALUES OF PROCESSED PRODUCTS TO FARM-LEVEL EQUIVALENTS

SUPPLEMENTARY INFORMATION ON PROCEDURE USED
FOR MAJOR COMMODITY GROUPS 11/

Oilseeds.- This commodity group includes the following oilseeds and their products: (1) Domestically produced (and imported) cottonseed, flaxseed, peanuts, soybeans, and sunflower seed which are described as food commodities, and tung nuts and rapeseed, the nonfood commodities; and (2) imported copra, sesame seed (food), and nonfood castor beans, babassu kernels, palm kernels, and palm oil. The supply and distribution tables for a few items had to be adjusted from crop year to calendar year basis, using available data on January 1 stocks, foreign trade, and crushings.

To illustrate further how we traced the distribution of products made from raw farm commodities to their final consumption, we will describe the adjustment in the oilseed data in some detail. As noted in figure 2, soybeans produced on the farm were traced through to consumption in the form of oil in the margarine, shortening, soap, and other industries. This industrial use is not the final level of consumption; the final level is the disappearance of margarine, shortening, soap, and other products containing cottonseed, linseed, peanut, and soybean oil. Therefore, we adjusted our data to reflect the utilization of these end products. This was done by adjusting the value of crude oil used by food and nonfood industries by the value of exports, shipments, and military and Department of Agriculture takings of processed products (margarine and shortening, for instance) so that these categories would include the crude-oil equivalent of the processed products.

We did not attempt to include imports, because imports of edible processed products made from cottonseed, linseed, peanut, and soybean oil are negligible, and data on imports for inedible products containing these oils could not be readily compiled. Factors were not available to convert products containing these oils into oil and seed equivalents. We therefore derived estimates of the value of oils which had been exported and taken by the military and the Department of Agriculture in the form of processed products by applying the percentage that yearly export, military, and Department requirements for margarine and shortening were of the total domestic consumption of margarine and shortening, and applying these percentages to the value of oil utilized in food uses. For example, if in a given year the Armed Forces bought 20 percent of total margarine and shortening used, then 20 percent of the quantity of crude oils utilized for food purposes was designated as military takings. No estimates were made of nonfood military requirements because of lack of data.

11/ Martin J. Gerra has prepared a detailed statement of the handling of statistical data for individual commodities to fill in missing segments and to make some adjustments to our basic concepts. It is available on request.

This detailed estimating procedure was not required for most commodity groups; data on final consumption as processed products could be directly converted to an equivalent lower level of processing. To illustrate, in the case of beef, exports, imports, and military and Department of Agriculture takings of canned, dried, and frozen beef and beef products are regularly converted to a carcass-weight equivalent in estimating civilian per capita consumption. We had only to convert carcass-weight equivalents to a live-animal equivalent basis, using our general procedure for processed products.

Meat Animals.- In this commodity group we worked with the value of meat from cattle and calves, hogs, sheep and lambs, and the major part of other products derived from these animals, including pulled wool but excluding shorn wool.

We began with the total live weight of animals slaughtered in each year. Slaughtering closely follows marketings for current slaughter. The major product that results from the slaughtering operation is meat. Other products include hides, skins, fats, oils, and other such lesser items as glue, gelatin, boneblack, blood, hair, and bristles. The farm value for each type of animal is the live weight of hogs or other livestock slaughtered multiplied by the average price per pound received by farmers. This value was adjusted for the effect of changes in stocks and imports of the major products processed from the animal carcass, reduced to equivalent farm values, to derive total utilization. The distribution of this value to food, nonfood, export, and other uses was then carried out by the general method outlined above.

Because of the difficulty of allocating accurately the values from certain processed products (that is, tallow, oleostearine, and other fats and oils obtained from both cattle and calves) to either the live value of cattle or of calves, these animals are treated together in the index.

Edible offals are excluded from the usual supply and distribution tables for meats because these are on a carcass-weight basis. Having no reported production data, we used general factors which relate the weight of edible offals to dressed weight of meats of the several types to obtain production estimates. Then from reported data we developed other parts of a standard supply and distribution table.

Data on the supply and distribution of hides and skins were worked up, beginning with the number of animals slaughtered plus the number dying in each year. Supply and use balance sheets were used for tallow, oleo products, lard, and pulled wool. Pulled wool was allocated the proportion of total wool stocks, exports, and domestic use which it bore to total production of shorn wool plus pulled wool in each year.

Poultry and Eggs.- No particular problem was encountered in dealing with these commodities. Eggs for hatching are regarded as a nonfood use, similar to seed that is transferred back into agricultural production. Nonfood use of eggs also includes storage losses due to spoilage or wastage.

Dairy Products.- By converting data for all manufactured dairy products to their equivalents in total milk fat and total nonfat milk solids, it was possible to avoid duplication in combining these products and to combine them with data for whole milk.

Quantity of milk fed to calves, the principal nonfood use of milk fat, is a reported figure, but quantity of nonfat milk solids used for nonfood purposes is derived as a residual figure. This may slightly overstate nonfood use because, in addition to the quantity of nonfat milk solids going into feed and industrial nonfood uses or wasted, possible errors of underestimating some food uses would be reflected.

Data on total fat and nonfat milk solids were combined and included in the index by multiplying each supply-utilization category by the estimated weighted base-period average price received by farmers for milk solids. That price was derived by dividing the farm value of milk produced by the total solids equivalent of milk sold and used for farm household use, plus the solids equivalent of whole milk fed to calves. Thus, total price was attributed to milk solids only.

Fruits and Tree Nuts.- Farm production of fruit is the total quantity of fruit harvested each year. Part of this production is consumed in its unprocessed, fresh form. The rest is processed into dried, canned, and frozen fruits and juices and consumed in those forms. Data on the supply and distribution of processed fruits were put on comparable fresh-equivalent bases by the use of conversion factors so that quantities of dried, canned, and frozen fruits and juices in each supply and distribution category could be aggregated with quantities of fruit sold in fresh form.

In order to incorporate the supply and distribution of tree nuts on a farm commodity basis, data on shelled nuts were converted to an equivalent unshelled basis by means of average conversion factors.

Vegetables and Other Food Crops.- All commercial production sold for fresh use and for processing and rough approximations of total production of farm, rural nonfarm, and urbangardens were totaled to obtain the quantity of vegetables produced yearly for consumption in fresh, canned, frozen, and dried form.

Data on processed vegetables were converted to a fresh-equivalent basis by using average conversion factors. They were then used to adjust the quantities supplied and distributed in those categories as fresh vegetables. Each category was valued at the average weighted price received by farmers in the base period for the vegetables sold for processing and for fresh market use to derive the total values for the index.

The same procedure was used for potatoes, sweetpotatoes, dry edible beans, cowpeas for peas, and dry field peas. For convenience, mustard seed and popcorn are grouped with these vegetables to form an "other food crop" category. Having no separate data on foreign trade in popcorn, we considered production as being entirely for domestic food use.

Sugar and Sirups.- This group includes sugarcane and sugar beets, the products resulting from their processing--industrial molasses, edible molasses, refined cane and beet sugar, refiners' sirup, molasses beet pulp, dried beet pulp, and moist beet pulp--as well as sugarcane sirup, sorgo sirup, maple sirup, and maple sugar. Data for this subgroup of commodities are reported in terms of farm-equivalents. Except for honey, no allowance is made for military use or Department of Agriculture takings of the minor products because of lack of identifying information on the small quantities involved. Honey is considered to be a livestock product and is included with such commodities.

Food Grains.- These include the usual wheat, rye, rice, and buckwheat. The procedure previously described for computing farm equivalent values for processed joint products was used for wheat. Wheat flour and wheat millfeeds are important examples of joint products. For the other grains the nonfood use of millfeeds turned out to be insignificant.

Feed Grains.- The supply-utilization of corn, barley, oats, and sorghum grains included both the use of grain as such and the grain-equivalents of processed products. The latter were converted on the basis of physical equivalents because the nonfood byproduct of milling these grains for food is insignificant. We worked with total production of these grains for all purposes, including grain, silage, fodder, hogged-off, and grazed. Farm household use was added in with food use of commodities processed from grains sold.

Hays and Miscellaneous Field Crops.- Hays include alfalfa, clover, timothy, lespedeza, soybean, cowpea, peanut vine, grains cut green, and wild hay. The miscellaneous field crops included in the nonfood commodity sub-index are sorghum for forage and silage, velvet beans, broomcorn, and hops. Production data for hops include only the quantities marketed.

Vegetable Seeds.- Because production of vegetable seeds has been reported only since 1939, production for earlier years was approximated on the basis of the ratio of domestic seed disappearance in 1939-43 to production of vegetables. A supply and distribution table was developed in order to obtain domestic civilian nonfood use.

Field Seed Crops.- These include all varieties of field seeds reported by the Crop Reporting Board except rapeseed, mustard seed, and sunflower seed, which were put elsewhere. A considerable amount of estimating was necessary to fill in the gaps in reported data on production. This was done with the advice of specialists in the Agricultural Estimates Division of AMS.

Cotton.- The supply and distribution table for cotton on a calendar year base was constructed from data on ginnings, mill use, exports, and August 1

stocks. Information on stocks of products processed from cotton was not used, but data on raw cotton equivalents of processed items were added to imports and exports of raw cotton. Domestic use of cotton in the index represents the quantity of raw cotton reported by the Bureau of the Census as consumed in mills, adjusted for the raw cotton equivalent of net trade in cotton manufactures and the quantity destroyed. As data on military takings of cotton products are not yet available, civilian use could not be derived.

Shorn Wool and Mohair.- Because wool pulled from the skins of slaughtered sheep and lambs was included with meat animals, only wool shorn from live animals was covered in this category. Allowances were made for imported apparel and carpet wool and for wool products and for exports of wool products, except wool rags. Adequate data on military takings were not available.

No major problems were encountered in the case of mohair.

Tobacco.- Data on the supply and distribution of tobacco, including foreign trade in manufactured products, were developed in equivalents of farm-sales weight. Military troop use could not be separated from domestic civilian use.

Table 4.- Domestic production of all farm commodities, food and nonfood, as percentage of their total utilization and subindexes of production, 1924-54 1/

Calendar year	Production as percentage of their utilization			Subindexes of production, 1947-49=100		
	All farm commodities	Food commodities	Nonfood commodities	All farm commodities	Food commodities	Nonfood commodities
	Percent	Percent	Percent			
1924	94.2	93.4	98.0	75	73	88
1925	92.8	91.9	96.7	76	74	90
1926	94.0	93.3	97.6	77	74	92
1927	91.6	92.8	86.7	78	75	93
1928	93.6	94.3	90.1	79	77	88
1929	92.0	91.4	94.7	77	75	93
1930	94.0	92.3	102.4	76	74	87
1931	97.9	96.0	108.1	80	77	92
1932	95.7	96.1	93.7	79	78	84
1933	90.4	90.1	91.9	74	73	83
1934	87.4	87.5	87.2	68	68	66
1935	95.2	96.2	90.6	73	72	84
1936	86.1	85.7	88.5	70	68	77
1937	99.9	98.8	105.0	81	78	101
1938	97.1	95.5	105.6	80	78	91
1939	93.5	93.2	94.8	81	79	90
1940	95.6	95.3	97.4	85	83	93
1941	94.0	95.2	88.1	88	88	89
1942	96.5	96.8	94.6	97	97	99
1943	89.8	90.4	86.6	98	99	93
1944	93.2	93.0	94.8	102	103	97
1945	91.9	92.8	86.4	99	101	92
1946	92.5	95.1	79.0	100	102	91
1947	91.6	91.7	91.0	98	98	96
1948	99.5	100.3	95.6	102	102	100
1949	95.7	94.9	99.9	100	100	104
1950	92.6	94.7	81.7	100	100	94
1951	90.4	89.8	93.9	100	99	108
1952	95.4	95.0	97.3	105	104	108
1953	96.7	95.6	102.5	106	106	110
1954	96.7	96.1	99.7	107	107	105

1/ See text for definition of production.

2/ Preliminary.

CHAPTER 3. MEASURING SUPPLIES OF FARM COMMODITIES

This chapter is concerned with the measurement of each year's flow of farm commodities from three sources of supply--production, imports, and available stocks--into use in that year. A section is devoted to each. Subindexes of the master index of supply-utilization measure the flow from each source. There are actually several subindexes for each flow. These measure not only the flow of all farm commodities from that source, but also food commodities, nonfood commodities, and other subgroupings.

To assist readers in using these indexes, we describe at some length the economic characteristics of production, imports, and stocks that we attempt to measure. Problems encountered in the process of developing the subindexes are illustrated, as are their solutions. The subindexes are compared with other indexes especially designed to measure changes in production and imports of farm products. Apparently, no other index of stock changes has been developed but the meanings of this group of subindexes and the characteristics of the value aggregates from which they are constructed are related to other data on volume of inventories.

The following sections outline the principal uses and limitations of the subindexes as we now see them. Because one of the principal uses is to describe what has happened, we illustrate with brief reviews of the major changes in the amount and makeup of the flow of farm commodities from each source in the last 30 years.

The framework of the master index required the balancing of each year's supply with its use. Quantities of each commodity coming from new production, from imports, or out of stocks carried over from preceding years equal total utilization or flow into the several channels toward final use plus ending stocks. Essentially we say that those supplies which appeared during the year but were not in sight in the form of reported stocks at the end of the year, disappeared into some channel for use. The reader should note, however, that the total supply of farm commodities flowing from American farms, from abroad, and out of stocks is not available for use at any one time in the year, but only over the course of each year.

A section of this chapter pertains to stocks. It contains details on why, in building the master index, we use changes in reported stocks rather than total stocks. It also describes what kinds of stocks are included in the category "available stocks" on the supply side of the tables on supply-utilization. Then, using changes in stocks from year to year, we proceed to compute estimates of total stocks available at the beginning of each year of the 30-year period on a comparable basis for comparison with yearly flow and for other analytical uses. This is one of several examples in this handbook that indicate the flexibility of subindexes within the overall framework of the master index.

In measuring total supply of all farm commodities and their products, as well as changes in supplies from year to year, the real problem was how to

add without duplication and in economic terms quantities of the great variety of items, from soap to nuts, supplied by the agricultural economy for human and industrial use. As described in the preceding chapter, we use farm equivalent values in 1947-49 dollars for our common denominator. It is possible, therefore, to measure both the proportion of each year's flow of farm commodities supplied by current domestic production, by imports, and by change in stocks, and changes in the rates of flow during the years covered by the index.

FLOW FROM CURRENT PRODUCTION 12/

The definition or meaning of agricultural production to be used in designing an overall measure of production depends primarily on the use to be made of that gauge. The index of production of farm commodities forms an integral part of the master index of supply-utilization of all farm commodities. It was, therefore, set up to measure the flow of goods produced by agriculture into the agricultural system itself (internal transfers) and outside the agriculture economy, (external transfers) (table 4).

Unfortunately, we have no good synonym for "production" which can be used to alert the unwary to the intrinsic differences between this measure and that given in the index of farm output or in the index of farm marketings and home consumption. The somewhat hybrid nature of this index of production of farm commodities will have to be indicated by differentiation and by example.

At the outset, the "gross" character of this index should be noted. This arises from the counting of grain and other commodities used for feed and seed as part of production of crops of grain and again indirectly in output of livestock products, including animals slaughtered. Such handling was dictated by the desire to keep track of the entire flow, knowing that we could compute net measures as desired.

Definitions Used

Considering crops first, production includes the total quantities of each crop harvested (except those abandoned for economic reasons) whether marketed or retained on farms where grown. As we have already noted, output of farm resources used for inputs for agriculture to produce additional output (for example, feed to produce milk) is double counted. But to derive a net production index for comparison with other segments of the master index, it is necessary only to subtract the duplicated elements from domestic production. These are principally feed and seed, adjusted for such use of imported commodities. Pertinent data are given in table 5.

12/ Prepared with the assistance of Ernest W. Grove, Farm Income Branch, Agricultural Marketing Service, and Glen T. Barton, Production Economics Research Branch, Agricultural Research Service.

Table 5.- Indexes of gross domestic production of all farm commodities, feed and seed from domestic production, net production, farm output, and volume of farm marketings and home consumption, 1924-54

Calendar year	Gross production <u>1/</u>		Feed and seed from domestic production		Net production <u>2/</u>		Index of farm output, 1947-49=100	Index of volume of farm marketings and home consumption, 1947-49=100
	Index, 1947-49=100	As percentage of gross total utilization	Index, 1947-49=100	As percentage of gross production	Index, 1947-49=100	As percentage of net total utilization		
		Percent		Percent		Percent		
1924	75	94.2	89	32.6	70	91.8	68	73
1925	76	92.8	94	34.0	70	89.6	70	71
1926	77	94.0	88	31.6	73	91.7	73	73
1927	78	91.6	96	34.3	71	88.0	72	73
1928	79	93.6	95	33.5	72	90.8	75	74
1929	77	92.0	93	33.4	71	88.6	74	74
1930	76	94.0	89	32.3	71	91.4	72	72
1931	80	97.9	89	31.1	76	97.2	79	73
1932	79	95.7	97	34.2	72	93.6	76	71
1933	74	90.4	93	34.7	67	86.1	70	72
1934	68	87.4	77	31.4	64	82.9	60	71
1935	73	95.2	80	30.1	71	94.0	72	66
1936	70	86.1	83	33.0	64	81.2	65	71
1937	81	99.9	80	27.2	82	100.8	82	74
1938	80	97.1	89	30.8	77	95.9	79	76
1939	81	93.5	94	32.1	76	90.8	80	79
1940	85	95.6	97	31.6	80	93.9	83	80
1941	88	94.0	100	31.5	83	91.7	86	82
1942	97	96.5	110	31.4	92	95.1	96	90
1943	98	89.8	123	34.8	89	86.0	94	94
1944	102	93.2	110	29.9	99	92.0	97	99
1945	99	91.9	110	30.6	95	89.0	96	99
1946	100	92.5	108	29.9	97	89.7	98	97
1947	98	91.6	102	28.8	96	88.6	95	100
1948	102	99.5	96	26.1	104	99.5	104	97
1949	100	95.7	102	28.3	99	94.2	101	103
1950	100	92.6	104	29.1	98	90.0	100	99
1951	100	90.4	106	29.3	98	87.4	103	101
1952	105	95.4	104	27.4	105	94.2	107	105
1953	106	96.6	102	26.5	108	95.8	108	110
1954 <u>3/</u>	107	96.6	100	25.8	110	95.7	108	109

1/ See text for detailed definitions. Gross production includes commodities used for feed and seed.

2/ Excludes feed and seed.

3/ Preliminary.

The output of livestock products was measured at the point of final marketing which was considered to be the slaughtering stage for animals, including farm slaughter, and sales plus farm use for such commodities as milk. As mentioned in chapter 2, for dairy products we used the total of milk fat and nonfat solids produced. Skim milk fed to calves thus, in effect is counted twice--as nonfat milk solids, and again in value of calves when marketed.

The demand for information on farm food commodities has been so persistent that this set of subindexes was developed first. It includes every farm commodity having any food use in this country. We put pulled wool in with food commodities because it is part of the distribution of products from sheep slaughter, but shorn wool is with nonfood items. As noted earlier, there is a discrepancy in our classification because although linseed oil is not used for food in the United States, we put it with food commodities in order to take account of Department of Agriculture deliveries of substantial quantities of linseed oil to Soviet Russia (and some to Poland) for food use during and immediately after World War II. A reclassification will be made at a later date.

Commodity Coverage, Form of Index, Weights Used

Details of commodity coverage are given in chapter 2, but we include here some notes as a reminder before the reader proceeds to the comparisons with two other indexes related to production. We excluded horses and mules from the subindex, viewing them as sources of farm power and, as such, presenting complications of substitution of other sources of power. Pasture output is treated only indirectly as turning up in livestock production. This represents a slight departure from the basic idea of gross flow but it was necessitated by lack of data. Forest products, except maple sugar and sirup, and nursery and greenhouse production (except minor quantities of greenhouse vegetables), were ignored, partly because they are not generally regarded as farm commodities, partly because of inadequate information.

Following the general methodology for the whole set of indexes, this index of production of farm commodities uses changing quantities times fixed prices divided by total value of output in the base period. As it is the primary segment of the master index, only production of farm commodities was counted; that is, the processing of farm commodities was ignored except as part of the statistical computation of allocating, for example, farm value of wheat produced on farms in a given year to its joint products flour and mill-feeds, later to be divided among the several channels of final utilization. (See exhibit B.)

Weighted averages of prices received by farmers in the 36 months of 1947-49 were used as price weights for the entire series, beginning at 1924.

Comparison with Other Measures of Domestic Production
of Farm Commodities

Farm production can be measured in various ways and at several points in the process of production. For individual commodities, weight, volume, and value are commonly used as measures. To combine the variety of farm products, tonnage and volume are rather unsatisfactory, particularly from an economist's point of view. If prices are not changing much, current value is a useful measure. Realized gross farm income comes close to being such a measure during periods of stable prices. By using fixed prices with changing quantities, constant dollar values are derived; they provide the most common means of aggregating data on production, especially for comparisons over time. This is the basis used for the production subindex described in the preceding section and for the indexes of farm output and of farm marketings and home consumption.

Major differences among these three measures of production of farm products are the point at which production is measured, and, indirectly, the timing. In effect, the index of farm output adds up the production of our agricultural economy at the time of production in the form of harvested crops, net changes in inventories of livestock on farms (numbers and weight, less allowance for feed inputs), plus livestock products marketed and used in farm homes. The production subindex uses the same harvested crop output but does not count livestock animals as being produced until they are slaughtered, either for farm home consumption or after sale. The index of marketings and home consumption totals all crops, livestock, and livestock products as they are (1) sold, (2) put under CCC loan, or (3) used in the farm home.

To clarify differences and similarities among these indexes, let us consider the farm output and farm marketings and home consumption indexes separately.

The purpose of the index of farm output ^{13/} is to measure the volume of farm production available for eventual human use. This measures production in the calendar year in which it is produced and therefore includes all changes in farm inventories of livestock. Farm output of feed is counted in the year of harvest. To avoid duplication of feed crop production, a "product added" concept is used for livestock. This requires deduction of feed consumed by livestock in the year fed. The farm output index excludes inter-farm sales, farm produced power ^{14/} and sales of farm raised horses and mules, as well as forest, nursery, and greenhouse products, as do its subindexes.

^{13/} For details of this index, see Barton, Glen T., and Cooper, Martin R., Farm Production in War and Peace. Pp. 55-66. Bur. Agr. Econ. FM 53. 1945. Also Changes in Farm Production and Efficiency. Pp. 10 and 11. Agr. Res. Ser., PERB 3. June 1954. Also described in Agriculture Handbook No. 62, pp. 30-33.

^{14/} An index of gross farm production which includes farm produced power has been developed for certain research purposes. It is no longer published.

The objective of the index of volume of farm marketings and home consumption ^{15/} is to summarize changes in quantities of farm commodities marketed and consumed on farms where grown, which are included in the commodity elements of realized gross farm income. This index measures the quantity of each farm commodity when it enters the marketing system in the form of sales by farmers, when it is put "under loan" according to provisions of the Department of Agriculture program for price support, or when it is consumed in the household on the farm where it was produced. Accordingly, interfarm transfers of feeder livestock, feed, and seed get counted twice. There is no double counting of feed and seed used on farms where grown. Changes in farm stocks not under loan are not included. This index includes net out-of-State sales of horses and mules in States which have an excess of sales over purchases; because such sales are included in realized gross farm income. Otherwise, its commodity coverage is quite similar to that of the farm output index.

The marketings and home consumption index has been developed in terms of the following subdivisions: (1) Crops and livestock items, (2) marketings and home consumption, and (3) food and nonfood products. The last division is on the basis of major use as opposed to the classification for the two subindexes of supply-utilization, which puts all commodities having any food use in this country under food commodities. This becomes particularly significant in years of unusual shifts in production and marketings of feed grains, which are classified as nonfood in the marketings and home consumption index and as food in the food production subindex of the supply-utilization index.

All three of the indexes that measure volume of farm production at one level or another use the Laspeyres formula and weighted average farm prices. Both the farm output and the marketings indexes use 1935-39 price weighting for 1910-39, and 1947-49 weighted average farm prices for 1940 to date, splicing the two series at 1940. The production subindex of the supply-utilization index uses 1947-49 prices throughout.

On Choosing the Index to Use

To help the reader decide which index relative to farm production he should use in the analysis of particular problems, the following guides are offered:

1. Use the farm output index if your problem requires a measure of total domestic farm production available for eventual human use, regardless of when it is sold or used. Remember, it includes total production of grain and poundage added to livestock even if still on farms.

^{15/} Described in Agriculture Handbook No. 62, pp. 30-36.

2. If your problem involves measurement of the movement of farm commodities off farms and into farm home consumption, that is, a marketings concept, use the index of farm marketings and home consumption. Recall that this index was designed for use with gross realized farm income and that it is not a net but a somewhat gross measure because of the interfarm transfers.

3. If your analysis requires the relating of volume of farm production to supplies from other sources, or to the flow into specific channels for utilization, this subindex of production-flow provides the best statistical comparison.

4. The new measure of production of farm commodities is conceptually between the other two indexes. It uses the same crop concept as the farm output index and "final" marketings of livestock animals, that is, count them when slaughtered to avoid interfarm transfers. But watch out for the duplication of feed and seed.

Summary of Major Changes in Production

Referring to the ratios of production to total use given in table 4, you will note the considerable stability in the relationship of production both of all commodities and food commodities to their total utilization and in that for food commodities. The drought years of the midthirties were the low points. The high point for both series was in 1948, a year of substantial stock accumulation. The significance of domestic production of nonfood commodities to total nonfood use varied much more, apparently because of greater shifts in foreign trade.

Looking now at the production subindexes given in the same table, we see that 1934 was the record low year for both food and nonfood commodities and 1954 the record high. Other significant points are the much greater rise from the 1920's to the 1950's for food items than for nonfood items, the sharp increase in food production from 1941 to 1942, and the drop in nonfood output from 1953 to 1954 caused by the reduction in cotton.

The net production series for all farm commodities developed in table 5 by subtracting feed and seed use from the gross production index shows greater increase than does gross production over the years. In part, this reflects the diversion of productive resources from the growing of feed for horses and mules to other enterprises. The net production series runs closer to the index of farm output than to the index of farm marketings and home consumption.

For table 6, we subtracted the annual value of crops used for feed and seed from the total value of crop production, and the values of milk fed to calves and eggs used for hatching from the values of gross production of livestock products. This handling was dictated by our flow concept; utilization is divided between livestock products and crops more from a marketing point of view than any other. The farm output index involves the subtraction of the duplication of feed from the livestock sector, which

Table 6.- Value of gross domestic production, feed and seed use, and net production of crops and livestock commodities, 1924-54 ^{1/}

Calendar year	Crops				Livestock			
	Gross production	Used for feed and seed	Net production		Gross production	Used for feed and seed ^{2/}	Net production	
			Value	Index, 1947-49=100			Value	Index, 1947-49=100
	Mil. dol.	Mil. dol.	Mil. dol.		Mil. dol.	Mil. dol.	Mil. dol.	
1924	15,113	7,717	7,396	68	12,977	1,429	11,548	72
1925	15,753	8,233	7,520	70	12,698	1,442	11,256	70
1926	15,746	7,571	8,175	76	12,948	1,499	11,449	71
1927	15,934	8,383	7,551	70	13,002	1,529	11,472	71
1928	16,239	8,283	7,955	74	12,991	1,504	11,486	71
1929	15,785	8,087	7,698	71	13,051	1,531	11,520	72
1930	15,165	7,589	7,576	70	13,151	1,555	11,597	72
1931	16,294	7,596	8,698	80	13,358	1,632	11,726	73
1932	16,015	8,386	7,629	71	13,300	1,631	11,670	73
1933	13,907	7,959	5,948	55	13,734	1,633	12,101	75
1934	11,212	6,376	4,836	45	14,039	1,560	12,480	78
1935	15,051	6,718	8,333	77	12,289	1,508	10,781	67
1936	12,507	7,059	5,448	50	13,379	1,492	11,887	74
1937	17,239	6,769	10,470	97	13,029	1,449	11,580	72
1938	16,442	7,686	8,756	81	13,463	1,532	11,931	74
1939	16,103	8,138	7,966	74	14,067	1,548	12,519	78
1940	16,724	8,425	8,299	77	14,844	1,556	13,287	83
1941	17,305	8,699	8,605	80	15,418	1,613	13,805	86
1942	19,248	9,824	9,424	87	16,859	1,519	15,340	95
1943	18,293	11,310	6,983	65	18,242	1,421	16,821	105
1944	19,219	10,100	9,119	84	18,802	1,270	17,532	109
1945	18,837	10,101	8,736	81	18,165	1,235	16,930	105
1946	19,700	10,038	9,662	89	17,596	1,117	16,479	102
1947	18,629	9,346	9,283	86	17,755	1,141	16,614	103
1948	21,328	8,858	12,470	115	16,650	1,072	15,578	97
1949	20,139	9,451	10,688	99	17,154	1,105	16,049	100
1950	19,507	9,652	9,855	91	17,528	1,112	16,416	102
1951	19,750	9,849	9,901	92	17,648	1,097	16,551	103
1952	20,780	9,681	11,099	103	18,170	1,004	17,165	107
1953	20,604	9,575	11,030	102	19,002	1,014	17,987	112
1954 ^{3/}	20,217	9,132	11,085	103	19,527	1,203	18,323	114

^{1/} Valued at 1947-49 farm prices. See text for detailed definitions and description of data and methods used.

^{2/} Includes milk fed to livestock and eggs used for hatching.

^{3/} Preliminary.

Table 7.- Percentage of gross production of all farm commodities contributed by commodity groups, 1924-54

Calendar year	Crops										Livestock									
	Food grains: 1/	Fruits and tree nuts: 2/	Oil crops: 3/	Sugar crops: 4/	Vegetables and other food crops: 5/	Feed grains: 6/	Hay, silage, and forage: 7/	Tobacco: 8/	Other nonfood crops: 9/	Total crops: 10/	Dairy products: 11/	Meat animals: 12/	Poultry and eggs: 13/	Mohair and shorn wool: 14/	Total live stock: 15/	All farm commodities: 16/				
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.				
1924	6.9	2.3	0.9	0.6	7.0	17.4	7.9	8.5	2.0	53.8	14.0	23.9	7.8	0.4	46.2	100				
1925	5.5	2.2	.7	.6	7.0	20.3	6.8	9.8	2.2	55.4	14.0	22.2	7.9	.4	44.6	100				
1926	6.6	2.8	.6	.5	6.9	18.2	6.5	10.5	2.0	54.5	14.2	22.1	8.2	.5	45.1	100				
1927	7.0	2.2	.8	.5	7.1	18.6	8.2	8.4	1.9	55.1	14.3	21.5	8.5	.5	44.9	100				
1928	7.1	2.5	.7	.5	7.2	19.7	7.0	8.5	2.1	55.6	14.2	21.3	8.3	.5	44.4	100				
1929	6.6	2.4	.7	.5	7.4	18.0	7.4	8.9	2.4	54.7	14.8	21.4	8.4	.6	45.3	100				
1930	7.1	2.5	.8	.6	7.7	16.9	6.4	8.7	2.6	53.6	15.2	21.6	8.9	.6	46.4	100				
1931	7.2	2.8	.7	.5	7.4	17.9	6.2	9.5	2.4	55.0	14.9	21.2	8.2	.6	45.0	100				
1932	6.0	2.4	.7	.6	7.5	20.5	7.1	7.9	1.6	54.6	15.2	21.4	8.1	.6	45.4	100				
1933	4.7	2.5	.6	.8	7.6	16.4	6.8	8.2	2.3	50.3	16.2	24.1	8.6	.7	49.7	100				
1934	4.8	2.7	.8	.7	9.0	11.3	6.1	6.6	2.0	44.4	17.3	28.5	9.0	.7	55.6	100				
1935	5.5	3.1	1.2	.7	8.5	18.4	8.4	6.6	2.2	55.1	15.9	20.2	8.1	.6	44.9	100				
1936	5.6	2.6	.9	.8	8.4	12.5	6.8	8.3	2.0	48.3	17.0	24.8	9.1	.7	51.7	100				
1937	6.7	3.0	.9	.6	7.8	18.2	6.8	10.2	2.4	57.0	14.4	19.9	8.0	.6	43.0	100				
1938	7.2	2.8	1.1	.8	7.8	17.7	7.8	7.2	2.1	55.0	15.2	21.1	8.0	.6	43.0	100				
1939	5.8	3.1	1.5	.7	7.7	17.3	7.4	6.7	2.8	53.4	15.2	22.2	8.5	.6	46.6	100				
1940	6.0	2.7	1.7	.7	7.7	17.0	8.0	6.6	2.1	53.0	14.8	23.1	8.4	.6	47.0	100				
1941	6.6	3.0	1.8	.6	7.6	17.5	7.8	5.7	1.8	52.9	15.0	22.8	8.6	.6	47.1	100				
1942	6.2	2.6	2.6	.6	7.3	18.1	7.6	6.0	1.8	53.3	14.0	23.1	9.0	.5	46.7	100				
1943	5.4	2.5	2.7	.5	7.6	16.6	7.1	5.4	1.8	50.1	13.6	25.4	10.3	.5	49.9	100				
1944	6.3	2.9	2.2	.4	7.3	16.7	6.8	5.1	2.3	50.5	13.1	25.6	10.3	.4	49.5	100				
1945	6.8	2.7	2.4	.5	7.5	16.8	7.1	4.2	2.4	50.9	13.7	24.3	10.6	.4	49.1	100				
1946	7.0	3.1	2.3	.6	8.0	17.9	6.5	4.1	2.8	52.8	13.4	23.2	10.1	.4	47.2	100				
1947	8.4	3.1	2.5	.6	7.2	14.1	6.7	5.5	2.6	51.2	13.6	24.7	10.1	.3	48.8	100				
1948	7.7	2.8	3.0	.5	7.3	19.2	6.2	6.6	2.4	56.2	12.6	21.5	9.3	.3	43.8	100				
1949	6.7	2.8	2.8	.5	7.1	17.4	6.2	7.5	2.4	54.0	13.2	22.1	10.3	.3	46.0	100				
1950	6.4	2.7	3.2	.6	7.1	17.9	6.7	4.8	2.5	52.7	13.3	22.7	10.9	.3	47.3	100				
1951	6.1	3.0	2.9	.5	6.9	16.3	7.0	6.8	2.8	52.8	12.9	22.5	11.4	.3	47.2	100				
1952	7.6	2.7	2.8	.5	6.7	16.7	6.4	6.9	2.6	53.4	12.4	22.5	11.3	.3	46.6	100				
1953	6.8	2.6	2.7	.5	6.8	16.1	6.5	7.1	2.4	52.0	12.8	23.5	11.3	.3	48.0	100				
1954 ^{11/}	5.9	2.8	3.1	.6	6.6	16.5	6.3	6.1	2.6	50.8	13.0	23.9	11.9	.3	49.2	100				

1/ Buckwheat, rice, rye, and wheat. 2/ Flaxseed, peanuts, soybeans, sunflower seed, rapeseed, and tung nuts. 3/ Maple sugar and sirup, sorgho sirup, sugarcane and beets, and sugarcane sirup. 4/ Includes potatoes, sweetpotatoes, dry beans and peas, cowpeas for peas, popcorn, and mustard seed. 5/ Barley, corn, grain sorghums, and oats. 6/ Hay, sorghum forage, sorghum silage, and velvet beans. 7/ Cotton lint, lintners, seed, cake, and meal. 8/ Field crop and vegetable seeds, broomcorn, and hops. 9/ Cattle and calves, hogs, and sheep and lambs, including pulled wool. 10/ Includes honey in addition to commodities listed. 11/ Preliminary.

follows from the "value added" concept used in constructing that index. Accordingly, the crop subindex of net production shows much greater variation than the crop index of farm output. Because the choice of handling this subtraction must depend upon the problem being studied, value data are given in the table as well as the derived indexes.

Finally, a few notes on changes in the commodity makeup of the gross production index, illustrated in table 7. (Comparable value data are given in the appendix.) Crops made up a slightly smaller proportion of gross production of all farm commodities in the 1950's than in 1924-29. Oil crops have increased greatly, cotton and hay and forage have gone down some. Production of livestock commodities has been higher in recent years than 25 to 30 years earlier. The meat animal group is up a little in relation to the total, dairy products down slightly, but production of poultry and eggs is up sharply.

IMPORTS 16/

Imports are another source of supply of farm commodities entering into total flow. The subindex of imports of farm commodities given in table 8 measures farm commodities coming from foreign countries and U. S. Territories and Possessions that are combined with United States production to meet our needs for agricultural products. It includes both raw farm commodities and their major processed products. Because of some substitutability for domestically produced items, we have put in coffee, tea, cocoa, and bananas. But rubber and other gum products, raw silk, and vegetable fibers, such as sisal, hemp, and abaca, are not included; these products are unlike domestically produced agricultural commodities and are less interchangeable in use with farm commodities than with manufactured or synthetic products.

How Imported Commodities Are Combined

Combining the imports of commodities produced in this country and their products presented no difficulty in the construction of this subindex. We used the same weighted average farm prices for each farm commodity, and the same system of ratios of farm value to primary market value, to adjust the values of processed commodities to their farm value equivalents.

But such commodities as coffee and others that are not produced here did present a pricing problem. We decided that the price most nearly comparable in concept to our domestic farm price is the price at the first domestic transaction level, usually the sale at portside. This is the level at which imported commodities become competitive with domestically produced commodities.

Other measures of agricultural imports have been developed from data on the weight, volume, and current value of individual commodities contained in census reports on foreign trade. The Foreign Agricultural Service publishes two overall measures, both of which exclude inshipments from U. S. Territories. 17/ The current value series is based on values reported in dollars as exported from foreign countries. The FAS quantity index, based on constant dollar values, uses average prices computed from the same data for the base period.

Another overall measure of agricultural imports is published by the Food and Agriculture Organization of the United Nations. 18/ This is a current value series measuring foreign value as exported. Here, value of our imports is reported in the exporter's currency which is converted to dollars by standard exchange rates.

These three indexes do not measure changes in farm equivalent values of agricultural products imported nor do they attempt to trace the farm commodity content of processed products. They cover only products specified as "agricultural" in the census classification.

Classification of Imports

We have already mentioned one basis on which imports could be classified for analytical purposes--whether they are similar to domestically produced commodities. For analysis of the makeup of imports we can also separate commodities according to the degree of competition with domestic products. All imports of commodities domestically produced are in direct competition with quantities produced here. But even some of the rather dissimilar imported products should be considered in this competitive class because they are so interchangeable in use with domestic commodities. Of those not produced commercially here, sesame seed, imported tree nuts, palm oil, babassu oil, castor beans and castor oil, palm kernels and palm kernel oil, and copra are of this nature. This whole group of imports may be described as supplementary to domestic production. On the other hand, bananas, coffee, tea, cocoa, and carpet wool compete only indirectly with United States farm products for consumers' dollars. We call them complementary to domestic production--they fill out our list of items to meet comparable needs. (See table 9.)

Changes in Imports

Volume of imports has fluctuated widely during the last 30 years, depending on domestic production, foreign production, level of economic activity, trade barriers, and the state of international relations. Since

17/ Foreign Agricultural Service. Foreign Agricultural Trade. Monthly. These two measures include rubber, raw silk, and the rough vegetable fibers.
18/ Food and Agriculture Organization. Yearbook of Food and Agricultural Statistics: Trade.

1950 we have been importing agricultural commodities at a rate that is about 25 percent higher than that of the late 1920's. In the period 1924-54, imports varied in importance from 5 to 10 percent of each year's utilization of all farm commodities.

Imports of commodities produced here--those in the supplementary category--have been more variable than imports of complementary items. This is understandable, as supplementary imports are much more sensitive to changes in United States production, and the relationships of domestic supplies to domestic demand. Furthermore, they are often subject to some form of restriction on imports--import duty, quota, or license requirement. Complementary imports, on the other hand, are generally duty free. Complementary imports, then, are affected principally by available supplies abroad, relative prices, and United States purchasing power.

The Tariff Act of 1930 contributed to the drastic drop in supplementary imports during the early 1930's. Then the drought of the midthirties was followed in 1937 by very large import commodities supplementing United States production. Subsequently such imports declined. During World War II, changing needs and production patterns and shipping problems caused substantial swings in volume of supplementary imports. For several years after the end of the war these imports were relatively low, until world supplies recovered.

Complementary imports were characterized by a rather steady increase in volume up to World War II. During the war these imports also fell sharply because of shipping difficulties. But immediately after the war ended the previous trend was resumed. These imports come from countries whose production capacity was not damaged by the war, and this favored sales for dollars.

The makeup of imports, as measured by the categories supplementary and complementary, has included a decided shift away from the supplementary. In the midtwenties supplementary imports accounted for about 60 percent of the imports of all farm commodities; imports have been about evenly split between the two categories since 1945.

Coffee, a complementary import, is the most important valuewise. Sugar, a supplementary import, is next in importance. In some years these two commodities account for more than 40 percent of our imports of agricultural commodities. Cocoa, bananas, carpet wool, and tea are the other important complementary commodities, but their combined value is not equal to the value of coffee. Cattle and calf products and apparel wool are the only other consistently important supplementary imports and these have varied over a wide range. In 1942 and 1946 the value of imported apparel wool exceeded the value of sugar.

Uses and Limitations

What this subindex includes and how it is combined are dictated by the requirements of the master index of supply-utilization of all farm commodities.

Table 8.- Indexes of imports of supplementary and complementary farm commodities, 1924-54 ^{1/}

Calendar year	Supplementary commodities		Complementary commodities		All farm commodities	
	Index, 1947-49=100	Percentage of all farm commodities imported	Index, 1947-49=100	Percentage of all farm commodities imported	Index, 1947-49=100	Percentage of total utilization
	Percent		Percent		Percent	
1924	92	59	60	41	75	6.7
1925	107	62	60	38	83	7.1
1926	112	62	64	38	87	7.6
1927	107	61	65	39	85	7.2
1928	104	60	65	40	84	7.1
1929	122	62	70	38	95	8.0
1930	104	60	65	40	84	7.3
1931	85	54	69	46	77	6.7
1932	70	51	61	49	65	5.6
1933	85	55	64	45	74	6.5
1934	80	55	61	45	70	6.5
1935	112	58	75	42	93	8.6
1936	118	59	76	41	96	8.5
1937	137	62	78	38	106	9.3
1938	89	52	75	47	82	7.1
1939	96	52	83	48	89	7.3
1940	98	52	83	48	90	7.3
1941	132	58	89	42	110	8.4
1942	100	64	53	36	76	5.3
1943	113	59	72	41	92	6.0
1944	130	58	87	42	107	7.0
1945	102	51	92	49	97	6.4
1946	98	48	98	52	98	6.5
1947	99	50	91	50	95	6.3
1948	104	48	105	52	104	7.3
1949	97	46	104	54	101	6.8
1950	121	53	99	47	110	7.3
1951	123	54	96	46	109	7.0
1952	124	54	98	46	110	7.2
1953	119	52	104	48	112	7.2
1954 ^{2/}	106	52	92	48	98	6.3

^{1/} Supplementary commodities include those similar to farm commodities produced commercially in the United States and those that are interchangeable in use to a significant extent with such United States commodities. See discussion of imports in text.

^{2/} Preliminary.

Table 9.- Percentage of imports of supplementary and complementary farm commodities contributed by commodity groups, 1924-54

Calendar year	Supplementary commodities			Complementary commodities								All farm commodities
	Sugar	Apparel : wool	Cattle : and calves	All other	Total	Bananas	Coffee	Cocoa	Tea	Carpet : wool	Total	
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1924	17.3	4.1	3.4	34.1	58.7	7.5	21.0	6.3	2.6	3.9	41.3	100
1925	20.8	5.1	2.8	33.7	62.4	7.8	17.4	5.8	2.6	4.0	37.6	100
1926	19.4	4.6	3.6	34.3	61.9	7.3	19.2	6.2	2.3	2.9	38.1	100
1927	17.2	3.8	5.2	34.4	60.6	8.2	19.0	6.3	2.2	3.6	39.4	100
1928	16.6	3.3	6.4	33.6	59.8	8.9	19.5	5.6	2.3	3.8	40.2	100
1929	16.7	3.1	6.5	35.6	61.9	7.8	17.6	6.8	2.0	3.8	38.1	100
1930	19.2	2.4	4.4	33.8	59.8	8.5	21.5	5.7	2.2	2.3	40.2	100
1931	17.0	1.5	2.8	32.3	53.6	8.5	25.6	6.9	2.4	2.9	46.4	100
1932	18.6	.8	2.7	29.3	51.4	9.0	25.8	9.4	3.1	1.4	48.7	100
1933	15.9	1.9	4.4	33.2	55.4	6.6	24.1	8.2	2.7	3.0	44.6	100
1934	17.9	1.2	3.4	32.3	54.8	8.3	24.5	7.9	2.3	2.3	45.2	100
1935	12.7	1.4	5.3	38.7	58.1	7.2	21.2	8.3	1.9	3.2	41.9	100
1936	13.3	3.0	4.9	37.9	59.1	7.5	20.5	8.2	1.8	2.9	40.9	100
1937	13.0	3.3	4.0	41.7	62.1	7.7	18.0	7.3	1.9	3.1	37.9	100
1938	15.6	1.2	4.1	31.6	52.5	9.1	27.5	7.0	2.1	1.8	47.5	100
1939	13.3	2.9	4.9	30.9	52.0	7.7	25.4	9.3	2.3	3.2	48.0	100
1940	14.1	5.1	4.3	28.8	52.3	7.1	25.7	9.7	2.3	3.0	47.7	100
1941	13.8	10.4	6.1	27.7	58.0	5.6	23.2	7.7	2.0	3.5	41.9	100
1942	13.1	19.4	7.0	24.2	63.6	3.9	25.6	3.8	1.3	1.6	36.4	100
1943	13.3	13.0	5.3	27.8	59.4	2.8	27.1	8.2	2.0	.5	40.6	100
1944	13.6	9.3	3.7	31.6	58.2	3.1	27.1	8.2	1.8	1.4	41.8	100
1945	13.4	12.7	2.2	22.4	50.8	4.6	31.5	8.5	1.8	2.8	49.2	100
1946	11.3	14.6	.8	21.5	48.3	5.0	30.0	8.0	2.0	5.1	51.7	100
1947	17.1	8.6	1.4	23.0	50.1	7.2	29.2	8.1	1.4	4.0	49.9	100
1948	12.8	8.3	5.0	22.0	48.0	7.2	29.8	6.9	1.8	6.3	52.0	100
1949	14.4	6.0	3.3	22.9	46.6	7.2	32.6	8.1	2.0	3.5	53.4	100
1950	14.8	8.3	5.1	25.0	53.2	6.3	25.0	7.5	2.2	5.8	46.8	100
1951	13.5	8.7	6.4	25.7	54.2	6.1	27.7	7.6	1.7	2.6	45.7	100
1952	14.5	9.0	4.6	26.0	54.1	6.3	27.4	7.3	1.8	3.1	45.9	100
1953	15.1	5.3	3.3	27.8	51.5	6.4	28.1	7.7	2.1	4.2	48.5	100
1954 1/2	16.7	4.2	3.1	27.8	51.8	7.1	25.7	8.8	2.5	4.1	48.2	100

1/ Preliminary.

By measuring the part of total utilization that is not produced on continental United States farms, it gauges our dependence on foreign sources of agricultural commodities. This index of imports is part of the whole framework of indexes and has its own subindexes for supplementary and complementary commodities. Thus, it provides a useful tool for studying such problems as the effectiveness of programs designed to change our import patterns.

You must always bear in mind that we measure imports by equivalent farm value, not value as imported, and that our measure is in constant dollars. These techniques limit the use of this subindex to measurement of volume, unless adjustments are made to incorporate changes in price. The value of foreign trade in agricultural products is better measured by the current value index mentioned earlier.

CHANGES IN STOCKS 19/

A measure of changes in reported stocks of farm products from the beginning to the end of each calendar year was developed for the master index of supply-utilization of farm commodities. Because our general objective in setting up the framework for this overall index was to measure the annual flow, we needed to know how much of the commodities used each year came out of stocks accumulated from production or imports in preceding years. On the other hand, if stocks were accumulated during a given year, we wanted to be sure that such quantities did not appear in our total utilization for that year (table 10).

As our objective was to get a good measure of flow of each commodity into actual use, we assembled all available data on stocks of both raw farm commodities and processed products. As pointed out in chapter 2, our information on inventories of some processed items is rather sketchy. Even so, we used all regularly reported series and developed a few others. Stocks of raw and processed items were combined in terms of their equivalent farm values. Because our method of determining such values is something of an innovation, we remind the reader again that the farm value of the commodity processed was allocated to its joint products according to their proportionate contributions to the total of their primary market values after processing, as shown in exhibit B.

What Stocks Are Covered

Most of the basic data for such computations on stocks were readily available from the tables on supply and distribution of major farm products developed by the former Bureau of Agricultural Economics and continued by the Agricultural Marketing Service. These are described at length in Agriculture Handbook No. 62. But to give a clearer idea of the significance of this measure of overall changes in stocks, a few important points should be noted.

19/ Prepared by Leva C. Taylor and Marguerite C. Burk.

By Commodity and Position.- First, data on stocks have improved considerably during the years from 1924 to 1954 both as to coverage of commodities and positions, and as to frequency of reporting. A reasonably good reporting system for inventories of farm commodities held on farms has been evolved by the Department of Agriculture. Only a few of the minor crops, such as buckwheat, broomcorn, and popcorn, are unreported.

Coverage of wheat, corn, oats, barley, rye, soybeans, flaxseed, and sorghum grains has gradually been expanded to include terminal markets, interior mills, elevators, and warehouses, and, for wheat, merchant mills. Information on stocks of rice on farms and in mills and warehouses on August 1 is available. An unpublished series of stocks of rice on January 1 has recently been developed by subtracting reported disappearance from supplies at beginning of the marketing year. Stocks of hay on farms on January 1 are reported.

Information on stocks also includes reports of cabbage and onion stocks in the hands of growers and local dealers on January 1. These reports have been made since 1928. Holdings in commercial cold storage plants are summarized for fresh, frozen, and dried fruits, frozen fruit juices, fresh and frozen vegetables, nuts, poultry, eggs, meats, and dairy products.

Some additional data on inventories are available from other Government agencies and from private organizations. The National Cannery Association and the Cannery League of California report canners' stocks of fruits and vegetables and the Bureau of the Census reports wholesale distributors' stocks. The Florida Cannery Association reports packers' stocks of canned citrus juice and citrus segments. The Bureau of the Census also collects information on stocks of oilseeds and of oil at oil mills and on sugar stocks held by industrial users and retailers. The Sugar Branch of the Commodity Stabilization Service reports sugar holdings by primary distributors. Some information on coffee stocks is given in trade reports. The Tea Bureau, Inc., reports stocks of tea and the New York Cocoa Exchange reports stocks of cocoa.

Because our concept of flow of animal products begins with the live weight of animals slaughtered, as described in the foregoing section on the production subindex, we paid no attention to inventories of livestock on farms. But we did account for changes in stocks of such products as meats and eggs.

In general, we conclude that current data on inventories of raw farm commodities are reasonably adequate for purposes of the index. But as farm commodities move farther from the farm level the adequacy of reporting on inventories diminishes. Data on stocks of products processed from agricultural commodities are much less satisfactory than those on stocks of raw agricultural commodities. Information is lacking on stocks of minor dairy products; cigarettes, cigars, and other manufactured tobacco products; wheat

flour held by millers; textile products in the hands of millers and converters; and wholesalers' stocks (outside of public warehouses) of processed meats, poultry, fats, and oils. Nor do we have information on supplies of commodities actually in transit.

It is possible that inventories of unreported processed items may fluctuate much less than those reported. Otherwise, reporting systems would probably have been developed.

Stocks of most agricultural commodities are reported at important periods with relation to a crop or marketing year, but not always at the beginning of the calendar year as needed for the index. In some instances satisfactory estimates are easily derived. For example, a reasonably good estimate of December 31 stocks of cotton linters can be derived by adding production and imports from August 1 to December 31 to stocks of cotton linters on August 1, then subtracting mill consumption and exports from August 1 to December 31.

For potatoes, more complete estimates of inventories than are reported may be derived for the end of the calendar year by adjusting the merchantable stocks of potatoes in the hands of growers and local dealers to take into account potatoes held for seed and for farm home use.

The effects of these deficiencies of stock data are minimized in the supply-utilization index by use of stock changes during the year. As stocks of each commodity at the beginning and end of the year are comparable in coverage and position, degree of change is considered to be generally reliable. When no data on stocks are used, we are actually assuming no change. Although a comprehensive measurement of stocks in all positions for the years 1924 to date is impossible owing to incomplete coverage and changes in coverage, stock series used in compiling the index are considered to be reasonably satisfactory indicators of changes taking place in holdings throughout the economy.

By Ownership.- Stocks may also be identified according to ownership. Data on changes in stocks shown on the supply side of our tables include changes in holdings of farmers (both free stocks and those under price support loans), inventories held by marketing agencies and processors wherever reported, and stocks owned by the Federal Government which had been acquired under price-support operations and under emergency programs. ^{20/} Such stocks were combined for purposes of this index because they will move into utilization channels in succeeding years.

In contrast, commodities held by the Department of Agriculture after being purchased expressly for later shipment abroad for our allies and for

^{20/} Emergency programs include the livestock slaughter program of 1933-36 and the hay and feed program of 1952.

relief purposes under special supply programs are not treated as a part of the supply available for future use. Rather, they are regarded as having already moved toward final utilization and are carried as part of the Department of Agriculture account on the utilization side. (See chapter 2.) Such stocks were used with reported Department of Agriculture deliveries for export to derive data shown under the heading "Department of Agriculture net purchases for export."

Stocks held by United States military agencies are not usually available for resale into distribution channels. Therefore, such stocks are not measured in the supply-utilization index except as a part of the military account at the time they are removed from the market. For those instances in which military holdings were channelled back into civilian distribution or for UNRRA, as in 1945 and 1946, they were transferred from the military account to the stock accounts--either commercial or Department of Agriculture supply program, depending upon their ultimate destination--and then moved into distribution in the year of disappearance according to Government and trade information.

Problems in Measuring Stocks for Analytical Purposes

Stocks are commonly measured in terms of weight, volume, and value. Weight and volume are poor denominators for combining unlike commodities for economic analysis; they reflect differences in physical characteristics rather than cost or relative desirability. Value data are much more useful, but usually they include values of all commodities held at all levels in the distribution system and contain a mixture of raw, semi-manufactured, and finished products. Accordingly, they mix the values of farm resources incorporated in farm commodities and the values of varying amounts of marketing services added to the original farm values. These difficulties were overcome in data on stocks prepared for the supply-utilization index by combining commodities in terms of farm-value equivalents and in constant 1947-49 dollars.

In addition to deciding how and where to measure stocks, there is a real problem arising from timing of data. As pointed out earlier in this section, we often had to work back to January 1 from reports on stocks held at the ends of a number of different marketing years. Thus, we achieved a further degree of comparability.

The question of ownership, whether Government or private, is not only difficult to ascertain for some commodities held on certain dates, but it also complicates the use of stock data for analytical purposes. Privately-owned stocks held as collateral for Government price support loans will often have a different effect on market prices from those not under loan, depending upon the relationship between market prices and the "loan level." Inventories of commodities acquired by the Commodity Credit Corporation under its price-support and emergency programs probably have even less effect on current prices. These types of holdings are lumped together in the available stock category on the supply side of our tables.

The considerable improvement in reported coverage of stocks during the last 30 years mentioned in the preceding section complicates the analysis of changes in stocks of farm commodities through time. But in all our data we achieved comparability in coverage of stocks at the end of each year with those at its beginning. Therefore, it was possible to use changes in stocks to work back from stocks held at the end of 1954, computing comparable stocks year by year to the beginning of 1924. These calculated stocks are shown in table 14.

Uses of the Stock Subindexes

A variety of indexes show changes in stocks of farm commodities and their products and of the relative contribution of stocks to the annual flow of such commodities into utilization channels (tables 10 and 11). As our primary interest is in the contribution of stocks to annual flow, let us first consider briefly how these indexes indicate major developments in the period 1924 to 1954.

Contribution of Stocks to Annual Flow.- A remarkably constant rate of utilization from year to year has been made possible largely by drawing upon stocks in years of reduced production or of lower imports or accelerated demand. Such contributions to the year's utilization are indicated by positive percentages in the first three data columns of table 10. On the other hand, when new supplies outrun effective demand, the building up of stocks provides an outlet for the surplus flow of that year and reserves supplies for future years. This explains the use of negatives in these three columns.

From one point of view, stocks are a balancing factor, and they are residual in character. Actually, as indicated earlier, utilization is the calculated figure in our balance sheets of supply and distribution of farm commodities, but this does not impede the use of the data.

These data show that during the last 30 years, changes in stocks of all farm commodities and their products amount to more than 3 percent of total utilization in 1 year out of 3. Note the substantial flow out of stocks in the drought years 1933, 1934, and 1936, and in the war year 1943. Particularly heavy rebuilding of stocks in 1935, 1937, and 1938 followed the years of drought. In 1931, 1948, and 1953, total supplies of all farm commodities notably exceeded the current rate of domestic and foreign demand, and stocks accumulated much more than usual.

Describing Ups and Downs in Stocks.- The major importance of changes in stocks of commodities having food use in the total stock shift is indicated by data in the first column of table 11. The magnitudes of the shifts from year to year can be demonstrated by relating ending stocks for each year to beginning stocks for that year, as in the last three columns of the same table. These data highlight the major developments mentioned in the preceding paragraph. The stock accumulations in 1937 and 1948 stand out. The earlier year preceded a recession in the whole economy. The last quarter of 1948 marked the beginning of the 1949 deflation.

Short crops and exceptional demand in some years have resulted in some rather sharp changes from year to year in January 1 stocks. The contribution of major commodity groups to changes in total reported stocks is shown in table 12. We have also studied commodity contribution to total stocks held at the beginning of each year, using our calculated totals. We found that stocks of feed grains made up about 30 percent of calculated total stocks of farm commodities except in 1935, 1937, and 1948. Stocks of cotton have varied significantly, amounting to 9 percent of all holdings of farm commodities on January 1, 1924, 1951, and 1952 and as high as 20 percent at the beginning of 1939. One of the major changes in stocks has been the doubling of January 1 holdings of oilseeds and their products.

Comparison of Calculated Stocks, Calculated Total Supply, and Total Utilization.- Farm value equivalents of calculated total stocks, referred to above and given in tables 13 and 14, can be added to the values of each year's domestic production and imports to obtain a reasonably satisfactory measure of total supply of farm commodities available in each year. Data in these tables provide new insights into the relative importance of our carryover of farm commodities and their products on January 1 and the relationship between total supply and total utilization in each year.

We note that stocks of all farm commodities at the beginning of 1954 were a little higher relative to the year's total utilization than their previous records in 1939-42, followed closely by 1932-34. The relationship between total available supply as calculated and total utilization provides still another measure which may be particularly useful for study of changes in farm prices and farm income. But considerable caution in using these data is necessary, as stocks vary in degree of availability--and, therefore, in the extent to which they affect current prices--as will be pointed out in the next section.

Composition of Available Stocks.- Data have been developed for postwar years to breakdown available stocks into several significant categories for price analysis, described in the section on ownership of stocks. Stocks owned by the Commodity Credit Corporation which were purchased under its price-support program (or the small quantities purchased and held for special distribution programs) have less effect on current market prices for farm commodities than quantities held by farmers as collateral for CCC loans or unencumbered stocks in the hands of farmers, distributors, or processors. This is one of the objectives of the price-support program. The CCC is directed by law to dispose of its inventories without interference with the price-support objectives. Disposal has been made through programs such as the special export programs, the National School Lunch Program, and direct distribution to welfare agencies and needy people. Disposal was also made through sale of products back to commercial channels when the market price rose above the support level. Commodities held on January 1 by farmers under price-support loans may be sold to the CCC in the following period, or loans may be redeemed and quantities moved into commercial distribution.

The value aggregates given in table 15 are in terms of 1947-49 farm prices and equivalents of farm commodities, as for all other data in this handbook. Direct comparisons of the several categories of stocks may, therefore, be made with other information, such as data on production and utilization.

Data on reported stocks, calculated to yield coverage comparable to that of January 1, 1954, will be useful in projecting year to year utilization. Their range provides an idea of the supplement to new supply which can be made available in years of low production or emergency demand.

Limitations of the Stock Data

Some limitations of the usefulness of the subindexes on stocks have been noted, as in the foregoing discussion of the relative availability of stocks. In addition, it is necessary to remember that some stocks must always be retained in distribution channels for operating purposes. Their precise quantities are difficult to determine, but they must bear some relationship to total flow. Although data in table 13 show that beginning reported stocks in 1946 and 1947 amounted to around 35 percent of total use in those years, we know that there was considerable pressure of demand on available supplies. Of course, the commodity makeup of available stocks is important, and the degree of interchangeability is limited. Very large stocks of grains are not directly usable to meet heavy demand for meat in a particular year (for price reasons as well as the problem of increasing livestock numbers) although they may lead to larger livestock output within 2 or 3 years, if they are not held off the market by the Commodity Credit Corporation.

For rather obvious reasons, we have developed our stock data as of January 1. The significance of this date in appraisal of the situation for individual commodity groups varies widely. But analysis of individual commodities is beyond the province of this index of supply-utilization.

At several points in this section on stocks we have noted that data were developed on a rather specialized basis--farm equivalent values in constant 1947-49 prices. Therefore, they are not comparable with published inventory data, such as those on CCC stocks, because those data often include market values of processed items and accumulated costs of handling, transportation, and storage.

Finally, changing coverage of reports on stocks necessitate careful analysis when using the stock subindex.

Table 10.- Percentage contribution of available stocks of farm commodities to annual flow into utilization, all commodities, food and nonfood, 1924-54 1/

(Minus indicates addition to stocks.)

Calendar year	Changes in available stocks				
	As percentage of total utilization of all farm commodities			Food commodities	Nonfood commodities
	All commodities	Food commodities	Nonfood commodities	as percentage of their utilization	as percentage of their utilization
	Percent	Percent	Percent	Percent	Percent
1924	-0.9	2/	-0.9	2/	-5.2
1925	.1	1.0	-.9	1.2	-5.1
1926	-1.6	-.6	-1.0	-.8	-5.5
1927	1.2	2/	1.2	2/	6.3
1928	-.7	-1.2	.5	-1.5	2.7
1929	2/	.5	-.5	.6	-3.2
1930	-1.3	.3	-1.6	.4	-9.9
1931	-4.6	-2.3	-2.3	-2.8	-14.3
1932	-1.3	-1.7	.4	-2.1	2.4
1933	3.1	2.8	.3	3.4	2.0
1934	6.1	5.0	1.1	5.9	7.4
1935	-3.8	-4.2	.4	-5.2	2.3
1936	5.4	4.9	.5	5.9	2.6
1937	-9.2	-6.5	-2.7	-7.9	-15.3
1938	-4.2	-2.3	-1.9	-2.7	-11.7
1939	-.8	-.5	-.3	-.6	-1.8
1940	-2.9	-2.1	-.8	-2.5	-4.9
1941	-2.4	-2.5	.1	-3.0	.3
1942	-1.8	-1.2	-.6	-1.4	-4.2
1943	4.2	3.3	.9	3.9	5.9
1944	-.2	.1	-.3	.1	-2.6
1945	1.7	1.1	.6	1.4	4.1
1946	1.0	-.7	1.7	-.8	10.5
1947	2.1	2.0	.1	2.3	.5
1948	-6.8	-5.9	-.9	-7.1	-5.5
1949	-2.5	-1.5	-1.0	-1.7	-7.0
1950	.1	-1.3	1.4	-1.6	9.0
1951	2.6	2.8	-.2	3.4	-1.8
1952	-2.6	-1.7	-.9	-2.0	-5.6
1953	-3.9	-2.4	-1.5	-2.7	-10.4
1954 3/	-3.0	-2.1	-.9	-2.4	-6.4

1/ Available stocks include holdings of farmers (free or under price support loans), of marketing agencies and processors, and stocks acquired by the Commodity Credit Corporation under price support and domestic supply programs. Coverage varies during the period.

2/ Less than 0.05 percent.

3/ Preliminary.

Table 11.- Changes in value of available stocks as reported and calculated ending stocks as percentage of calculated beginning stocks for all commodities, by food and nonfood groups, 1924-54 ^{1/}

(Minus indicates addition to stocks.)

Calendar year	Stock changes		Calculated ending stocks as percentage of calculated beginning stocks ^{2/}		
	Food commodities	Nonfood commodities	All farm commodities	Food commodities	Nonfood commodities
	Million dollars	Million dollars	Percent	Percent	Percent
1924	5	-266	103	100	107
1925	295	-267	100	95	107
1926	-194	-293	105	103	107
1927	7	384	96	100	91
1928	-374	148	102	106	96
1929	168	-177	100	97	105
1930	94	-477	104	99	112
1931	-716	-689	113	111	115
1932	-525	122	103	107	98
1933	864	104	92	89	98
1934	1,451	316	85	79	94
1935	-1,219	120	111	123	97
1936	1,470	127	86	77	97
1937	-1,966	-829	129	139	119
1938	-708	-567	110	110	111
1939	-167	-99	102	102	102
1940	-688	-267	107	109	105
1941	-865	18	106	110	100
1942	-443	-247	104	105	104
1943	1,342	358	90	86	94
1944	41	-152	101	100	102
1945	463	245	95	95	96
1946	-263	688	97	103	88
1947	790	27	94	90	99
1948	-2,280	-326	120	130	106
1949	-569	-414	106	106	107
1950	-536	588	100	105	90
1951	1,180	-117	93	89	102
1952	-681	-351	107	107	106
1953	-956	-630	110	109	111
1954 ^{3/}	-853	-378	107	108	106

^{1/} Available stocks include holdings of farmers (free or under price support loans), of marketing agencies and processors, and stocks acquired by the Commodity Credit Corporation under price support and domestic supply programs. Coverage varies during the period. Valued at 1947-49 farm prices. ^{2/} Coverage comparable to that of Jan. 1, 1954, computed by working backward with annual changes in stocks. ^{3/} Preliminary.

Table 12.- Changes in available stocks as a percentage of annual change of all farm commodities, by commodity groups, 1924-54 1/

(Minus indicates addition to stocks.)

Calendar year	Crops									
	Food grains	Fruits and vegetables 2/	Oil crops 3/	Sugar crops	Feed grains	Hay, silage, and forage	Cotton 4/	Tobacco	Other crops 5/	Total crops
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1924	15.3	4.2	-32.2	-4.2	---	---	-106.5	5.4	3.1	-115.3
1925	539.3	242.9	-21.4	-10.7	---	---	-757.1	-175.0	-39.3	-214.3
1926	-24.5	-11.3	-3.7	-2.5	---	---	-60.9	-1.0	-.2	-104.1
1927	-14.6	-8.2	-12.3	-3.1	35.0	---	85.7	15.9	.8	99.0
1928	-82.4	-13.2	11.5	2.6	-39.6	---	42.7	20.7	-1.8	-59.0
1929	-411.1	877.8	6/	-500.0	1,744.4	---	-1,200.0	-622.2	-22.2	-122.2
1930	-40.6	-7.6	-15.4	4.2	76.0	---	-102.3	-19.3	-.3	-105.2
1931	-8.5	-4.1	.7	1.5	-39.9	---	-41.1	-8.4	-2.2	-102.0
1932	5.4	-4.7	-2.2	-2.2	-143.1	---	19.8	8.9	-.5	-118.6
1933	29.1	4.5	-3.3	-5.0	77.1	---	21.3	-8.7	.6	114.5
1934	18.6	-.2	2.9	-.1	67.8	---	12.3	5.2	.6	107.2
1935	-.8	.6	-7.2	3.4	-124.8	---	15.6	-4.3	-.9	-118.2
1936	9.2	1.8	4.4	.4	81.0	---	.9	5.9	1.9	105.5
1937	-12.7	-3.2	-5.0	-.6	-56.0	---	-24.4	-3.1	-1.0	-106.1
1938	-20.0	-4.8	-1.0	-2.9	-24.6	-19.3	-28.1	.1	.2	-100.5
1939	31.6	3.4	-13.2	1.1	-66.9	23.7	20.7	-92.1	-6.8	-98.9
1940	-26.0	.6	-11.7	-1.2	-18.1	-8.9	-3.5	-13.5	-1.6	-85.0
1941	-68.7	5.5	-8.3	-3.0	-27.6	-.8	13.2	3.3	-3.9	-90.1
1942	-47.0	2.6	-30.3	10.9	-45.5	-24.5	-1.2	3.3	35.7	-95.9
1943	42.5	-.1	-.8	1.2	44.5	5.3	7.5	10.4	-5.6	104.8
1944	8.2	40.9	114.5	31.8	-211.8	15.5	-60.0	-130.0	-46.4	-236.4
1945	45.8	10.9	3.4	-1.3	22.5	-10.2	55.4	-5.6	-.3	120.5
1946	21.4	-38.5	19.5	-.5	-78.4	24.6	168.5	-25.8	7.7	98.8
1947	-22.8	4.9	-6.1	-7.1	138.4	1.8	3.2	-9.2	2.8	106.1
1948	-7.8	-3.3	-8.9	1.8	-71.2	2.8	-15.3	-1.7	-.2	-103.9
1949	-15.3	-7.6	-6.8	-1.0	-9.7	-3.0	-46.4	-1.5	-3.1	-94.2
1950	-453.8	3.8	-207.7	-75.0	-298.1	-150.0	1,423.1	-63.5	-117.3	55.8
1951	29.3	9.5	4.2	2.4	52.4	-7.2	4.5	-11.1	2.3	86.3
1952	-49.0	-3.4	-2.1	.9	-7.9	10.9	-32.7	-12.3	1.9	-93.7
1953	-30.8	-4.7	-3.2	-.9	-14.3	-2.1	-39.3	1.8	.6	-92.9
1954 1/	-25.7	1.9	2.4	-1.0	-51.0	-4.9	-15.5	-10.7	4.9	-99.6

See footnotes at end of table.

Continued -

Table 12.- Changes in available stocks as a percentage of annual change of all farm commodities, by commodity groups, 1924-54 ^{1/} - Continued

(Minus indicates addition to stocks.)

Calendar year	Livestock					Total livestock ^{8/}	Value of change in available stocks
	Dairy products	Meat animals	Poultry and eggs	Animal fibers			
	Pct.	Pct.	Pct.	Pct.	Pct.	Mil.dol.	
1924	-1.9	14.9	1.9	---	15.3	-261	
1925	-7.1	353.6	-32.1	---	314.3	28	
1926	2.3	1.9	-.2	---	3.9	-486	
1927	-2.0	1.5	1.5	---	1.0	391	
1928	-2.2	-35.2	-3.5	---	-40.5	-227	
1929	-177.8	188.9	11.1	---	22.2	-9	
1930	1.3	7.8	-3.9	---	5.2	-384	
1931	1.6	.2	.2	---	2.1	-1,405	
1932	1.5	10.1	7.2	---	18.8	-404	
1933	-4.1	-9.1	-1.3	---	-14.6	968	
1934	1.1	-8.1	-.2	---	-7.2	1,767	
1935	1.2	16.9	.2	---	18.2	-1,100	
1936	-1.8	-3.8	-.9	1.0	-5.6	1,598	
1937	.5	6.4	-.1	-.8	6.1	-2,795	
1938	-2.6	.1	1.6	1.4	.5	-1,276	
1939	11.7	-10.2	-7.1	4.5	-1.5	-266	
1940	-.6	-12.1	-1.5	-.5	-14.9	-955	
1941	-4.5	8.9	-.1	-14.2	-9.9	-847	
1942	7.7	4.1	1.4	-17.2	-4.1	-690	
1943	-.4	-2.1	-.8	-1.6	-4.8	1,700	
1944	1.8	89.1	13.6	31.8	136.4	-110	
1945	1.6	-6.5	-9.5	-6.1	-20.5	708	
1946	-6.6	15.7	1.2	-9.9	1.2	426	
1947	.7	-13.0	-2.3	9.5	-6.1	817	
1948	-1.4	1.0	2.7	1.7	3.9	-2,606	
1949	-8.1	2.4	-9.3	9.4	-5.8	-983	
1950	13.5	13.5	-73.1	90.4	44.2	52	
1951	6.4	-4.6	9.2	2.6	13.7	1,063	
1952	-4.9	-2.4	3.5	-2.4	-6.3	-1,032	
1953	-12.4	5.5	.7	-1.2	-7.1	-1,586	
1954 ^{7/}	2.4	-1.9	-1.0	-.1	-.4	-1,231	

^{1/} Available stocks include holdings of farmers (free or under price support loans), of marketing agencies and processors, and stocks acquired by the Commodity Credit Corporation under price support and domestic supply programs. Coverage varies during the period.

^{2/} Fruits, vegetables, potatoes, sweetpotatoes, dry beans and peas, and tree nuts.

^{3/} Babassu kernels, castor beans, copra, cottonseed, flaxseed, palm kernels, palm oil (fruit equivalent), peanuts, olive oil (olive equivalent), rapeseed, sesame seed, soybeans, and tung nuts.

^{4/} Cotton lint only.

^{5/} Cocoa, coffee, tea, field crop and vegetable seeds, hops, and mustard seed.

^{6/} Less than 0.05 percent.

^{7/} Preliminary.

^{8/} Includes honey in addition to commodities listed.

Table 13.- Farm value of calculated available January 1 stocks and calculated total supply of farm commodities, 1924-54

Calendar year	Calculated available January 1 stocks 1/			Calculated total supply 3/		
	Value 2/	Index, 1947-49=100	Percentage of utilization	Value 2/	Index, 1947-49=100	Percentage of utilization
	Mil.dol.		Percent	Mil.dol.		Percent
1924	9,955	72	33	40,042	74	134
1925	10,216	73	33	40,860	76	133
1926	10,188	73	33	41,197	77	135
1927	10,674	77	34	41,866	78	133
1928	10,284	74	33	41,748	78	134
1929	10,510	76	34	41,866	78	134
1930	10,519	76	35	41,054	76	136
1931	10,903	78	36	42,588	79	141
1932	12,308	88	40	43,357	81	141
1933	12,712	91	42	42,320	79	138
1934	11,744	84	41	38,859	72	135
1935	9,977	72	35	39,794	74	139
1936	11,077	80	37	39,509	73	132
1937	9,479	68	31	42,575	79	141
1938	12,274	88	40	44,349	82	144
1939	13,550	97	42	46,087	86	143
1940	13,816	99	42	47,780	89	145
1941	14,771	106	43	50,412	94	145
1942	15,618	112	42	53,737	100	144
1943	16,308	117	40	55,275	103	136
1944	14,608	105	36	55,482	103	136
1945	14,718	106	37	54,294	101	135
1946	14,011	101	35	53,917	100	134
1947	13,585	98	34	52,491	98	132
1948	12,768	92	33	53,521	100	140
1949	15,374	111	39	55,338	103	142
1950	16,357	118	41	56,310	105	141
1951	16,305	117	39	56,599	105	137
1952	15,242	110	37	57,118	106	140
1953	16,274	117	40	58,843	109	144
1954 4/	17,860	128	43	60,258	112	146

1/ Available stocks include holdings of farmers (free or under price support loans), of marketing agencies and processors, and stocks acquired by the Commodity Credit Corporation under price support and domestic supply programs. Coverage comparable to that of January 1, 1954, computed by working backward with annual changes in stocks. 2/ Valued at 1947-49 farm prices. 3/ Calculated January 1 stocks plus production plus imports. 4/ Preliminary.

Table 14.- Farm value of calculated available January 1 stocks and calculated total supply for food and nonfood commodities, 1924-54

Calendar year	Food commodities				Nonfood commodities					
	Calculated available January 1 stocks 1/		Calculated supply 3/		Calculated available January 1 stocks 1/		Calculated supply 3/			
	Value 2/	Index, 1947-49=100: utilization	Value 2/	Index, 1947-49=100: utilization	Value 2/	Index, 1947-49=100: utilization	Value 2/	Index, 1947-49=100: utilization		
Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent		
	Mill.dol.		Mill.dol.	Mill.dol.		Mill.dol.	Mill.dol.		Mill.dol.	
1924	6,373	75	31,127	74	126	3,582	67	71	8,915	176
1925	6,368	75	31,482	74	124	3,848	72	73	9,378	178
1926	6,073	71	31,484	74	125	4,115	77	78	9,712	183
1927	6,267	73	31,794	75	125	4,407	82	73	10,072	167
1928	6,260	73	32,356	77	126	4,024	75	73	9,392	170
1929	6,634	78	32,282	76	125	3,876	72	70	9,584	173
1930	6,466	76	31,716	75	125	4,053	75	84	9,337	194
1931	6,373	83	32,540	77	128	4,530	84	94	10,048	208
1932	7,089	85	33,195	79	130	5,219	97	103	10,162	201
1933	7,624	89	32,215	76	127	5,097	95	100	10,105	198
1934	6,750	79	29,928	71	122	4,994	93	117	8,931	210
1935	5,299	62	30,032	71	128	4,678	87	90	9,762	188
1936	6,519	76	30,155	71	120	4,558	85	93	9,354	190
1937	5,048	59	31,903	75	128	4,431	82	82	10,672	197
1938	7,015	82	33,651	80	130	5,260	98	108	10,697	220
1939	7,723	90	34,798	82	129	5,827	108	109	11,290	210
1940	7,890	92	36,172	86	131	5,926	110	109	11,608	214
1941	8,578	101	38,502	91	132	6,193	115	108	11,910	208
1942	9,443	111	41,407	98	131	6,175	115	105	12,330	209
1943	9,886	116	43,116	102	125	6,422	120	105	12,159	199
1944	8,544	100	43,480	103	124	6,064	113	105	12,002	207
1945	8,503	100	42,304	100	123	6,216	116	103	11,990	199
1946	8,040	94	42,102	100	125	5,971	111	91	11,814	181
1947	8,302	97	41,297	98	122	5,283	98	89	11,194	189
1948	7,512	88	42,030	99	130	5,256	98	89	11,491	194
1949	9,792	115	43,463	103	131	5,582	104	95	11,875	202
1950	10,361	121	44,396	105	133	5,996	112	92	11,915	183
1951	10,897	128	44,553	105	128	5,408	101	83	12,046	185
1952	9,717	114	44,949	106	130	5,525	103	88	12,169	193
1953	10,398	122	46,306	110	132	5,876	109	97	12,537	208
1954 4/	11,354	133	47,451	112	135	6,506	121	110	12,807	216

1/ Available stocks include holdings of farmers (free or under price support loans), of marketing agencies and processors, and stocks acquired by the Commodity Credit Corporation under price support and domestic supply programs. Coverage comparable to that of January 1, 1954, computed by working backwards with annual changes in stocks.
 2/ Valued at 1947-49 farm prices.
 3/ Calculated January 1 stocks plus production plus imports.
 4/ Preliminary.

Table 15.- Farm value of available stocks of all farm commodities, by types, January 1, 1947-54 1/

Date	Total available stocks as calculated <u>2/</u>	Held by CCC: for price support or domestic supply programs	Under loan for price support	Unencumbered farm and commercial stocks <u>3/</u>	As percentage of total available stocks
	Million dollars	Million dollars	Million dollars	Million dollars	Percent
January 1					
1947	13,585	418	182	12,985	96
1948	12,768	265	330	12,173	95
1949	15,374	264	1,295	13,815	90
1950	16,357	1,525	1,875	12,957	79
1951	16,305	1,824	981	13,500	83
1952	15,242	1,151	752	13,339	88
1953	16,274	1,065	1,341	13,868	85
1954 <u>4/</u>	17,860	2,143	2,912	12,805	72

1/ Available stocks include holdings of farmers (free or under price support loans), of marketing agencies and processors, and stocks acquired by the Commodity Credit Corporation under price support and domestic supply programs. Valued at 1947-49 farm prices. 2/ Coverage comparable to that of January 1, 1954; computed by working backward with annual changes in stocks. 3/ Residual. 4/ Preliminary.

CHAPTER 4. MEASURING FLOWS INTO UTILIZATION

The flow or disappearance of farm commodities and their products into specified channels in each year makes up the utilization side of the master index of supply-utilization. This chapter contains a section on each of the channels toward final use. The channels are identified as civilian food use, military takings of food commodities, domestic nonfood use, commercial exports and shipments, and United States Department of Agriculture purchases for export. The concluding section provides a brief explanation of how we handle the three phases of the Department's export operations, that is, purchases, deliveries, and stocks. Subindexes of the master index measure the proportion of the total flow of farm commodities going into each of these channels (table 16) each year, as well as the changes in each stream.

The net flow of commodities during a given year from production or imports into stocks available for use in succeeding years is taken into account on the supply side of the master index; it is not considered to be a form of use. When stocks are so reduced that total utilization exceeds the year's "new supply" from domestic farm production and imports, the use of commodities carried over from preceding years is counted as they flow into the specified channels toward final utilization. The exception to this handling is the temporary accumulation of stocks by the Department of Agriculture to meet its foreign supply programs. In this case, we count commodities as "used" in the year that the Department withdraws them from commercial channels, because only rarely have they been turned back for future use into another channel or category. They ordinarily are shipped out soon after the beginning of the following year. But the Department's holdings of commodities bought under its price-support programs and special domestic programs are kept with farm and commercial stocks on the supply side of the index until they move into one of the channels for domestic or foreign use, as described in the preceding chapter.

Our meaning of utilization, it can now be seen, involves the concept of gross flow. That is to say, grains and other farm commodities used for feed and seed are counted at the time of such use, and, in effect, they get counted again when livestock and future crops to which they contributed are used. But we shall show how these inputs back into agriculture can be subtracted from both domestic nonfood use and total utilization just as they were subtracted from gross production, as shown in chapter 3, to obtain a "net" measure.

The flow of products processed from farm commodities is measured in the year of disappearance into the identified channels for use, in so far as possible, rather than in the year of processing. Here, the lack of information on stocks of processed products results in some slippage between years.

One of the popular devices for studying data on utilization is the computation of per capita series. After some consideration, we decided not to develop a per capita index of total utilization of farm commodities on

Table 16.- Index of total utilization of all farm commodities and relative importance of specified channels of utilization, 1924-54

Calendar year	Index of total utilization, 1947-49=100:	Relative importance in total utilization					
		Civilian food use	Military takings for food use	Domestic nonfood use 1/		Commercial exports and shipments to Territories:	USDA net purchases for export
		Percent	Percent	Percent	Percent	Percent	Percent
1924	77	52.7	---	30.7	7.4	9.2	---
1925	79	51.8	---	31.7	8.0	8.5	---
1926	78	53.1	---	29.9	8.2	8.8	---
1927	81	51.0	---	31.5	8.4	9.1	---
1928	80	51.9	---	31.4	8.1	8.6	---
1929	80	52.7	---	30.9	8.5	7.9	---
1930	77	55.0	---	30.4	7.5	7.1	---
1931	78	55.3	---	30.6	7.4	6.5	0.2
1932	79	53.7	---	32.7	6.5	7.0	.1
1933	78	54.4	---	31.4	7.9	6.3	---
1934	74	58.8	---	27.6	8.2	5.4	---
1935	74	57.0	---	29.2	8.8	5.0	---
1936	77	56.7	---	29.0	9.8	4.5	---
1937	78	57.2	---	27.8	9.9	5.1	---
1938	79	55.8	---	30.0	8.3	5.9	---
1939	83	55.8	---	30.2	9.2	4.8	---
1940	85	56.5	---	30.4	9.5	3.6	---
1941	89	54.3	1.0	29.8	11.2	2.1	1.6
1942	96	50.0	3.4	30.3	11.1	1.2	4.0
1943	104	46.5	5.2	31.9	10.2	1.1	5.1
1944	105	47.8	7.7	28.9	10.1	1.6	3.9
1945	103	49.0	7.2	28.4	9.9	2.7	2.8
1946	104	53.3	1.9	27.7	9.9	3.8	3.4
1947	102	54.7	2.0	26.4	9.5	5.0	2.4
1948	98	55.6	2.4	26.1	10.2	4.4	1.3
1949	100	55.0	2.3	27.1	8.8	5.5	1.3
1950	103	54.8	1.2	27.0	10.2	5.7	1.1
1951	106	53.1	2.3	26.8	9.5	6.7	1.7
1952	105	55.8	1.7	26.7	8.9	6.7	.2
1953	105	57.3	1.6	25.9	9.0	5.8	.4
1954 2/	106	58.4	1.3	25.1	8.4	6.4	.4

1/ Includes military takings.
2/ Preliminary.

Table 17.- Indexes of domestic use of all farm commodities, civilian food use, and net domestic nonfood use, 1924-54

(1947-49=100)

Calendar year	Domestic use of all farm commodities ^{1/}		Civilian food use		Net domestic nonfood use ^{1/ 2/}	
	Total	Per capita	Total	Per capita	Total	Per capita
1924	75	96	73	93	59	76
1925	77	98	74	93	66	84
1926	77	96	76	93	68	84
1927	79	97	75	91	71	88
1928	79	95	76	91	68	82
1929	79	95	77	92	72	86
1930	77	92	77	91	62	73
1931	78	92	78	91	61	72
1932	78	92	77	89	54	63
1933	79	92	77	89	65	76
1934	75	87	79	91	64	74
1935	75	86	76	87	68	78
1936	79	90	79	90	80	91
1937	79	90	81	91	81	92
1938	80	90	80	89	69	78
1939	84	95	84	93	80	90
1940	87	97	87	95	84	93
1941	92	101	88	97	106	116
1942	98	106	87	96	112	122
1943	105	112	88	99	112	120
1944	106	112	91	102	111	117
1945	105	110	92	103	107	112
1946	103	107	100	105	108	112
1947	101	103	101	103	102	104
1948	99	99	99	99	105	105
1949	100	98	100	98	92	91
1950	103	99	102	99	110	106
1951	104	99	102	98	105	100
1952	104	97	106	100	99	92
1953	106	97	109	102	100	92
1954 ^{3/}	105	95	112	102	93	84

^{1/} Includes military takings.
^{2/} Excludes feed and seed use.
^{3/} Preliminary.

Table 18.- Average farm value of farm commodities used in 1947-49 and relative importance of individual commodities in selected periods

Commodity	Average farm value of quantities used in 1947-49 / Million dollars	Relative importance in total utilization				
		1947-49	1925-29	1935-39	1942-45	1954 pre-liminary
Crops		Percent	Percent	Percent	Percent	Percent
Beverages						
Cocoa	202	0.5	0.4	0.6	0.5	0.6
Coffee	810	2.1	1.4	1.8	1.7	1.8
Tea	49	.1	.2	.2	.1	.2
Total	1,061	2.7	2.0	2.6	2.4	2.5
Cotton lint	1,825	4.7	7.3	5.8	4.4	4.6
Food grains						
Buckwheat	9	2/	.1	2/	2/	2/
Rice	178	.5	.3	.4	.4	.6
Rye	45	.1	.2	.3	.2	.1
Wheat	2,433	6.2	5.3	5.1	5.9	4.3
Total	2,665	6.8	6.0	5.8	6.5	5.0
Feed grains						
Barley	385	1.0	1.1	1.0	1.3	1.0
Corn	4,466	11.5	13.1	10.7	11.9	10.6
Grain sorghums	139	.4	.3	.3	.4	.3
Oats	1,092	2.8	3.2	2.7	2.6	2.7
Total	6,082	15.6	17.7	14.7	16.3	14.6
Fruits and tree nuts						
Bananas	191	.5	.6	.6	.2	.5
Other fruits	1,057	2.7	2.3	2.8	2.5	2.6
Tree nuts	140	.4	.3	.4	.3	.4
Total	1,388	3.6	3.1	3.7	2.9	3.4
Hay, silage, and forage						
Hay	2,242	5.8	6.2	6.2	6.0	5.6
Sorghums for silage	30	.1	2/	.1	.1	.1
Sorghums for forage	91	.2	.3	.5	.4	.2
Velvet beans	9	2/	.1	.1	.1	2/
Total	2,372	6.1	6.7	6.9	6.6	6.0
Oil crops						
Babassu kernels	5	2/	2/	2/	2/	---
Castor beans	24	.1	2/	2/	.1	.1
Copra	124	.3	.3	.3	.1	.2
Cottonseed	343	.9	1.4	1.2	.8	1.1
Flaxseed	184	.5	.7	.5	.7	.7
Olive oil, olive basis	14	2/	.2	.2	2/	.1
Palm kernels	3	2/	.1	.1	2/	2/
Palm oil, fruit basis	17	2/	.2	.3	.1	2/
Peanuts	225	.6	.3	.5	.5	.4
Rapeseed	2	2/	2/	2/	2/	2/
Soybeans	539	1.4	.1	.4	1.1	1.7
Sunflower seed	1	2/	2/	2/	2/	2/
Tung nuts	23	.1	.1	.1	2/	.1
Total	1,504	3.9	3.3	3.7	3.4	4.4
Sugar crops						
Maple sirup	10	2/	2/	2/	2/	2/
Maple sugar	5	2/	2/	2/	2/	2/
Sorgo sirup	17	2/	.1	.1	.1	2/
Sugarcane and sugar beets	542	1.4	1.6	1.6	1.2	1.5
Sugarcane sirup	18	2/	.1	.1	2/	2/
Total	592	1.5	1.8	1.8	1.4	1.6

See footnotes at end of table.

Continued -

Table 18.- Average farm value of farm commodities used in 1947-49 and relative importance of individual commodities in selected periods - Continued

Commodity	Average farm value of quantities used in 1947-49 1/	Relative importance in total utilization				
		1947-49	1925-29	1935-39	1942-45	1954 pre- liminary
	Million dollars	Percent	Percent	Percent	Percent	Percent
<u>Crops, continued</u>						
Tobacco	926	2.4	2.2	2.2	2.1	2.3
Vegetables and other food crops						
Beans, dry	130	.3	.3	.4	.4	.4
Cowpeas for peas	14	2/	.1	.1	.1	2/
Mustard seed	2	2/	2/	2/	2/	2/
Peas, dry	24	.1	2/	2/	.1	2/
Popcorn	8	2/	2/	2/	2/	2/
Potatoes	625	1.6	1.7	1.8	1.5	1.3
Sesame seed	2	2/	2/	2/	2/	2/
Sweetpotatoes	102	.3	.4	.5	.4	.2
Other vegetables	1,765	4.5	4.2	4.8	4.5	4.6
Total	2,672	6.9	6.7	7.6	7.0	6.5
Other nonfood crops						
Broomcorn	3/	2/	2/	2/	2/	2/
Field crop seeds	148	.4	.2	.3	.3	.4
Hops	31	.1	.1	.1	.1	.1
Vegetable seeds	21	.1	.1	.1	.1	.1
Total	200	.5	.3	.5	.5	.5
Total crops	21,287	54.7	57.1	55.2	53.4	51.5
<u>Livestock</u>						
Animal fibers						
Mohair	9	2/	2/	2/	2/	2/
Wool, shorn	504	1.3	1.0	1.0	1.2	.8
Total	513	1.3	1.0	1.0	1.3	.8
Dairy products	4,854	12.5	13.4	14.7	12.7	12.6
Honey	39	.1	.1	.1	.1	.1
Meat animals						
Cattle and calves	4,332	11.1	9.3	10.6	10.6	13.5
Hogs	3,899	10.0	10.4	9.3	11.5	9.2
Sheep and lambs	349	.9	1.0	1.3	1.3	.8
Total	8,580	22.0	20.7	21.1	23.3	23.5
Poultry and eggs						
Chickens	1,099	2.8	2.3	2.3	3.0	3.8
Eggs	2,322	6.0	5.1	5.1	5.8	6.7
Turkeys	257	.7	.3	.5	.6	1.0
Total	3,678	9.4	7.7	7.9	9.3	11.5
Total livestock	17,664	45.3	42.9	44.8	46.6	48.5
Total all farm commodities	38,951	100.0	100.0	100.0	100.0	100.0

1/ Valued at 1947-49 farm prices.

2/ Less than 0.05 percent.

3/ Less than 500,000 dollars.

account of the changing significance of exports, for which we cannot obtain a population figure. But we have developed indexes of per capita domestic use of all farm commodities, as well as for civilian food use and domestic non-food use (table 17), even though some of the military takings of both food and nonfood commodities were for use of allied troops and for relief distribution to civilians in occupied and liberated areas. Also, the building up of military stocks in years such as those in the periods 1941-43 and 1950-51 slightly distorts per capita rates for those years.

These factors lead to a slight overstatement of the per capita rates of domestic use of all commodities and of domestic nonfood use for the years when such procurement was relatively large. But as data on food commodities show, even in peak war years military takings never accounted for more a minor proportion of total utilization of such commodities in any year. It is unlikely that military takings for use of our allies or civilian relief exceeded 1 or 2 percent of total utilization of these broad categories of farm commodities in any year.

As on the supply side of the master index, the quantities of all farm commodities and their products used in each year are aggregated in terms of equivalent farm values in constant 1947-49 dollars.

The major contribution which the subindexes measuring the flow of farm commodities into utilization in each year will make to the analysis of problems in agricultural economics may be their usefulness for comparisons of rates of flow--among channels, through time, and with rates of flow from sources of supply. We shall touch upon such uses in the description of each subindex.

In table 16 you will note that domestic food use requires a larger proportion of total flow of farm commodities now than 30 years ago. Feed use is down some by reason of the great reduction in numbers of horses and mules. Since 1929, exports and shipments have been less important as a channel of utilization for farm commodities than they were in the twenties. This table also highlights wartime shifts in use.

This index of supply-utilization provides a useful measure of the changes in significance of commodity groups in total utilization of all farm commodities. Table 18 shows the shift in emphasis from crops to livestock, and the increases in coffee, wheat, soybeans, poultry and eggs, and cattle and calves. It points up the decreased importance of cotton, corn, and milk.

CIVILIAN FOOD USE OF FARM COMMODITIES 21/

Consumption of farm commodities for food by the civilian population of the United States accounts for the major part of their use. About 57 percent

of the total utilization of all farm commodities in 1952-54 and 67 percent of only those commodities having food use moved into channels for civilian food consumption. A few food items, such as wild game, fishery products, and rabbits, are excluded from this subindex of the supply-utilization index, for we do not consider them to be farm commodities. Details on commodity coverage are given in chapter 2.

This Measure of Civilian Food Use

As the derivation and limitations of basic data on civilian food consumption are described at length in Agriculture Handbook No. 62, only a few notes on procedure are necessary here. In the absence of direct reporting of civilian food use, we had to estimate apparent civilian consumption of most foods as a residual, subtracting reported use for exports and shipments, nonfood use, and military takings, and ending stocks from the total supply available for the year (that is, production plus imports plus beginning stocks).

Apparent civilian food use or, more precisely, disappearance into civilian distribution channels, is not necessarily the same as actual food consumption. By reason of the procedure followed in estimating such use, some quantities considered as used in a given year could actually be additions to unreported stocks of products held by food processors, retail outlets, or consumers. From year to year these are not likely to be of much consequence, except in times when processors or users of commodities expect supplies or prices to change markedly.

Because of the residual method of their derivation, the figures on civilian food use could be subject to an accumulation of errors resulting from inadequate data in supplies or any other category of utilization. This is more likely to be a serious problem for individual items of food than for commodity groups. Usually, errors in estimates are counterbalancing, therefore they have relatively little effect on the civilian use aggregates for groups of commodities.

Quantities of individual farm commodities and their products moving into civilian food use in each year are combined in terms of farm commodities valued at 1947-49 farm prices, as in other segments of the master index. Farm values of processed foods were determined, in accordance with the general procedure already described, by dividing the value of each farm commodity among its joint products according to the shares their processed values had to the total processed value of all joint products. Accordingly, the subindex of the master index properly described as the index of civilian food use of farm commodities measures the amount of farm resources utilized each year as food by our civilian population (table 19). It is affected by shifts in the pattern of consumption from lower farm-priced to higher farm-priced commodities, as from wheat and potatoes to meat and broccoli. But it is not affected by shifts to food products incorporating additional marketing services, as to canned Spanish rice from milled rice, or purchased cakes instead of flour.

Per capita indexes of civilian food use of groups of farm commodities were computed from totals, using estimates of the population eating out of civilian supplies (table 20). 22/

Value aggregates for major commodity groupings of civilian food use for 1924 through 1954 are given in the appendix. Our purpose here was to group these basic data in so far as possible to permit analysis from both the production (or supply) and the utilization (or demand) side. But minor differences remain.

Comparison with Other Concepts and Measures
of Food Consumption

The index of civilian food use is only one of several measures of the flow of food into domestic civilian consumption that have been developed. Whereas it measures consumption in terms of farm commodities and fixed farm prices, other measures gauge rates of consumption at retail or in family households. These are in terms of physical weights of food at retail, constant dollar values derived by multiplying changing quantities by fixed prices, or in current dollars at several stages in the marketing system. 23/ Another indicator is nutritive value of the per capita food supply.

The index of civilian per capita food consumption 24/ and the series on aggregate retail weight of food consumed 25/ make use of the same basic data as those used for the civilian food use subindex of the master supply-utilization index, plus data on nonfarm foods such as fish and game. Whereas both take into consideration changes in farm commodities as they move from farm to retail, the index of civilian food use of farm commodities does not. The index of civilian per capita food consumption is constructed with changing retail weights of individual foods and fixed retail prices; it reflects shifts in those types of marketing services procured with food in retail food stores as well as the adjustment from farm weights to retail weights. The retail poundage series does not take relative costs or relative consumer preferences into consideration, so it is quite inadequate for economic analysis.

Table 21 shows a comparison of these two measures of per capita food consumption, and of others, with the per capita index of civilian food use of farm commodities. The two indexes measured in constant prices--one at the farm level, the other at retail--have moved closely together. This seems to indicate that base-period price relationships for many farm commodities at

22/ Agriculture Handbook No. 62, table 53, p. 190.

23/ See Burk, Marguerite C., "Problems in the Analysis of Food Consumption," Agricultural Economics Research. Vol. VI, No. 1, January 1954, pp. 10-19.

24/ Described in detail in Agriculture Handbook No. 62, pp. 132-159.

25/ Ibid., p. 144.

retail were similar to those at the farm level, particularly for livestock products. Another inference is that the effects of the shift to processed commodities, which is measured by the index of civilian per capita food consumption but not by the index of civilian food use, seem to be partially offsetting. For many foods, increased processing results in higher priced food; but for others, because of lower transportation and handling costs, the result is lower priced food, for example, frozen orange juice.

Two measures of food consumption in terms of current dollar value near the stage of consumer purchase are widely used for particular purposes. One of these, published by the Agricultural Marketing Service, 26/ is the series on retail cost of domestically produced farm-food products sold by farmers and bought by civilian consumers. It is a byproduct of the work on marketing margins. As published it covers only farm foods sold. Thus it excludes farm food commodities consumed on farms where produced, imported and nonfarm foods, and marketing services other than those from farm to retail. Food expenditure data published by the Department of Commerce come close to the market value concept, with several minor exceptions. 27/

Both of these measures reflect changes in marketing services, changes in market prices, and changes in form of farm commodities used for food, as well as other factors. In contrast, the index of civilian food use considered here is concerned with measuring the quantity of farm commodities moving to civilians for food in terms of constant farm prices.

Another approach to the measurement of food consumption is the use of survey methods, in which housewives are asked how much of each food their families consumed in the preceding week. Such surveys as yet cover only housekeeping families. Except for the panel surveys, they do not provide information on changes in food use through time. But they are valuable sources of information on consumption rates of various population groups at particular points in time.

The choice of the measure of food consumption best adapted to use for each problem to be studied depends on what aspects of consumption are to be

26/ Ibid., pp. 173-175, and current issues of The Marketing and Transportation Situation.

27/ See U. S. Department of Commerce, Office of Business Economics, "National Income, 1954 Edition," supplement to Survey of Current Business and current issues of the Survey of Current Business.

evaluated. In problems concerned with use of farm resources the index of civilian food use of farm commodities, either total or per capita, is recommended. If a fixed amount of marketing services, as well as farm resources, is to be considered, the index of civilian per capita food consumption should be used. If price changes, as well as changes in quantities, have a bearing on the problem, a current dollar value series is called for. The choice between the unadjusted series on retail cost of farm foods and the Department of Commerce food expenditure series depends upon the nature of the problem. If it has to do with all foods and all marketing services, use a food expenditure series. If it is concerned with farm produced foods as sold at retail, the AMS retail cost series is the correct choice.

Uses and Limitations of the Subindex on Civilian Food Use

One of the most important uses of the index of civilian food use probably is the indication of the relative significance of domestic civilian demand for food compared with other channels or demands to which our farm commodities flow. Over the period for which these data are available civilian food use has ranged from a low of about 46-49 percent of the total utilization of agricultural products in the middle 1940's to the high of about 57-59 percent in the middle 1930's and in recent years (table 16). In the forties, our greatly enlarged military forces and foreign aid programs made large demands upon the available supply of agricultural products, leaving a smaller proportion available for civilian food use. The two peaks in relative importance of our civilian food use resulted from either the decline in our commercial exports of agricultural products while total utilization decreased--as in the middle 1930's--or domestic nonfood uses and military requirements decreased in importance--as in recent years--while the grand total was increasing.

This index describes long-term shifts in domestic demand for farm resources utilized for crops and for livestock products. As shown in table 19, the importance of livestock products in our civilian demand for farm commodities increased from 1924 to 1954, while the emphasis on crops was diminishing. Some of the more striking changes inside these groups are decreases in use of food grains and potatoes and increases in use of poultry and eggs.

When we are able to develop the necessary data, we plan to study the changing structure of demand for various types of processed and fresh products within the overall framework of this index.

By adjusting the index of total civilian food use to a per capita basis, as in table 20, we see how well our supplies of farm food commodities have kept up with our increasing population. It is immediately apparent that in 1954 they were proportionately larger than they were 30 years before. Similarly, this subindex of the master index of supply-utilization of all farm commodities provides a useful tool for working with projections of

future requirements for farm resources. Projections for major commodity groups on a per person basis can be worked back to farm commodities and these can be readily compared by commodity groups with present, and possible future rates of production for the same groups of commodities. For this purpose, this index is conceptually much to be preferred over the index of civilian per capita food consumption as that index brings in the extraneous element of marketing services.

Finally, by careful handling of individual value aggregates for imported foods and for domestically produced foods, it is possible to obtain a relatively satisfactory estimate of the degree of self-sufficiency of the United States in supplying the farm food needs of its civilian population. As shown in table 22 and figure 3, around 90 percent of the civilian food used is domestically produced. Most imported foods are complementary commodities which cannot be produced in this country and which have no close domestically produced substitutes readily available. Data in table 22 also indicate the trend in the quantities of imported commodities used. Although imported foods make up a small proportion of the total civilian food use, the extent of food importation is followed with much interest because of wide variations from year to year occasioned by changes in the weather, prices, international situation, and other causes. Table 23 shows the variation in the importance of imports in commodity groups.

These major limitations of the subindex of civilian food use of farm food commodities are apparent. First, as it is an overall aggregative measure it reflects net effects of a variety of changes in food consumption. This is both a virtue and a fault, however, depending upon one's needs. Second, it excludes all marketing services connected with moving farm food commodities from the farm to consumer. Third, being developed with fixed prices it cannot measure changing preferences that are reflected in changes in price relationships among farm commodities. Accordingly, it is only when the index is combined with some measure of farm price changes that it is useful in studying trends in farm income which come from changing demands of our civilian population.

Table 19.- Index of total civilian food use of all farm commodities and percentage distribution by commodity groups, 1924-54

Calendar year	Index of total civilian food use, 1947-49=100	Crops										Total crops
		Dry beans and peas 1/	Coffee, tea and cocoa	Food grains	Feed grains 2/	Fruits	Oil crops 3/	Potatoes and sweet-potatoes	Sugar crops 4/	Tree nuts	Vegetables	
1924	73	0.6	3.8	5.6	1.7	4.6	1.7	3.2	2.9	0.4	7.7	32.3
1925	74	.6	3.4	5.8	1.5	4.6	2.1	3.3	3.4	.5	8.3	33.6
1926	76	.6	3.9	5.8	1.6	5.6	2.1	2.9	3.3	.5	7.6	33.9
1927	75	.7	3.8	5.9	1.7	4.5	1.9	3.3	3.1	.4	7.7	33.0
1928	76	.6	3.7	5.9	1.8	5.1	2.2	3.3	3.0	.4	7.8	33.8
1929	77	.6	4.0	5.7	1.7	4.8	2.3	3.5	3.0	.4	8.3	34.4
1930	77	.7	3.8	5.5	1.7	4.8	2.1	2.9	3.5	.4	8.6	34.1
1931	78	.7	4.0	5.5	1.6	5.3	2.5	3.1	2.9	.5	7.9	34.0
1932	77	.6	4.0	5.6	1.5	4.5	1.8	3.3	2.9	.4	8.0	32.7
1933	77	.6	4.1	5.4	1.5	4.4	1.9	3.2	2.7	.4	8.0	32.1
1934	77	.7	3.9	5.0	1.4	4.2	1.9	3.2	2.8	.4	8.2	31.6
1935	76	.7	4.7	5.4	1.3	5.4	3.0	3.5	3.1	.6	8.7	36.3
1936	79	.7	4.7	5.3	1.3	4.5	2.9	3.0	3.0	.5	8.2	34.1
1937	81	.6	4.3	5.2	1.2	5.8	3.1	2.9	2.9	.6	8.5	35.2
1938	80	.7	4.6	5.4	1.2	4.9	2.5	3.0	2.9	.5	8.4	34.2
1939	84	.7	4.7	5.1	1.2	5.5	2.4	2.7	2.8	.6	8.3	34.0
1940	87	.6	4.7	4.9	1.2	4.9	2.2	2.6	2.7	.6	8.6	33.0
1941	88	.6	4.8	4.8	1.3	5.4	2.3	2.7	2.7	.6	8.5	33.7
1942	87	.8	4.0	4.9	1.5	4.6	2.2	2.8	2.6	.5	8.5	32.2
1943	88	.6	3.6	4.9	1.4	4.1	2.4	2.7	2.2	.4	8.2	30.5
1944	91	.5	4.0	4.3	1.3	4.5	2.3	2.7	2.2	.5	8.5	31.1
1945	92	.5	4.2	4.6	1.3	4.6	2.2	2.5	2.1	.6	8.9	31.6
1946	100	.6	5.0	4.4	1.2	4.9	2.2	2.4	2.1	.5	8.4	31.8
1947	101	.5	4.6	4.1	1.2	5.0	2.2	2.4	2.5	.6	7.9	31.1
1948	99	.5	4.9	4.2	1.1	4.7	2.5	2.1	2.6	.7	8.1	31.4
1949	100	.5	5.0	4.2	1.1	4.8	2.3	2.2	2.5	.7	7.9	31.1
1950	102	.6	4.6	4.1	1.1	4.5	2.4	2.1	2.6	.7	7.8	30.7
1951	102	.6	4.6	4.2	1.1	4.8	2.4	2.1	2.5	.7	7.9	30.9
1952	106	.5	4.6	4.0	1.1	4.7	2.5	1.9	2.5	.7	7.7	30.2
1953	109	.5	4.6	3.8	1.0	4.5	2.5	2.0	2.5	.7	7.6	29.7
1954 6/	112	.5	4.1	3.8	1.0	4.6	2.6	1.9	2.5	.6	7.5	29.3

See footnotes at end of table.

Table 19.- Index of total civilian food use of all farm commodities and percentage distribution by commodity groups, 1924-54 - Continued

Calendar year	Livestock					Poultry	Total livestock	Total civilian food use
	Dairy products	Eggs	Honey	Meat animals	Percent			
1924	16.2	9.0	0.2	37.7	4.7	67.7	100	
1925	16.3	8.9	.2	36.1	4.8	66.4	100	
1926	16.4	9.4	.2	35.2	4.8	66.1	100	
1927	16.7	9.7	.2	35.3	5.2	67.0	100	
1928	16.8	9.6	.2	34.6	5.0	66.2	100	
1929	17.0	9.4	.2	34.1	4.9	65.6	100	
1930	17.1	9.4	.2	33.9	5.4	65.9	100	
1931	17.2	9.4	.2	34.4	4.9	66.0	100	
1932	17.6	9.1	.2	35.3	5.2	67.3	100	
1933	17.3	8.6	.2	36.4	5.4	67.9	100	
1934	16.9	8.2	.2	38.2	4.9	68.4	100	
1935	17.8	8.3	.2	32.5	4.9	63.7	100	
1936	17.3	8.3	.2	35.0	5.1	65.9	100	
1937	17.3	8.8	.2	33.5	5.0	64.8	100	
1938	17.6	9.0	.2	34.1	4.8	65.8	100	
1939	17.3	8.7	.2	34.6	5.2	66.0	100	
1940	17.0	8.6	.2	36.0	5.2	67.0	100	
1941	16.8	8.3	.2	35.5	5.5	66.3	100	
1942	17.8	8.5	.2	35.1	6.2	67.8	100	
1943	17.0	9.1	.2	35.8	7.4	69.5	100	
1944	16.5	8.9	.2	36.7	6.5	68.9	100	
1945	17.2	10.1	.2	33.9	7.0	68.4	100	
1946	17.2	9.3	.2	35.0	6.4	68.2	100	
1947	16.8	9.6	.2	36.3	6.0	68.9	100	
1948	16.8	10.2	.2	35.5	6.0	68.6	100	
1949	16.9	10.1	.2	35.1	6.6	68.9	100	
1950	17.0	10.2	.2	34.9	7.1	69.3	100	
1951	16.9	10.5	.2	33.7	7.8	69.1	100	
1952	16.6	10.6	.2	34.6	7.8	69.8	100	
1953	16.1	10.4	.2	36.0	7.6	70.3	100	
1954	16.2	10.7	.2	35.7	8.0	70.7	100	

1/ Includes cowpeas for peas. 2/ Includes corn sugar and sirup. 3/ Includes peanuts for all uses. 4/ Excludes corn sugar and sirups and honey. 5/ Includes popcorn and mustard seed in addition to crops listed. 6/ Preliminary.

Table 20.- Index of civilian per capita food use by commodity groups, specified periods

		(1947-49 = 100)					
Commodity group	1925-29	1935-39	1942-45	1946	1952	1953	1954 1/
Crops	117	126	127	127	115	111	116
Beans and peas, dry 2/	72	85	82	109	95	96	87
Coffee, tea, and cocoa	129	114	112	110	96	94	93
Food grains	136	99	120	114	95	93	92
Feed grains 3/	93	97	92	107	96	93	95
Fruits	83	107	99	103	109	108	115
Oil crops 4/	134	122	120	113	84	89	89
Potatoes and sweetpotatoes	116	105	92	86	99	99	100
Sugar crops 5/	63	80	74	89	108	109	99
Tree nuts	92	95	107	110	97	97	96
Vegetables	99	100	101	107	97	97	96
Total crops 6/							
Livestock	91	93	102	107	99	97	98
Dairy products	87	78	92	98	107	106	109
Eggs	115	100	124	125	118	103	95
Honey	91	86	100	103	98	103	102
Meat animals	73	73	110	108	126	124	132
Poultry	89	85	100	104	102	104	105
Total livestock							
Total civilian use	92	90	100	105	100	102	102

- 1/ Preliminary.
- 2/ Includes cowpeas for peas.
- 3/ Includes corn sugar and sirup.
- 4/ Includes peanuts for all uses.
- 5/ Excludes corn sugar and sirup and honey.
- 6/ Includes popcorn and mustard seed in addition to crops listed.

Table 21.- Selected measures pertaining to per capita food usage, specified periods

		(1947-49 = 100)			
Measure	1929	1935-39	1942-45	1952-54 1/	
1. Index of civilian food use of farm commodities (Food utilization measured at farm level in terms of 1947-49 farm prices)	92	90	100	101	
2. Index of civilian per capita food consumption (Food consumption measured at retail level in terms of 1947-49 retail prices)	91	91	99	102	
3. Index of retail weight of per capita consumption (Physical quantities of foods consumed measured at retail level, based on total poundage)	101	98	105	98	
4. Index of per capita retail cost of domestically produced farm foods purchased by civilian consumers (Based on AMS series on food marketing bill, in current dollars)	55	41	63	109	
5. Food expenditures in current dollars as estimated by the Department of Commerce, per capita index	49	36	65	120	

1/ Including preliminary estimates for 1954.

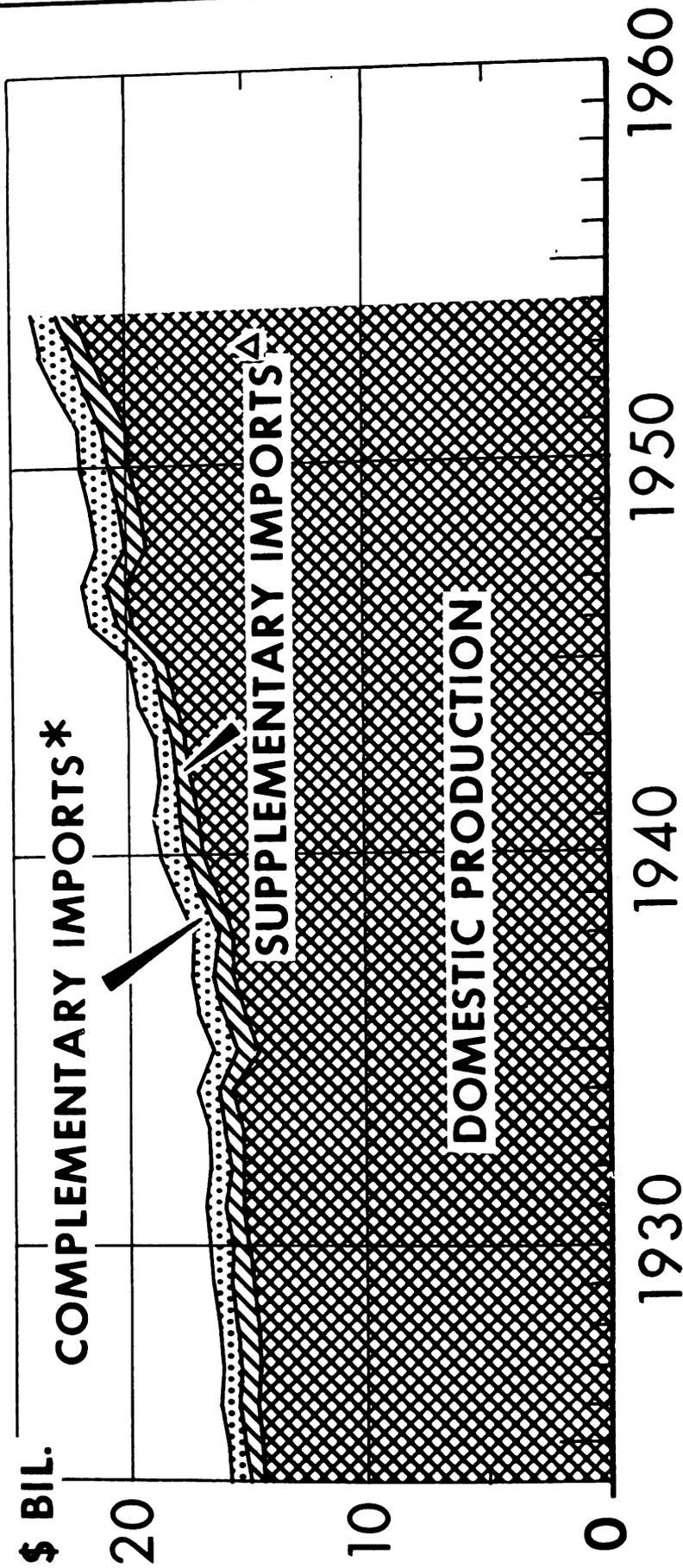
Table 22.- Indexes of total civilian food use of domestically produced commodities and of imported commodities and their relative importance, 1924-54

Calendar year	Civilian food use, index, 1947-49=100			Percentage of civilian food use		
	Total civilian food use	Domestically produced commodities	Imported commodities ^{1/}	Imported commodities		
				Domestically produced commodities	Supplementary	Complementary ^{2/}
				Percent	Percent	Percent
1924	73	74	69	91.8	3.5	4.7
1925	74	74	74	91.4	4.1	4.5
1926	76	75	80	90.7	4.3	5.0
1927	75	75	77	91.0	4.0	5.0
1928	76	75	79	91.0	4.1	4.9
1929	77	76	84	90.5	4.3	5.2
1930	77	77	83	90.7	4.3	5.0
1931	78	78	78	91.3	3.6	5.1
1932	77	77	71	92.0	3.1	4.9
1933	77	78	71	92.1	3.0	4.9
1934	79	80	74	91.9	3.3	4.8
1935	76	75	93	89.4	4.8	5.8
1936	79	78	97	89.3	4.9	5.8
1937	81	79	94	89.9	4.6	5.5
1938	80	79	88	90.5	3.8	5.7
1939	84	83	90	90.7	3.6	5.7
1940	87	87	88	91.3	3.1	5.6
1941	88	88	92	90.9	3.5	5.6
1942	87	89	71	93.0	2.6	4.4
1943	88	90	64	93.6	2.4	4.0
1944	91	93	73	93.0	2.5	4.5
1945	92	94	74	93.0	2.2	4.8
1946	100	101	89	92.3	2.0	5.7
1947	101	102	93	92.0	2.6	5.4
1948	99	98	103	91.0	3.2	5.8
1949	100	100	104	91.0	3.1	5.9
1950	102	102	106	91.0	3.6	5.4
1951	102	102	106	91.0	3.6	5.4
1952	106	106	110	90.9	3.7	5.4
1953	109	109	112	91.1	3.5	5.4
1954 ^{3/}	112	112	108	91.7	3.4	4.9

^{1/} The proportion of imports used for civilian food was assumed to be the same as from domestic production where no better measure was available.
^{2/} Includes coffee, tea, cocoa, and bananas. See discussion of imports in text.
^{3/} Preliminary.

SOURCES OF U. S. CIVILIAN FOOD SUPPLY

Farm Value Equivalent in 1947-49 Dollars



*NOT INTERCHANGEABLE IN USE WITH DOMESTICALLY PRODUCED COMMODITIES TO ANY GREAT EXTENT.
INCLUDES ONLY COFFEE, TEA, COCOA AND BANANAS.

▲THESE ARE INTERCHANGEABLE IN USE WITH DOMESTICALLY PRODUCED COMMODITIES AND THUS SUPPLEMENT DOMESTIC PRODUCTION.

Table 23.- Proportion of food used by civilians which was imported, by selected commodity groups, in specified periods 1/

Item	1925-29	1935-39	1942-45	1947-49	1952-54
	Percent	Percent	Percent	Percent	Percent
Crops					
Coffee, tea and cocoa	100.0	100.0	100.0	100.0	100.0
Fruits	27.3	25.8	13.9	22.5	22.5
Oil crops <u>3/</u>	27.0	37.2	4.5	8.0	12.1
Sugars and sirups <u>4/</u>	72.8	61.5	64.0	65.8	69.5
Tree nuts	59.5	55.4	36.3	50.7	56.2
Other crops <u>5/</u>	1.5	1.7	1.0	1.2	1.2
Total crops	25.3	27.1	20.8	26.6	27.0
Livestock products, total	.8	1.0	.5	.6	1.0
Total civilian food use	9.1	10.1	6.9	8.7	8.8

1/ The proportion used for civilian food was assumed to be the same as from domestic production where no better measure was available.

2/ Preliminary.

3/ Includes peanuts for all uses.

4/ Excludes corn sugar and sirup and honey.

5/ Includes corn sugar and sirup, vegetables, dry beans and peas, potatoes and sweetpotatoes, popcorn, and mustard seed.

MILITARY TAKINGS FOR FOOD USE 28/

A subindex of the master index of supply-utilization measures the flow of farm commodities to military agencies for food use. It summarizes withdrawals or takings of such items from commercial distribution channels in each year, beginning 1941 (table 24). Data for earlier years are not available. Most of the data on deliveries of food products to the Armed Forces are obtained from reports regularly furnished the United States Department of Agriculture. Some supplementary estimates are necessary to cover local procurement for fresh commodities in some years and for items supplied daily, such as bread, fluid milk, and ice cream.

28/ Prepared by Harry Sherr.

Military takings include food supplies for the Armed Services and for overseas post exchange services and some items for commissary stores of the Armed Forces. They cover supplies for use of our own troops, for troops of allied nations fighting with our troops during World War II, and supplied for civilian relief in liberated and occupied areas. In recent years, sales to commissaries and other outlets operated for military personnel have been equivalent to less than a fifth of the value of the food purchased by military camps and stations in the United States. Although much of this food is used by wives and children who are counted in the civilian population, we believe that such civilian consumption from military takings is offset by consumption of food included in civilian supplies by members of the Armed Forces who live at home or when on leave.

Only recently has a reporting system been established to supply the Department of Agriculture with information on military takings of textiles. Eventually, it is hoped that historical series can be developed to cover military use of all nonfood farm commodities as well as food items. Meanwhile, military and civilian takings of such commodities are combined in the category domestic nonfood use of farm commodities. Major problems in reporting and in conversion to farm equivalents are foreseen for processed items such as oils in paints, cotton in tires, and for tobacco in cigarettes that military personnel buy for their own use.

Military Takings Not a Measure of Annual Food Use by Our Armed Forces

In using the index of military takings of farm commodities for food use we must remember that it indicates only the magnitude of withdrawals from domestic supplies. Military takings do not even roughly measure consumption by or distribution to members of the Armed Forces during specific periods of time. Changes in the index from year to year reflect not only variations in current needs. They also reflect the building up or use of stocks at home and abroad, differences in types of commodities purchased for military personnel in wartime and in peacetime, changes in extent of foreign procurement for use abroad, and changes in programs operated by the military agencies, as for allied troops or for civilian relief.

At the time we set up the framework for the master index of supply-utilization, we carefully considered the matter of subtracting rough estimates of military takings for civilian relief from total military takings in order to separate this quasi-export segment from our "domestic" military takings. But such programs as civilian relief and feeding of allied troops are significant parts of United States military programming and are essential to our national security. Therefore, we decided that the flow of farm commodities to such programs was properly measured as part of the flow to United States military agencies. Because of the expected need for separate figures for some purposes, we provide in table 25 the comparable value aggregates for total military takings of farm food commodities and for military shipments from the United States of both food and nonfood commodities for civilian relief programs. These are in terms of farm commodities

valued at 1947-49 prices. Takings and shipments for relief are not directly comparable for the years 1944-47 because of the unreported diversions of regular military supplies to civilian relief use and occasional troop use of relief supplies. Also, there is some problem of timing because supplies were not always shipped immediately after their delivery to military agencies. These value aggregates for civilian relief shipments are considered further in the export section of this chapter, where they are combined with other types of exports.

Although we have no adequate data on military takings prior to 1941, we know that takings were not significant in total utilization, except during World War I, a period not covered by this index.

Military withdrawals of food from domestic supplies rose sharply from 1941 to 1944. The number of persons in the Armed Forces was increasing rapidly. During this period heavy procurement was made for current use of troops stationed abroad, for building up domestic stocks needed to maintain an uninterrupted supply of food available at all times for domestic use or overseas shipment, and for the building up of large stocks of food abroad so that interruptions in the supply lines would not hamper military operations.

Military procurement for civilian relief in liberated and occupied areas began on a small scale in 1943 as the Armed Forces of the allied nations moved into the Mediterranean area. Civilian relief was supplied from stocks for troop use maintained overseas or purchases of staple foods made specifically for the purpose. Separate reports on actual deliveries were begun late in 1944, but even the data for 1945 are of doubtful value because of unreported diversions of supplies between programs.

Military takings of food declined a little in 1945, then dropped sharply in the following year. Return of military personnel to civilian status proceeded faster than supplies could be used up. Some of the military stocks in the United States were sold as surplus in this country through commercial channels, some were transferred to UNRRA, and some were used to supplement the heavy shipments of staple foods for use in the civilian feeding program in liberated and occupied areas administered by military organizations. ^{29/} Although military shipments for foreign aid programs during the immediate postwar period continued to be quite significant for staple, less expensive foods, they represent only a small share of total utilization of farm food commodities.

Significance of Military Takings

Military takings of farm food commodities were most significant in the total food picture in 1944. Procurement was cut sharply in 1946 when accumulated stocks were being transferred and used.

^{29/} All such transfers were carefully noted in our commodity tables, as described in Agriculture Handbook No. 62.

Table 24.- Index of military takings of all farm commodities for food use and relative importance of commodity groups, 1941-54

Calendar year	Military takings 1/		Relative importance in military takings								
	Index, 1947-49=100	Percent-age of total utilization	Dairy products	Fruits and vegetables 2/	Grains	Meat animals	Oil crops	Poultry and eggs	Sugar crops	Other foods 3/	Total food use
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1941	42	1.0	16.8	18.5	4.2	40.6	0.9	13.2	1.7	4.1	100
1942	151	3.4	10.5	15.7	2.9	49.8	.9	9.7	2.3	8.2	100
1943	247	5.2	12.2	13.6	3.7	49.5	1.0	11.4	2.2	6.4	100
1944	366	7.7	12.1	13.0	5.7	45.6	1.1	13.3	2.1	7.2	100
1945	340	7.2	10.6	11.2	12.9	40.8	1.1	13.0	2.6	7.8	100
1946	87	1.9	9.4	10.1	22.4	40.1	.2	15.9	1.1	.8	100
1947	91	2.0	9.4	9.4	43.8	29.1	.3	6.9	1.0	.2	100
1948	105	2.3	7.2	16.6	47.0	17.9	.7	8.7	.6	1.1	100
1949	105	2.3	8.6	11.1	49.7	17.1	4.4	5.4	.4	3.3	100
1950	56	1.2	9.2	9.7	19.9	40.7	2.8	11.8	.9	5.1	100
1951	112	2.3	8.8	13.3	9.2	45.9	1.2	13.8	.9	6.9	100
1952	82	1.7	12.0	13.5	10.3	42.1	.8	16.4	1.1	3.6	100
1953	77	1.6	11.7	10.9	11.0	43.4	1.5	16.8	1.0	3.7	100
1954 4/	65	1.3	13.2	11.0	6.9	46.0	1.0	17.3	1.0	3.7	100

1/ Includes quantities shipped for civilian use in liberated and occupied areas.

2/ Includes fruits, vegetables, potatoes, sweetpotatoes, dried beans and peas.

3/ Includes coffee, tea, cocoa, bananas, and honey.

4/ Preliminary.

Table 25.- Farm value of total military takings of farm commodities for food use and of military shipments of all farm commodities for civilian supply programs, 1941-54 1/

Calendar year	Total military takings for food use				Military shipments for civilian supply programs 2/				
	Crops		Livestock		Food commodities				Nonfood commodities, farm value
	Farm value	Percent-age of takings	Farm value	Percent-age of takings	Farm value	Percentage of food shipments	Farm value	Percentage of food shipments	
Mil.dol.	Pct.	Mil.dol.	Pct.	Mil.dol.	Pct.	Mil.dol.	Pct.	Mil.dol.	
1941	107	29	257	71	---	---	---	---	---
1942	387	30	901	70	---	---	---	---	---
1943	570	27	1,546	73	---	---	---	---	---
1944	908	29	2,221	71	61	53	55	47	1
1945	1,037	36	1,872	64	308	71	126	29	26
1946	258	35	488	65	197	79	52	21	12
1947	424	55	352	45	337	84	65	16	24
1948	591	66	305	34	572	92	49	8	3/
1949	617	69	279	31	469	91	48	9	3/
1950	182	38	293	62	32	92	3	8	3/
1951	302	32	656	68	74	99	1	1	3/
1952	208	30	498	70	38	97	1	3	3/
1953	184	28	472	72	35	95	2	5	3/
1954 4/	130	24	422	76	7	100	3/	3/	---

1/ Valued at 1947-49 farm prices.

2/ Includes quantities processed in preceding years.

3/ Negligible.

4/ Preliminary.

The commodity makeup of military takings reflects the postwar civilian supply program quite vividly. In 1945-49 the purchase of food grains was expanded to provide food for the civilian population of liberated and occupied areas as inexpensively and with as little impact on United States civilian food supplies as possible. The shift in emphasis from livestock commodities to crop items during those years is evident in table 25. Since 1949 procurement has been principally for troop use and takings of livestock commodities have been proportionately larger.

DOMESTIC NONFOOD USE 30/

Measurement of the use of both food and nonfood commodities for nonfood purposes is likely to be one of the most important contributions of the master index of supply-utilization to the analysis of problems in agricultural economics. By food commodities 31/ we mean all farm commodities having any generally recognized food use in this country. They include corn, oats, barley, and even pulled wool and hides, as these are byproducts of the slaughter of meat animals. All other farm commodities are called nonfood commodities. Domestic nonfood uses of food commodities--such as feed, seed, alcoholic beverages, pulled wool, and leather--have been aggregated with domestic use of nonfood commodities, like cotton, tobacco, and inedible oils, to form this category and subindex (table 26 and figure 4.)

The handling of nonfood commodities presented no particular difficulties after we had learned how to separate food and nonfood uses of food commodities. One of the most difficult problems encountered in setting up this whole index of supply-utilization was how to allocate the farm value of a commodity processed into a food product and one or more nonfood products among such joint products. Wheat flour and millfeeds afford a good example. We did not feel justified in putting into the food account the entire farm value of wheat milled for domestic use. On the other hand, the physical milling ratio of 72 percent flour to 28 percent millfeed went too far the other way. We resolved the dilemma by using the ratio derived from the millers' calculated return for flour to their return from sales of millfeeds. Exhibit B provides another example of the allocation procedure.

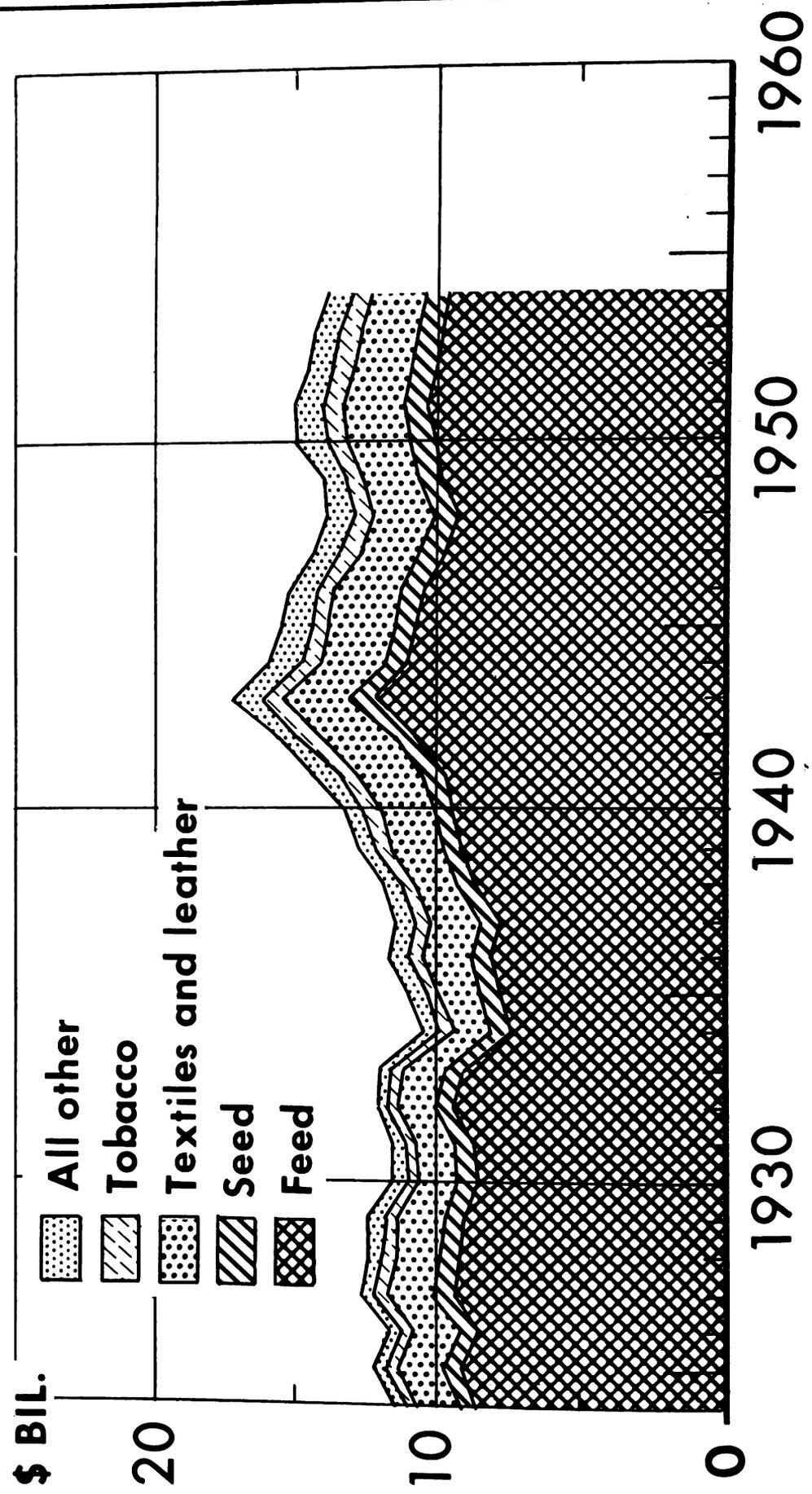
This device for allocating farm values among several end products permitted us to measure at the farm level the significance of end uses which, taken singly, were relatively minor, but which added to significant totals. For example, in 1952 the domestic nonfood use of food commodities amounted to 26 percent of their total utilization here and abroad. If we exclude the rather obvious nonfood uses of the feed grains for feed and total seed use and

30/ Prepared by Robert J. Lavell.

31/ Subindexes for food commodities are described in Agriculture Handbook No. 62.

DOMESTIC NONFOOD USE OF FARM COMMODITIES

Farm Value Equivalent in 1947-49 Dollars



alcoholic beverage use of all grains and exclude pulled wool, we find that our allocating device permits us to put under domestic nonfood use about 3 percent of the value aggregate for total utilization of farm food commodities which otherwise would have had to be put under domestic food use.

Gross and Net Flow

The concept of total utilization, which we use in the index of supply-utilization of all farm commodities, is the gross flow of farm commodities each year through the agricultural economy--from production, imports, or stocks to the several channels into final use. Some of this flow goes back into the agricultural economy for use in future production, as in the cases of feed and seed. In this sense, our total utilization is a "gross" figure, as described in the production section of chapter 3. By subtracting such transfers back into agriculture, we obtain a measure of the net flow out of agriculture into domestic and foreign human and industrial use. Both measures, gross and net, are useful for analyses relating to domestic nonfood use. Data on commodity contribution to domestic nonfood use, including feed and seed use, are given in table 26. Information on net nonfood use in this country is developed in table 27.

About 35 to 40 percent of the total flow of farm commodities and their products has gone for domestic nonfood purposes in the last 30 years. Peak usage came in World War II because of proportionately heavier demands for feed for livestock feeding and the great expansion of industrial needs. Since those years, the relative importance of nonfood use to the total flow (gross) has diminished. The reduction from the beginning of the 30-year period to its end has been largely in feed, particularly for horses and mules.

When we exclude the use of farm commodities as production inputs back into agriculture, principally for feed and seed, we find that net nonfood use in this country in the last 3 decades has varied between 10 and 16 percent of the flow of products of agriculture into direct human use and industrial use.

On a per capita basis, net domestic nonfood use of farm commodities is about 10 percent higher since 1950 than it was in the late twenties. This is mainly due to increased tobacco consumption. Overall use of cotton and wool is about the same for the two periods, and the same is true of industrial use of fats and oils. These two groups, however, have lost much ground to synthetic products since the peak per capita consumption in the middle 1940's.

Significance of Major Categories of Domestic Nonfood Use

Feed now accounts for about 70 percent of our nonfood use of farm commodities. In fact, each year since 1950 more than 25 percent of total utilization was for feeding purposes in the United States.

Actual use of agricultural commodities for feed has fluctuated widely, depending on the demand for meat and the production of feed. From its low point during the drought in the middle 1930's, feed use rose sharply to a peak in 1943, then declined rather abruptly to fluctuate at a slightly higher rate than that recorded during the late 1920's. The relative importance of feed use declined about 5 percent from 1924, with only minor fluctuations.

Since 1924 there has been a steady shift in the type of feed used. In 1954 about 7 percent was byproduct feed, in 1924 4 percent. The largest part of this increase has been in soybean cake and meal, which parallels the increase in the production of soybeans.

The use of farm commodities to feed horses and mules has declined from about 20 percent of all feed used to about 3 percent. ^{32/} This makes more feed available for food livestock. In this period, the number of food livestock per person has dropped, but a greater proportion is fed concentrates and other harvested crops. In addition, the quantity of concentrates fed per animal on feed has increased.

Total seed use rose steadily from the middle 1920's and tended to level off after 1950. The rate of this rise was about the same as that of total utilization; consequently the relative importance of seed remained at about 2 percent. On a per capita basis seed use has had a downward trend. Improved seed as to germination and yield, greater use of fertilizer for bigger yields, and decline in per capita consumption of grain for food have all contributed to this decline.

Of the other nonfood uses, textiles and leather, industrial oils and soap, tobacco, and alcoholic beverages are the only important ones. Textiles and leather have about the same relative importance in total nonfood use as the total of all the others mentioned. In the middle twenties about one-eighth of nonfood use of farm commodities was in these products. During the depression there was a decline to about a tenth, followed by a steady rise to a peak of more than a sixth in the early years of World War II. Since World War II they have declined slightly in relative importance. The use of farm commodities for industrial oils and soap has remained stable at 3 to 4 percent of nonfood use. The use of tobacco increased from 3 percent of nonfood use in the middle 1920's to more than 5 percent in 1954, and during the same period alcoholic beverages increased from less than 1 percent to more than 3 percent during World War II, then back to 2 percent.

^{32/} Jennings, R. D. Consumption of Feed by Livestock 1909-47. Circular No. 836, U. S. Dept. Agr. December 1949, and unpublished data for more recent years.

Table 26.- Index of domestic nonfood use of all farm commodities and relative importance of commodity groups, 1924-54 1/2

Calendar year	Domestic nonfood use				Relative importance in domestic nonfood use										Total			
	Index, 1947-49=100	Percentage of total utilization	Food commodities		Live-stock		Grains		Oil		Fibers		Hay		Nonfood commodities		Total nonfood use	Pct.
			Pct.	Pct.	Food	Other food	Stock	Crops	Grains	Oil	Fibers	Hay	Nonfood	Other nonfood				
1924	81	38.1	45.0	16.5	4.1	1.9	67.4	9.0	19.5	0.5	2.9	0.7	32.6	100				
1925	86	39.7	48.6	15.3	4.3	1.4	69.7	9.9	15.9	.7	3.1	.6	30.3	100				
1926	83	38.1	45.5	16.8	4.9	1.6	68.8	10.4	16.0	.9	3.2	.8	31.2	100				
1927	90	39.9	44.5	15.6	4.1	1.5	65.7	10.7	18.9	.7	3.2	.8	34.3	100				
1928	88	39.5	47.2	15.5	4.3	2.0	69.0	9.7	16.6	.8	3.3	.6	31.1	100				
1929	88	39.4	45.1	16.0	4.6	1.6	67.3	10.4	17.2	1.1	3.1	.8	32.7	100				
1930	82	37.9	46.6	16.9	4.4	1.8	69.8	8.8	15.9	1.0	3.7	.8	30.2	100				
1931	82	38.0	45.4	17.7	4.6	2.1	69.9	8.8	16.1	.9	3.3	1.0	30.1	100				
1932	86	39.2	48.4	16.9	3.7	2.2	71.1	7.5	17.2	.7	2.7	.7	28.9	100				
1933	86	39.3	47.1	17.2	3.6	2.1	70.1	9.6	15.7	.9	3.0	.8	29.9	100				
1934	74	35.8	43.4	19.5	4.0	2.9	69.8	9.7	14.9	.9	3.9	.8	30.2	100				
1935	78	38.0	38.2	18.0	4.0	2.8	63.0	10.1	21.2	1.0	3.5	1.2	37.0	100				
1936	83	38.8	43.7	17.0	4.4	2.2	67.3	11.9	15.1	1.0	3.9	.9	32.7	100				
1937	81	37.7	39.0	16.8	4.6	2.5	63.0	12.4	18.1	1.4	3.9	1.2	37.0	100				
1938	84	38.3	43.8	16.8	4.1	2.6	67.2	9.4	17.8	.8	3.6	1.3	32.8	100				
1939	90	39.4	42.9	16.1	4.1	2.2	65.4	11.0	18.0	.8	3.8	1.1	34.6	100				
1940	94	39.9	42.1	15.6	4.6	2.4	64.6	11.6	18.5	.6	3.5	1.1	35.4	100				
1941	101	41.0	40.4	15.8	4.6	2.2	63.0	13.8	17.8	.8	3.5	1.1	37.0	100				
1942	110	41.4	44.1	14.2	4.5	1.8	64.5	13.6	16.6	.5	3.7	1.2	35.5	100				
1943	122	42.1	48.8	12.2	4.9	2.0	68.0	11.4	15.7	.3	3.7	.9	32.0	100				
1944	113	39.0	47.1	12.5	5.2	2.0	66.8	11.3	16.5	.5	3.9	1.2	33.2	100				
1945	110	38.3	46.9	12.5	4.7	2.1	66.3	11.4	16.7	.5	4.2	1.0	33.7	100				
1946	108	37.6	45.6	11.4	5.0	2.8	64.7	12.8	16.8	.4	4.1	1.2	35.3	100				
1947	102	35.9	44.9	12.3	5.6	2.2	65.0	11.8	17.1	.4	4.5	1.2	35.0	100				
1948	99	36.3	43.0	12.1	5.5	2.8	63.4	12.7	17.4	.5	4.7	1.3	36.6	100				
1949	100	35.9	46.9	11.7	5.6	2.3	66.5	10.7	16.2	.5	4.6	1.5	33.5	100				
1950	106	37.2	44.6	11.5	5.7	2.8	64.5	12.8	16.2	.5	4.5	1.4	35.5	100				
1951	107	36.3	45.4	10.8	6.0	2.3	64.4	12.1	17.0	.4	4.7	1.3	35.6	100				
1952	103	35.6	45.3	10.3	5.9	1.7	63.2	11.7	17.9	.5	5.0	1.7	36.8	100				
1953	102	34.9	44.9	11.0	5.8	1.9	63.6	11.8	17.7	.4	5.1	1.4	36.4	100				
1954 2/	98	33.5	44.1	12.9	5.5	1.9	64.3	11.0	18.0	.4	5.0	1.3	35.7	100				

1/ Includes civilian use and all military takings.
2/ Preliminary.

Table 27.- Relative importance of major uses in total domestic nonfood use of farm commodities, and index of net nonfood use (excluding feed and seed), 1924-54

Calendar year	Relative importance in gross domestic nonfood use										Net nonfood use, (excluding feed and seed)	
	Alcoholic beverages	Feed	Textiles and leather	Industrial oils and soap	Seed	Tobacco	Other nonfood use	Total	Index, 1947-49=100	Percentage of net total utilization		
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent		
1924	0.4	75.5	12.3	3.2	5.3	2.9	0.4	100.0	59	10.6		
1925	.4	74.9	12.9	3.4	5.0	3.1	.3	100.0	66	11.7		
1926	.5	73.2	13.8	3.7	5.2	3.2	.4	100.0	68	11.7		
1927	.4	73.9	13.6	3.3	5.1	3.2	.5	100.0	71	12.2		
1928	.5	74.6	12.5	3.7	5.1	3.2	.4	100.0	68	11.7		
1929	.5	73.1	13.5	4.0	5.3	3.2	.4	100.0	72	12.3		
1930	.6	74.5	11.6	3.6	5.6	3.7	.4	100.0	62	10.9		
1931	.5	74.5	11.9	3.6	5.9	3.2	.4	100.0	61	10.7		
1932	.5	77.9	10.2	2.9	5.5	2.7	.3	100.0	54	9.7		
1933	.8	74.6	12.7	3.1	5.4	3.0	.4	100.0	65	11.5		
1934	1.6	71.0	13.2	3.7	6.1	3.9	.5	100.0	64	11.3		
1935	2.0	70.4	13.5	3.6	6.5	3.5	.5	100.0	68	12.4		
1936	2.1	68.7	15.3	3.4	6.0	3.9	.6	100.0	80	13.8		
1937	1.9	67.5	15.9	3.9	6.3	3.9	.6	100.0	81	13.7		
1938	1.8	72.4	12.4	3.2	5.9	3.6	.7	100.0	69	11.9		
1939	1.6	71.1	14.2	3.3	5.4	3.8	.6	100.0	80	13.2		
1940	1.8	70.9	14.4	3.3	5.4	3.5	.7	100.0	84	13.6		
1941	1.9	67.5	17.3	3.8	5.1	3.5	.9	100.0	106	16.0		
1942	2.1	68.3	16.9	3.1	5.1	3.7	.8	100.0	112	15.9		
1943	2.7	70.9	14.3	2.7	4.9	3.7	.8	100.0	112	15.0		
1944	3.4	69.2	14.4	3.2	5.0	4.2	.9	100.0	111	14.1		
1945	3.2	69.1	14.6	3.0	5.0	4.2	.9	100.0	107	13.7		
1946	2.5	68.5	15.8	3.2	5.0	4.1	.9	100.0	108	13.7		
1947	2.4	68.1	14.9	3.8	5.4	4.4	1.0	100.0	102	12.9		
1948	2.9	66.3	15.9	3.7	5.5	4.7	1.0	100.0	105	13.9		
1949	2.1	69.9	13.5	3.1	5.7	4.6	1.1	100.0	92	12.1		
1950	2.4	67.2	15.7	3.5	5.4	4.6	1.2	100.0	110	14.0		
1951	2.5	68.7	14.6	3.2	5.2	4.7	1.1	100.0	105	12.9		
1952	2.0	69.2	14.1	2.9	5.6	5.0	1.2	100.0	99	12.2		
1953	2.0	68.6	14.7	3.1	5.5	5.1	1.0	100.0	100	12.2		
1954 ^{1/}	2.0	69.4	14.2	2.9	5.5	5.0	.9	100.0	93	11.2		

^{1/} Preliminary.

Other Measures of Nonfood Use

The only other measure of changes in the nonfood use of farm commodities that we have found is one developed by Rex Daly of the Farm Income Branch of AMS. ^{33/} He combined into an index the per capita disappearance of cotton and wool (as measured by mill consumption), tobacco, and industrial oils, using average prices in 1935-39 as weights. This index excludes feed and seed and a variety of minor nonfood uses. But this admittedly rough measure compares rather favorably with a per capita series constructed from our data on net domestic nonfood use. Probably the reason for this is that Daly's index used the same basic quantitative data for important commodities that we used, except for some adjustments we made for the export of processed products of these commodities.

Uses and Limitations of This Subindex

As demonstrated in the foregoing sections, a major use of this new index of domestic nonfood use, whether on gross or net basis, is to indicate the relative economic importance to agriculture of the demand for farm commodities for nonfood use. We know of no other aggregative measure of this group of demands on agriculture, although farm incomes from cotton, tobacco, wool, feed grains, and certain oilseed crops are sometimes totaled and compared with total farm income.

This subindex may prove to be a useful tool for evaluating the success of the development of new uses for farm commodities. We have not yet explored this area.

As in other segments of the master index of supply-utilization of farm commodities, the index of domestic nonfood use provides the framework for the analysis of projections of particular demands for farm commodities and their net effect on agricultural production.

We must, however, note certain limitations of the index, arising principally from the nature of the basic data used and from the form of the index.

First, owing to lack of data, we failed to account for several minor nonfood uses of farm commodities. But for all significant nonfood uses of joint products of food commodities, statistical data were developed, if necessary. This is an area in which we shall have to be particularly watchful to incorporate new uses and their pertinent data as they become significant.

^{33/} Daly, Rex F. "Some Considerations in Appraising the Long-run Prospects for Agriculture," Studies in Income and Wealth. Volume Sixteen. A report of the National Bureau of Economic Research. Princeton University Press, Princeton, N. J. 1954. Table A-4, p. 184.

Second, nonfood use of some commodities, such as wheat for feed, is calculated as a residual. Accordingly, the nonfood account receives errors accumulating in other parts of the supply and distribution table for such commodities. The extent of such errors is impossible to judge even after extensive study of detailed data on each commodity. Such evaluation is beyond the scope of this handbook.

The use of constant 1947-49 primary market prices in the process of allocating farm values among joint products is likely to be more critical for this subindex than for any other. Price relationships for some joint products of farm commodities have changed significantly in the last 30 years, contrary to our use of constant prices. But we suspect that most of the changes have been among the nonfood joint products rather than between food and nonfood, so that our major subindexes are probably not affected significantly. Supplemental studies of this index number problem as related to nonfood use may prove necessary.

Finally, although we recognize the particular importance of processing and other marketing costs for farm commodities and their products which go to nonfood uses, they are omitted from this subindex as in all other parts of this master index. Our set of indexes has been designed to study only the supply and use of farm resources, not their combination with resources of other parts of the economy.

EXPORTS OF FARM COMMODITIES 34/

Measurement of total export of farm products requires the combining of all kinds of farm commodities shipped out of the country in many forms. Because the export market is a significant outlet for commodities produced on farms of the United States, one of the subindexes of the index of supply-utilization of all agricultural products provides a readymade index of such exports. It covers farm commodities shipped in raw and processed forms to Territories of the United States and to foreign countries 35/ during the calendar years 1924 to date. Problems encountered in preparing the basic data are described in chapter 2. As in other segments of the master index, exports of the whole gamut of farm products are combined in terms of the farm value of the agricultural commodities they contain.

Processed products were allocated the proportions of the farm value of the farm commodity which their processed values bore to the total processed value of all the joint products. (See chapter 2 and exhibit B for a detailed description of the procedure.) For example, flour exported in 1952 was valued at 83 percent of the farm value of wheat used in milling it, because the processed value of flour accounted for 83 percent of the total value of flour and millfeeds produced as joint products.

34/ Prepared by Robert J. Lavell and Marguerite C. Burk.

35/ Shipments for the use of our Armed Forces stationed abroad are excluded.

For this index of exports of all farm commodities, we combined three sets of value aggregates developed for the master index: (1) commercial exports and shipments, (2) deliveries by the United States Department of Agriculture, and (3) a special set to measure shipments of farm commodities and their products by our Armed Forces for use of civilian populations in occupied and liberated areas. Department of Agriculture deliveries for export and military shipments for civilian use are combined to make up the subcategory "Government deliveries." All commodities moving through commercial export channels, though they may be subsidized directly by the Federal Government or indirectly by Government loans or grants to receiving countries, are classified as "commercial deliveries."

The use of 1947-49 farm prices throughout gives the value for each year in constant 1947-49 dollars. Thus, changes in the index derived by comparing yearly values with the average yearly value for the period 1947-49 reflect changes in quantities exported and shifts among commodities as from lower to higher farm-priced items. The index is not affected by changes in prices among farm products or in the price level for all farm products, or by shifts in exports from raw to processed items.

Table 28 contains the export index and percentage relationships of exports of farm commodities to the total annual flow of all farm products into channels for utilization. In addition, we include indexes of the subcategories "commercial deliveries" and "Government deliveries" previously discussed. Indexes of food use and nonfood use of farm commodities exported are given in table 29. This classification was developed item by item on the basis of our commodity specialists' knowledge of general usage in receiving countries of commodities imported from the United States.

Measuring Exports

There are several measures of different aspects of aggregate agricultural exports. The following discussion of some of the characteristics of agricultural exports that have economic meaning is included as a guide for deciding what measure is most suitable for a particular problem.

One frequently measured characteristic of exports is weight. But total tonnages involve the complication of internal shifts in commodity composition and lack the characteristic of price weighting that is necessary to give economic significance to an aggregate of many commodities. From time to time total tonnages of farm products exported have been calculated. But such figures have little value for most economic analysis.

In an attempt to measure exports in terms of quality along with quantity, the food energy content of all commodities having food use has been occasionally calculated. Except in periods of great need for food, as in 1946-47, this measure is unsatisfactory. Not only is it unsuitable from a nutritional standpoint; it also excludes nonfood farm commodities.

Another common characteristic used as a measure of exports of farm commodities is acreage of cropland required to produce the commodities. A measure based on this characteristic is regularly calculated and is useful for certain purposes. 36/ This measure, however, does not take account of labor and capital used on farms to produce commodities exported.

For most economic analyses, a measure of value is needed--one totaling quantities times prices. Depending upon the problem under study, the choice lies among quantities and their related prices at shipside, at the farm level, or at specified intermediate points in the marketing process as well as between current or constant (base period) prices.

Current value of products as they are exported is widely used to describe the movement of farm commodities out of the country. The Foreign Agricultural Service publishes a value series of this type 37/ which does not include shipments to United States Territories. But many factors bring about changes in the dollar value of exports--change in quantity and in price, shift from raw commodity to processed product, and change in freight rates from farm to port, to mention a few.

To remove the effects of change in price, a fixed set of prices can be used. This yields a measure of changes in quantity or volume.

The place in the marketing process where the volume of exports is measured is important for the analysis of particular problems. In studying volume of trade, quantities and constant prices at shipside should be used. The revised FAS quantity index of agricultural export trade is such a measure 37/. But if the problem is related to demands on the farm economy coming from foreign sources, it is necessary to exclude the effects of changes in amounts of marketing services exported with the "raw" farm commodities. This is accomplished by valuing the farm equivalents of exports in terms of farm prices, the procedure used for the new index of exports of farm commodities.

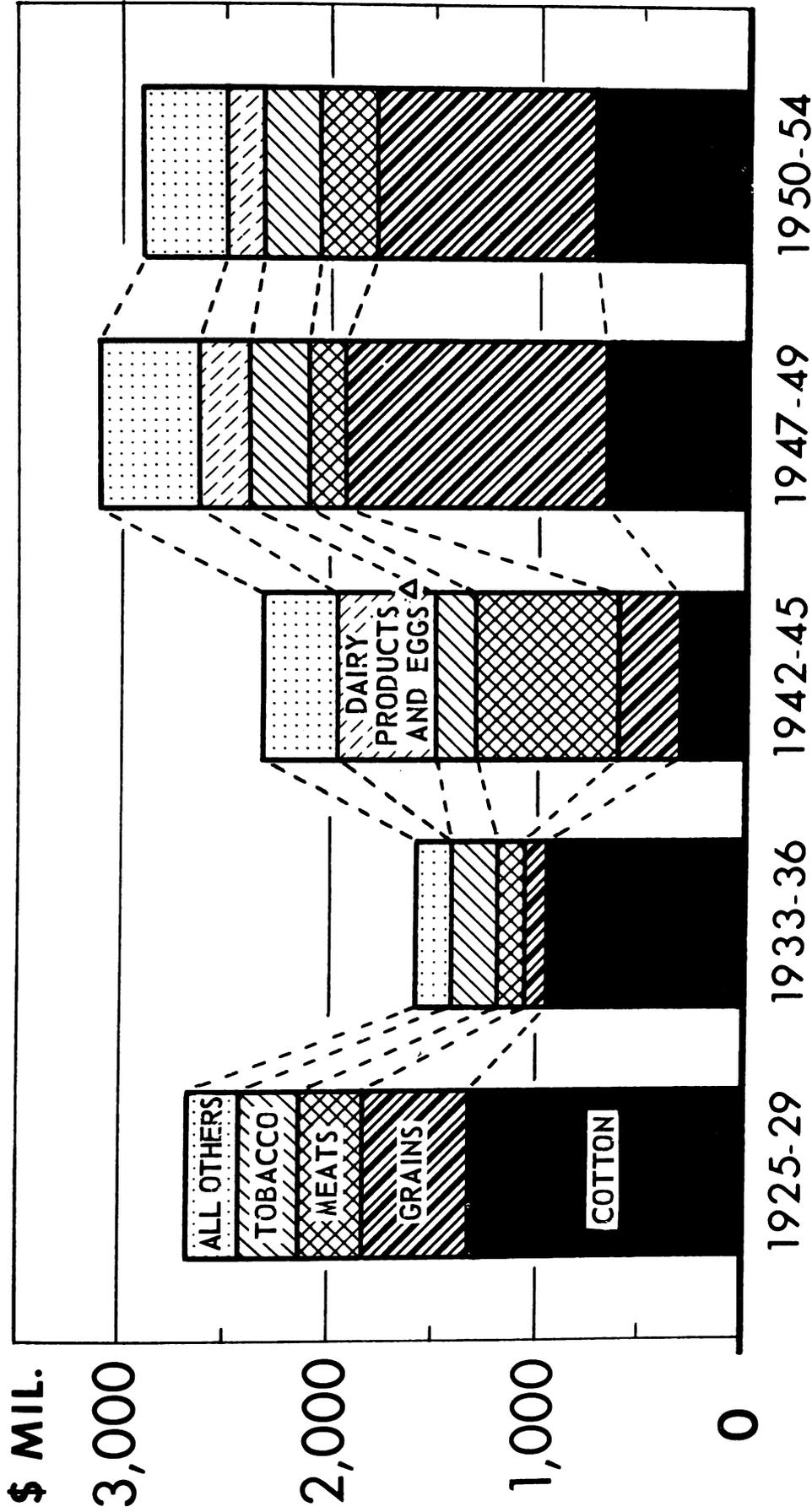
Using the Index of Exports of Farm Commodities

The form and structure of the index of exports of farm commodities were determined by the requirements for building up the master index of supply-utilization of all agricultural products. In this framework it measures the volume of farm commodities exported abroad or shipped to our Territories from year to year and the relative importance of this movement in the total utilization of all farm commodities.

36/ U. S. Dept. Agr. Agricultural Outlook Charts 1955. October 1954, p. 22. and U. S. Dept. Agr., Production Economics Research Branch. Changes in Farm Production and Efficiency PERB 3. Pp. 13-16. July 1954. (Processed).

37/ Foreign Agricultural Service. Foreign Agricultural Trade. Monthly.

CHANGES IN EXPORTS OF FARM COMMODITIES*



* VALUED AT AV. FARM PRICES FOR 1947-49. INCL. SHIPMENTS TO U. S. TERRITORIES, INCL. FARM EQUIV. OF MANUFACTURED PRODUCTS.
 ▲ PREVIOUSLY NEGLIGIBLE, INCLUDED WITH "OTHER".

Table 28.- Indexes of exports of all farm commodities through commercial and Government channels, with percentage comparisons, 1924-54

Calendar year	Total exports and shipments to Territories 1/		Through commercial channels		Government deliveries		
	Index, 1947-49=100	Percent- age of total utilization	Index, 1947-49=100	Percent- age of total exports	Index, 1947-49=100	USDA deliveries for export	Percentage of total exports : Military shipments for civilian use
		<u>Percent</u>		<u>Percent</u>		<u>Percent</u>	<u>Percent</u>
1924	88	9.2	142	100	---	---	---
1925	85	8.5	137	100	---	---	---
1926	86	8.8	140	100	---	---	---
1927	93	9.1	150	100	---	---	---
1928	86	8.6	139	100	---	---	---
1929	80	7.9	129	100	---	---	---
1930	68	7.1	110	100	---	---	---
1931	66	6.7	103	97	9	3	---
1932	70	7.1	111	98	6	2	---
1933	63	6.3	102	100	---	---	---
1934	50	5.4	81	100	---	---	---
1935	46	5.0	75	100	---	---	---
1936	44	4.5	71	100	---	---	---
1937	50	5.1	81	100	---	---	---
1938	58	5.9	94	100	---	---	---
1939	51	4.8	82	100	---	---	---
1940	39	3.6	63	100	---	---	---
1941	38	3.4	38	62	38	38	---
1942	50	4.3	22	28	95	72	---
1943	78	5.9	26	21	162	79	---
1944	78	6.0	34	27	150	68	5
1945	93	7.3	56	37	155	47	16
1946	108	8.3	81	46	152	46	8
1947	104	8.2	102	60	108	27	13
1948	92	7.5	88	59	99	19	22
1949	104	8.3	110	66	94	18	16
1950	90	7.0	118	81	43	18	1
1951	111	8.4	145	81	56	17	2
1952	94	7.1	143	94	14	5	1
1953	83	6.3	123	92	18	7	1
1954 2/	91	6.8	138	95	13	5	3/

1/ Differs from sum of commercial exports and shipments and USDA deliveries for export given in table 1 because it includes military shipments for civilian use in occupied and liberated areas. 2/ Preliminary. 3/ Less than 0.5 percent.

Table 29.- Indexes of exports of all farm commodities
for food and nonfood uses, 1924-54 ^{1/}

Calendar year	Food use		Nonfood use	
	Index, 1947-49=100	Percentage of total exports	Index, 1947-49=100	Percentage of total exports
		<u>Percent</u>		<u>Percent</u>
1924	60	44	137	56
1925	43	33	158	67
1926	43	32	164	68
1927	50	34	170	66
1928	40	30	168	70
1929	41	33	150	67
1930	36	34	125	66
1931	31	31	126	69
1932	26	24	148	76
1933	19	20	140	80
1934	19	24	105	76
1935	14	20	104	80
1936	13	19	99	81
1937	18	23	108	77
1938	28	31	112	69
1939	28	35	92	65
1940	19	30	76	70
1941	36	61	41	39
1942	58	74	37	26
1943	90	74	56	26
1944	95	78	48	22
1945	102	70	77	30
1946	107	63	109	37
1947	108	66	97	34
1948	97	68	83	32
1949	95	58	120	42
1950	68	48	128	52
1951	100	58	131	42
1952	84	57	111	43
1953	70	54	105	46
1954 ^{2/}	71	50	126	50

^{1/} Includes commercial exports and shipments to U. S. Territories, USDA deliveries for export, and military shipments for civilian use in occupied and liberated areas.

^{2/} Preliminary.

In studying the changes in the index you will note that the volume of exports of farm commodities in 1953 fell below the rates of preceding postwar years but recovered some in 1954. Though the volume is about the same, exports now are much less significant in the total demand for farm commodities than they were in the twenties.

Looking back over the last 30 years one is vividly reminded of the effect of the depression during the thirties, along with repercussions of the Hawley-Smoot Tariff Act, on foreign demand for agricultural commodities and of shipping problems in the early years of World War II.

The index also highlights the upsurge in exports at the end of World War II, when farm commodities were so badly needed in the war-devastated areas, and again in 1951, when the wheat crop failure in Argentina opened many markets and the Korean outbreak affected other commodity markets. It was only in these years of extraordinary happenings abroad that the export market reclaimed the relative importance it had held before 1930.

Changes in makeup of exports of farm commodities during the period covered by the index are as pronounced as changes in volume (fig. 5). The most drastic change in makeup was brought about by the critical shipping situation in the early years of World War II. To get more effective use out of the limited shipping available, livestock was fed here and the meat shipped to England rather than ship bulky feed commodities. To this same end export of high food value products such as dairy products and eggs was vastly expanded.

The relative importance of major commodity groups, in terms of farm values figured at 1947-49 prices, varied widely. For example, cotton made up about two-thirds of the farm value of exports in 1933. In 1954 it accounted for about a fourth. Meat in 1943 made up about a third of exports, in 1954 about a tenth. Table 30 lists the relative importance of major commodity groups in our exports in selected periods.

Table 30.- Relative importance of major commodity groups in exports of farm commodities in selected periods

Commodity	1925-29	1933-36	1942-45	1947-49	1950-54
	Percent	Percent	Percent	Percent	Percent
Cotton	49	61	13	21	25
Grains	19	6	14	41	36
Meat animals	12	9	30	6	9
Tobacco	11	14	9	9	9
Dairy products and eggs	1/	1/	20	8	7
All others	9	10	14	15	14
Total	100	100	100	100	100

1/ Included in "all other" category.

Before we close this section a few words of caution about this index should be given. It does not reflect changing dollar values arising either from shifting relationships among commodity prices or changes in the general level of farm prices. It does not measure the total significance of exports of farm products to the whole economy, since it excludes the costs of marketing services. And finally, it does not measure the competitive position of our farmers in the world market, as the effect of Government assistance, which has been rather large since the days of lend-lease, is not measured separately.

In conclusion, we wish to emphasize the point that this index measures only the quantity of farm commodities exported, not export demand for commodities produced on farms in this country. The latter requires taking account of changes in prices received by farmers and prices paid for commodities exported.

EXPLANATION OF DEPARTMENT OF AGRICULTURE ACCOUNT 38/

A Department of Agriculture account on the distribution side of the index of supply-utilization of farm commodities was set up for a special purpose. It was to measure annual takings of such commodities from commercial channels by the Department of Agriculture expressly for subsequent shipment abroad under foreign supply and special export programs. 39/ Quantities thus removed are designated in the master index as "Department of Agriculture net purchases for export" (table 31). They are derived by adjusting the Department deliveries for export by the change in Department stocks. These estimates have been checked with procurement data for major commodities 40/ and found to be quite reliable.

As noted in the section on stocks in chapter 3, the Department has acquired stocks through (1) direct purchase to support prices, (2) deliveries of collateral which had secured price-support loans, (3) domestic emergency programs, and (4) special purchases for export under various programs such as lend-lease, UNRRA, and current supply and foreign economic assistance programs. Only those stocks acquired by purchase for export--with a few minor exceptions--are used to derive the measure of net purchases for export. Stocks not expressly acquired for this purpose are included with commercial and farm stocks on the supply side of the master index under the heading "available stocks"; they may be returned to distribution channels under favorable price conditions.

38/ Prepared by Leva C. Taylor.

39/ This category probably will be dropped in the future, when foreign supply activities of the Department cease.

40/ Procurement data are in terms of contracts let. Information on deliveries against such contracts are not available on an annual basis.

A problem arose in the selection of stocks for the Department account when we found that prior to January 1, 1947, Department stocks of each commodity were not specifically divided between those held for the price support and those for the export supply program. For the years 1941-46, Department stocks of barley, corn, grain sorghums, oats, rye, wheat, potatoes, peanuts, cottonseed, flaxseed, soybeans, cotton, tobacco, shorn wool, and mohair were included in the category "available" stocks along with commercial and farm stocks. Department transactions for these commodities were for price support purposes almost exclusively. Whenever Department stocks of such commodities were used for export, they were shown as purchases for export in the same year in which they were delivered. All other Department stocks were placed in the Department's export stock account because they were used principally to meet export needs. 41/ Beginning January 1, 1947, we divided holdings of all individual commodities by program, using only stocks reported as acquired through the supply program of the Commodity Credit Corporation to derive net purchases for export.

Deliveries for export represent exports to foreign countries and shipments to U. S. Territories from Department holdings in the year that their export was reported. But Department purchases for export measure the quantities at the time they are removed from market, though they may not be shipped out of the country until later. We considered purchase for export to be the proper stage at which to gauge final distribution to get proper year to year residuals for civilian disappearance. Whenever supplies acquired under price-support operations are exported, they are registered as purchases for export in the year in which they moved out of the country, not in the year of actual purchase, unless these were identical.

The commodity composition of the Department's net purchases for export has changed with the needs and conditions of the times. During the war years 1941-45 net purchases of meat animal products represented 36 to 44 percent of total purchases. These were halved in 1946 and since then have amounted to no more than 7 percent of the total (table 32). In contrast, use of food grains for export increased after the war, accounting for more than half of the total purchases in 1947-49. In 1952, when Department purchases were greatly reduced, food grains accounted for 93 percent of the total. That year large quantities of wheat were shipped to Greece and India. Net purchases of poultry and egg products in 1941-44 and also in 1950 and 1951 amounted to 14 to 25 percent and were minor in other years except 1946

41/ Quantities moving into domestic use or to the Armed Forces were subtracted from purchases in the year of reported distribution and added to the civilian disappearance or military takings. For details on individual commodities, see Agriculture Handbook No. 62.

(12 percent). Takings of dairy products for export have fluctuated rather widely, ranging from 10 to 19 percent of total purchases in 1941-45 and dropping to a low of 5 percent in 1947. In 1952 and 1953, when total Department purchases for export amounted to less than one half percent of total utilization, purchases of dairy products, chiefly nonfat dry milk, accounted for 33 and 64 percent respectively.

Table 31.- Indexes of Department of Agriculture deliveries and net purchases for export of farm food and nonfood commodities, 1941-54 ^{1/}

(1947-49=100)

Calendar year	All farm commodities		Food commodities		Nonfood commodities	
	Deliveries	Net purchases	Deliveries	Net purchases	Deliveries	Net purchases
1941	68	82	61	75	150	209
1942	170	224	150	204	425	588
1943	289	318	262	286	643	900
1944	249	247	246	238	294	414
1945	206	174	203	165	252	350
1946	231	205	204	173	581	803
1947	128	147	118	140	266	268
1948	83	75	88	78	19	21
1949	89	79	95	82	15	12
1950	72	68	77	71	11	15
1951	89	104	95	109	8	12
1952	19	16	21	17	^{2/}	^{2/}
1953	27	28	29	30	^{2/}	^{2/}
1954 ^{3/}	23	24	25	25	^{2/}	^{2/}

^{1/} Deliveries for export differ from net purchases for export because of changes in USDA stocks held for export and transfers to other channels of distribution.

^{2/} Negligible.

^{3/} Preliminary.

Table 32.- Percentage distribution of United States Department of Agriculture net purchases of farm commodities for export, by commodity groups, 1941-54

(Negatives represent transfers to other utilization channels.)

Crops													
Calendar year	Beverages	Dry beans and peas	Food grains	Fruits and nuts	Oils and crops ^{1/}	Potatoes and sweet potatoes	Sugar crops	Vegetables	Feed grains	Cotton ^{2/}	Tobacco	Other crops	Total crops
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1941	---	5.1	0.2	5.1	0.2	---	---	2.1	5.2	13.3	---	---	31.2
1942	---	1.8	1.5	1.6	1.6	0.1	0.8	1.5	.8	6.9	6.6	0.1	23.3
1943	0.1	3.3	3.8	3.0	3.8	.1	1.4	1.2	.7	8.2	6.0	.4	32.2
1944	.2	2.3	4.7	1.2	4.5	.4	1.3	.3	.7	4.5	3.5	.7	24.3
1945	1.6	-.8	23.9	1.4	1.3	.7	1.1	.5	2.5	8.0	.7	1.8	42.7
1946	.7	.5	32.7	-.9	.3	.4	.7	.4	2.8	18.7	3/	1.6	58.0
1947	---	.5	66.6	.1	.1	1.1	---	---	7.5	8.7	.5	.3	85.5
1948	---	3.3	77.0	.4	.4	1.0	---	---	4.7	-.4	---	1.4	87.9
1949	---	3/	52.0	3.7	3.1	-.8	---	---	28.7	.2	---	-.2	86.7
1950	---	.9	31.5	-.9	4.7	2.5	---	---	15.4	3/	---	.4	54.6
1951	---	1.0	47.3	4.7	9.8	.1	---	---	10.3	.3	---	.1	73.7
1952	---	3/	93.1	-31.7	15.8	---	---	---	10.9	3/	---	---	88.1
1953	---	2.2	48.6	.5	5.5	---	---	---	3.3	---	---	---	60.1
1954 ^{4/}	---	3/	19.4	3/	9.0	---	---	---	1.9	---	---	---	30.3

Livestock						
Calendar year	Dairy products	Meat animals	Poultry and eggs	Animal fibers	Total livestock	Total USDA net purchases
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1941	16.7	35.5	16.5	---	68.8	100
1942	14.8	42.3	19.5	---	76.7	100
1943	9.8	44.3	13.7	---	67.8	100
1944	10.7	40.1	24.9	---	75.7	100
1945	19.1	37.4	.8	---	57.3	100
1946	8.7	21.7	11.6	---	42.0	100
1947	4.6	1.5	8.5	---	14.5	100
1948	8.0	1.0	3.1	---	12.1	100
1949	5.5	1.6	5.1	1.2	13.3	100
1950	23.5	5.8	15.4	.7	45.4	100
1951	10.6	1.2	14.5	---	26.3	100
1952	6.9	3/	5.0	---	11.9	100
1953	33.3	6.6	---	---	39.9	100
1954 ^{4/}	63.9	5.8	---	---	69.7	100

^{1/} Includes cottonseed oil. ^{2/} Cotton lint only. ^{3/} Less than 0.05 percent. ^{4/} Preliminary.

Table 33.-- Equivalent farm value of supply-utilization of all farm commodities, 1924-54 1/

Calendar year	Production		Imports and in-shipments		Net change in available stock 2/		Total utilization		Domestic use		Commercial exports and shipments 3/		USDA export program	
	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.
1924	28,090	1,997	-261	29,826	15,731	11,374	27,105	2,721	---	---	---	---	---	
1925	28,451	2,194	28	30,673	15,890	12,156	28,045	2,627	---	---	---	---	---	
1926	28,694	2,315	-486	30,523	16,222	11,618	27,840	2,683	---	---	---	---	---	
1927	28,936	2,256	391	31,583	16,094	12,600	28,694	2,888	---	---	---	---	---	
1928	29,229	2,235	-227	31,238	16,224	12,337	28,561	2,677	---	---	---	---	---	
1929	28,836	2,520	-9	31,347	16,540	12,324	28,863	2,484	---	---	---	---	---	
1930	28,316	2,219	-384	30,150	16,582	11,457	28,039	2,112	---	---	---	---	---	
1931	29,652	2,034	-1,405	30,280	16,734	11,511	28,244	1,978	---	---	---	7/58	58	
1932	29,316	1,733	-404	30,646	16,463	12,019	28,482	2,124	---	---	---	7/40	40	
1933	27,641	1,968	968	30,576	16,602	12,023	28,625	1,951	---	---	---	---	---	
1934	25,251	1,863	1,767	28,882	16,977	10,355	27,333	1,549	---	---	---	---	---	
1935	27,340	2,477	-1,100	28,717	16,372	10,901	27,273	1,444	---	---	---	---	---	
1936	25,886	2,546	1,598	30,030	17,048	11,615	28,663	1,367	---	---	---	---	---	
1937	30,268	2,828	-2,795	30,301	17,326	11,420	28,746	1,555	---	---	---	---	---	
1938	29,905	2,170	-1,276	30,799	17,190	11,802	28,991	1,808	---	---	---	---	---	
1939	30,171	2,367	-266	32,271	17,987	12,701	30,688	1,583	---	---	---	---	---	
1940	31,567	2,396	-955	33,009	18,643	13,147	31,790	1,219	---	---	---	---	---	
1941	32,722	2,919	-847	34,794	19,262	14,263	33,525	737	82	450	532	---	---	
1942	36,107	2,012	-690	37,430	20,023	15,514	35,538	429	332	1,131	1,463	---	---	
1943	36,535	2,432	1,700	40,667	20,975	17,119	38,094	498	152	1,922	2,075	---	---	
1944	38,021	2,852	-110	40,763	22,628	15,880	38,508	646	-49	1,659	1,609	---	---	
1945	37,002	2,574	708	40,283	22,661	15,419	38,080	1,066	-236	1,374	1,137	---	---	
1946	37,296	2,610	426	40,332	22,260	15,184	37,444	1,548	-197	1,537	1,340	---	---	
1947	36,384	2,523	817	39,724	22,525	14,288	36,812	1,953	105	853	958	---	---	
1948	37,978	2,776	-2,606	38,147	22,106	13,868	35,974	1,687	-64	550	486	---	---	
1949	37,292	2,672	-983	38,981	22,334	14,015	36,349	2,120	-80	593	513	---	---	
1950	37,035	2,919	52	40,005	22,409	14,883	37,292	2,267	-34	481	446	---	---	
1951	37,398	2,897	1,063	41,358	22,908	14,985	37,893	2,784	91	589	680	---	---	
1952	38,949	2,927	-1,032	40,844	23,480	14,508	37,987	2,754	-24	127	103	---	---	
1953	39,606	2,963	-1,586	40,983	24,155	14,289	38,444	2,356	2	181	183	---	---	
1954 8/	39,785	2,614	-1,231	41,168	24,566	13,793	38,359	2,654	1	154	155	---	---	

1/ Covers food and nonfood farm commodities. Relationships were developed from quantitative data on supply and use of unprocessed and processed farm commodities multiplied by average prices in 1947-49. All values were adjusted to farm values. 2/ Includes farm and commercial stocks and holdings under price support and domestic supply programs. Minus sign means an addition to stocks, plus sign means a withdrawal from stocks. 3/ Excludes deliveries of the Department of Agriculture. 4/ Stocks held for export. Here, minus sign means a withdrawal from stocks; plus sign means an addition. 5/ Shipments out of this country. 6/ Represents net quantities withdrawn from domestic commercial channels. 7/ Federal Farm Board exports. 8/ Preliminary.

Table 34.- Equivalent farm value of supply-utilization of farm food commodities, 1924-54 ^{1/}

Calendar year	Production		Imports and shipments		Net change in available stocks		Total utilization		Domestic use				Commercial exports and shipments		USDA export program			
	Mil.dol.		Mil.dol.		Mil.dol.		Mil.dol.		Food		Nonfood		Total		Stock change		Deliveries	
	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Civilian	Military	4/	5/	6/	7/	Mil.dol.	Mil.dol.		
1924	23,125	1,629	5	24,759	15,731	---	7,667	23,398	---	---	---	1,360	---	---	---	---		
1925	23,360	1,755	295	25,409	15,889	---	8,476	24,365	---	---	---	1,044	---	---	---	---		
1926	23,515	1,896	-194	25,217	16,214	---	7,988	24,202	---	---	---	1,015	---	---	---	---		
1927	23,694	1,833	7	25,534	16,090	---	8,284	24,374	---	---	---	1,160	---	---	---	---		
1928	24,257	1,839	-374	25,722	16,213	---	8,507	24,720	---	---	---	1,002	---	---	---	---		
1929	23,595	2,053	168	25,815	16,535	---	8,291	24,826	---	---	---	989	---	---	---	---		
1930	23,390	1,860	94	25,344	16,564	---	7,996	24,560	---	---	---	783	---	---	---	---		
1931	24,433	1,735	-716	25,451	16,706	---	8,048	24,754	---	---	---	639	---	---	---	---		
1932	24,571	1,534	-525	25,581	16,445	---	8,547	24,992	---	---	---	549	---	---	---	---		
1933	22,943	1,658	864	25,465	16,587	---	8,428	25,015	---	---	---	451	---	---	---	---		
1934	21,544	1,634	1,451	24,629	16,970	---	7,225	24,195	---	---	---	433	---	---	---	---		
1935	22,627	2,106	-1,219	23,513	16,313	---	6,866	23,179	---	---	---	334	---	---	---	---		
1936	21,530	2,107	1,470	25,107	16,977	---	7,818	24,795	---	---	---	312	---	---	---	---		
1937	24,583	2,272	-1,966	24,888	17,266	---	7,192	24,458	---	---	---	432	---	---	---	---		
1938	24,763	1,873	-708	25,929	17,136	---	7,934	25,070	---	---	---	858	---	---	---	---		
1939	25,086	1,989	-167	26,908	17,936	---	8,306	26,242	---	---	---	665	---	---	---	---		
1940	26,294	1,987	-688	27,594	18,616	---	8,499	27,115	---	---	---	478	---	---	---	---		
1941	27,672	2,252	-865	29,059	18,860	363	8,990	28,213	---	---	---	384	82	379	461	---		
1942	30,520	1,444	-443	31,521	18,723	1,288	10,001	30,012	---	---	---	247	332	930	1,262	---		
1943	31,259	1,971	1,342	34,572	18,855	2,116	11,637	32,608	---	---	---	196	151	1,618	1,769	---		
1944	32,535	2,400	42	34,977	19,499	3,129	10,604	33,232	---	---	---	276	-51	1,520	1,469	---		
1945	31,861	2,000	463	34,264	19,752	2,909	10,216	32,877	---	---	---	368	-236	1,019	1,255	---		
1946	32,140	1,923	-262	33,800	21,512	746	9,831	32,089	---	---	---	643	-195	1,262	1,067	---		
1947	30,976	2,019	790	33,785	21,749	775	9,288	31,812	---	---	---	1,106	140	727	667	---		
1948	32,326	2,191	-2,280	32,238	21,202	896	8,791	30,889	---	---	---	870	-62	541	479	---		
1949	31,419	2,252	-569	33,102	21,435	896	9,324	31,655	---	---	---	938	-78	586	508	---		
1950	31,723	2,312	-536	33,499	21,925	475	9,599	31,999	---	---	---	1,058	-34	476	442	---		
1951	31,276	2,381	1,180	34,836	21,946	958	9,654	32,558	---	---	---	1,602	90	586	676	---		
1952	32,850	2,403	-681	34,552	22,768	706	9,172	32,646	---	---	---	1,803	-24	127	103	---		
1953	33,422	2,487	-956	34,953	23,492	656	9,088	33,236	---	---	---	1,534	2	181	183	---		
1954 ^{10/}	33,880	2,217	-853	35,244	24,003	552	8,865	33,420	---	---	---	1,670	1	153	154	---		

^{1/} Covers farm commodities normally used for food in the United States, including their nonfood use. Relationships were developed from quantitative data on supply and use of unprocessed and processed farm commodities multiplied by average prices in 1947-49. All values were adjusted to farm values. For methodology see Agriculture Handbook No. 62, Consumption of Food in the United States, 1909-52. ^{2/} Includes farm and commercial stocks and holdings under price support and domestic supply programs. Minus sign means an addition to stocks, plus sign means a withdrawal from stocks. ^{3/} Includes civilian feeding in areas occupied by our Armed Forces. ^{4/} Includes seed, feed, industrial alcohol, alcoholic beverages, etc. ^{5/} Excludes deliveries by the Department of Agriculture. ^{6/} Stocks held for export. Here, minus sign means a withdrawal from stocks; plus sign means an addition. ^{7/} Shipments out of this country. ^{8/} Represents net quantities withdrawn from domestic commercial channels. ^{9/} Federal Farm Board exports. ^{10/} Preliminary.

Table 35.- Equivalent farm value of supply-utilization of farm nonfood commodities, 1924-54 ^{1/}

Calendar year	Production		Imports and shipments		Net change in available stocks		Total utilization		Domestic use		Commercial exports and shipments		Stock change		Deliveries		Net purchases	
	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.
1924	4,965	368	-	266	5,067	3,707	1,360	---	---	---	---	---	---	---	---	---	---	---
1925	5,091	439	-	267	5,263	3,680	1,583	---	---	---	---	---	---	---	---	---	---	---
1926	5,179	419	-	293	5,305	3,638	1,668	---	---	---	---	---	---	---	---	---	---	---
1927	5,242	423	-	384	6,048	4,320	1,729	---	---	---	---	---	---	---	---	---	---	---
1928	4,973	396	-	148	5,516	3,841	1,675	---	---	---	---	---	---	---	---	---	---	---
1929	5,241	468	-	177	5,532	4,037	1,494	---	---	---	---	---	---	---	---	---	---	---
1930	4,925	359	-	478	4,807	3,478	1,329	---	---	---	---	---	---	---	---	---	---	---
1931	5,219	299	-	689	4,829	3,491	1,339	---	---	---	---	---	---	---	---	---	---	---
1932	4,744	199	-	122	5,065	3,490	1,575	---	---	---	---	---	---	---	---	---	---	---
1933	4,698	309	-	104	5,111	3,611	1,500	---	---	---	---	---	---	---	---	---	---	---
1934	3,708	230	-	316	4,253	3,137	1,116	---	---	---	---	---	---	---	---	---	---	---
1935	4,713	371	-	120	5,204	4,094	1,110	---	---	---	---	---	---	---	---	---	---	---
1936	4,356	440	-	127	4,923	3,868	1,055	---	---	---	---	---	---	---	---	---	---	---
1937	5,685	556	-	829	5,412	4,289	1,123	---	---	---	---	---	---	---	---	---	---	---
1938	5,141	296	-	568	4,870	3,921	949	---	---	---	---	---	---	---	---	---	---	---
1939	5,085	378	-	99	5,364	4,446	918	---	---	---	---	---	---	---	---	---	---	---
1940	5,273	409	-	267	5,415	4,674	741	---	---	---	---	---	---	---	---	---	---	---
1941	5,050	666	-	18	5,735	5,311	353	---	---	---	---	---	---	---	---	---	---	---
1942	5,587	568	-	247	5,908	5,525	182	---	---	---	---	---	---	---	---	---	---	---
1943	5,276	461	-	358	6,095	5,487	303	---	---	---	---	---	---	---	---	---	---	---
1944	5,486	452	-	152	5,786	5,276	369	---	---	---	---	---	---	---	---	---	---	---
1945	5,200	574	-	245	6,020	5,203	698	---	---	---	---	---	---	---	---	---	---	---
1946	5,156	687	-	688	6,532	5,354	905	---	---	---	---	---	---	---	---	---	---	---
1947	5,408	504	-	27	5,938	5,000	847	---	---	---	---	---	---	---	---	---	---	---
1948	5,651	584	-	326	5,910	5,086	817	---	---	---	---	---	---	---	---	---	---	---
1949	5,873	420	-	414	5,879	4,693	1,181	---	---	---	---	---	---	---	---	---	---	---
1950	5,312	607	-	588	6,506	5,293	1,209	---	---	---	---	---	---	---	---	---	---	---
1951	6,122	516	-	117	6,521	5,385	1,182	---	---	---	---	---	---	---	---	---	---	---
1952	6,120	524	-	351	6,293	5,341	952	---	---	---	---	---	---	---	---	---	---	---
1953	6,184	476	-	630	6,030	5,209	821	---	---	---	---	---	---	---	---	---	---	---
1954 ^{8/}	5,905	396	-	378	5,923	4,940	983	---	---	---	---	---	---	---	---	---	---	---

^{1/} Covers farm commodities not ordinarily used for food in the United States. Relationships were developed from quantitative data on supply and use of unprocessed and processed farm commodities multiplied by average prices in 1947-49. All values were adjusted to farm values. ^{2/} Includes farm and commercial stocks and holdings under price support and domestic supply programs. Minus sign means an addition to stocks, plus sign means a withdrawal from stocks. ^{3/} Excludes deliveries by the Department of Agriculture. ^{4/} Stocks held for export. Here, minus sign means a withdrawal from stocks; plus sign means an addition. ^{5/} Shipments out of this country. ^{6/} Represent net quantities withdrawn from domestic commercial channels. ^{7/} Less than 0.5 million dollars. ^{8/} Preliminary.

Table 36.- Farm value of gross production of all farm commodities, by commodity groups, 1924-54

Calendar year	Crops										Total crops
	Food grains 1/	Fruits and tree nuts	Oil crops 2/	Sugar crops 3/	Vegetable and other food crops 4/	Feed grains 5/	Hay, silage, and forage 6/	Cotton 7/	Tobacco	Other nonfood crops 8/	
	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.
1924	1,948	641	252	161	1,979	4,897	2,206	2,377	566	84	15,113
1925	1,558	624	206	158	1,978	5,805	1,928	2,785	626	85	15,753
1926	1,884	806	180	142	1,983	5,195	1,852	3,027	587	90	15,746
1927	2,025	635	239	156	2,045	5,366	2,380	2,431	551	105	15,934
1928	2,085	743	209	146	2,095	5,740	2,043	2,474	625	79	16,239
1929	1,889	691	202	152	2,123	5,241	2,123	2,566	697	102	15,785
1930	2,024	705	223	177	2,185	4,714	1,821	2,477	750	88	15,164
1931	2,132	840	216	151	2,195	5,261	1,848	2,831	712	108	16,294
1932	1,754	694	197	188	2,197	4,580	2,069	2,322	463	88	16,015
1933	1,291	699	156	210	2,103	4,580	1,882	2,261	624	100	13,907
1934	1,222	670	195	180	2,282	2,864	1,540	1,673	493	92	11,212
1935	1,509	861	325	194	2,323	5,008	2,305	1,803	592	132	15,051
1936	1,452	677	246	203	2,184	3,214	1,753	2,159	529	92	12,507
1937	2,028	920	284	194	2,367	5,435	2,068	3,092	714	136	17,239
1938	2,144	841	336	233	2,345	2,346	2,346	2,165	630	139	16,442
1939	1,738	942	462	213	2,317	5,214	2,218	2,008	856	136	16,103
1940	1,897	862	549	216	2,425	5,349	2,522	2,084	665	155	16,724
1941	2,170	995	601	192	2,492	5,707	2,541	1,870	574	163	17,305
1942	2,237	942	931	219	2,689	6,566	2,741	2,158	641	186	19,248
1943	1,966	926	983	170	2,766	6,095	2,586	1,978	640	184	18,293
1944	2,406	1,005	829	169	2,773	6,329	2,591	1,953	888	197	19,219
1945	2,512	1,009	897	184	2,793	6,165	2,643	1,548	906	180	18,837
1946	2,594	1,159	862	208	2,968	6,674	2,438	1,541	1,053	203	19,700
1947	3,046	1,118	927	227	2,630	5,105	2,421	2,006	959	191	18,629
1948	2,926	1,060	1,125	191	2,762	7,354	2,340	2,497	901	172	21,328
1949	2,517	1,040	1,033	188	2,636	6,545	2,294	2,783	896	207	20,139
1950	2,370	1,002	1,201	225	2,643	6,602	2,488	1,760	923	292	19,507
1951	2,278	1,115	1,087	180	2,567	6,115	2,617	2,549	1,061	180	19,750
1952	2,967	1,056	1,081	181	2,598	6,506	2,485	2,670	1,026	211	20,780
1953	2,712	1,042	1,062	200	2,706	6,390	2,555	2,827	937	173	20,604
1954 9/	2,338	1,095	1,221	223	2,612	6,583	2,538	2,418	1,018	172	20,217

See footnotes at end of table.

Table 36.- Farm value of gross production of all farm commodities, by commodity groups, 1924-54 - Continued

Calendar year	Livestock				Total livestock ^{11/}	All farm commodities
	Dairy products	Meat animals ^{10/}	Poultry and eggs	Mohair and shorn wool		
	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.
1924	3,919	6,710	2,198	116	12,977	28,090
1925	3,973	6,332	2,235	123	12,698	28,451
1926	4,078	6,352	2,351	132	12,948	28,694
1927	4,146	6,226	2,451	141	13,002	28,936
1928	4,161	6,198	2,438	154	12,929	29,229
1929	4,275	6,160	2,414	161	13,051	28,836
1930	4,312	6,114	2,521	172	13,151	28,316
1931	4,424	6,283	2,436	184	13,358	29,652
1932	4,453	6,268	2,375	171	13,300	29,316
1933	4,488	6,648	2,388	182	13,734	27,641
1934	4,360	7,194	2,277	179	14,039	25,251
1935	4,348	5,528	2,208	176	12,289	27,340
1936	4,392	6,434	2,347	172	13,379	25,886
1937	4,372	6,021	2,431	174	13,029	30,268
1938	4,536	6,301	2,407	176	13,463	29,905
1939	4,575	6,707	2,575	177	14,067	30,171
1940	4,686	7,285	2,651	183	14,844	31,567
1941	4,921	7,443	2,822	191	15,418	32,722
1942	5,060	8,319	3,255	191	16,859	36,107
1943	4,982	9,272	3,766	186	18,242	36,535
1944	4,968	9,734	3,898	167	18,802	38,021
1945	5,072	8,963	3,933	154	18,165	37,002
1946	4,090	8,654	3,772	140	17,596	37,296
1947	4,964	8,965	3,657	126	17,755	36,384
1948	4,778	8,173	3,544	116	16,650	37,978
1949	4,912	8,251	3,842	105	17,154	37,292
1950	4,926	8,404	4,043	107	17,528	37,035
1951	4,837	8,377	4,274	111	17,648	37,398
1952	4,842	8,758	4,404	114	18,170	38,949
1953	5,066	9,317	4,462	113	19,002	39,606
1954 ^{2/}	5,159	9,519	4,733	115	19,568	39,785

1/ Buckwheat, rice, rye, and wheat. 2/ Flaxseed, peanuts, soybeans, sunflower seed, rapeseed, and tung nuts. 3/ Maple sugar and sirup, sorgo sirup, sugarcane and beets, and sugarcane sirup. 4/ Includes potatoes, sweetpotatoes, dry beans and peas, cowpeas for peas, popcorn, and mustard seed. 5/ Barley, corn, grain sorghums, and oats. 6/ Hay, sorghum forage, sorghum silage, and velvet beans. 7/ Cotton lint, linters, seed. 8/ Field crop and vegetable seeds, broomcorn, and hops. 9/ Preliminary. 10/ Cattle and calves, hogs, and sheep and lambs, including pulled wool. 11/ Includes honey in addition to commodities listed.

Table 37.- Equivalent farm value of imports of supplementary and complementary farm commodities, by commodity groups, 1924-54 1/2

Calendar year	Supplementary commodities				Complementary commodities							Total farm commodities
	Sugar	Apparel : wool	Cattle and calves	All other	Total supplementary	Bananas	Coffee	Cocoa	Tea	Carpet wool	Total complementary	
	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.
1924	345	81	67	680	1,173	149	419	126	52	78	824	1,997
1925	456	111	62	740	1,369	172	382	127	57	87	825	2,194
1926	449	107	84	794	1,434	170	445	144	54	68	881	2,315
1927	388	86	118	775	1,367	184	429	143	50	82	889	2,256
1928	372	73	142	750	1,337	200	435	126	51	86	898	2,235
1929	421	79	165	896	1,561	197	444	171	50	96	959	2,520
1930	425	53	98	751	1,327	188	477	127	48	52	892	2,219
1931	346	31	57	657	1,091	172	521	141	49	60	943	2,034
1932	322	14	47	507	890	156	447	163	53	25	844	1,733
1933	313	38	86	653	1,090	129	474	161	54	60	878	1,968
1934	334	22	64	601	1,021	154	456	148	42	42	842	1,863
1935	315	34	132	959	1,440	178	526	206	48	80	1,037	2,477
1936	339	77	124	965	1,505	190	522	209	46	74	1,042	2,546
1937	368	94	113	1,180	1,755	218	510	206	53	87	1,073	2,828
1938	339	26	90	685	1,140	197	596	152	46	39	1,030	2,170
1939	314	68	116	732	1,230	182	602	221	55	76	1,137	2,367
1940	338	121	104	690	1,253	169	615	233	55	71	1,144	2,396
1941	402	305	179	808	1,694	163	677	225	58	102	1,224	2,919
1942	263	390	141	486	1,280	79	516	77	27	33	732	2,012
1943	324	316	128	677	1,445	68	658	200	48	13	987	2,432
1944	388	266	106	900	1,660	88	781	233	51	40	1,193	2,852
1945	345	328	57	577	1,307	118	811	219	47	72	1,267	2,574
1946	295	382	21	562	1,260	152	805	208	52	134	1,350	2,610
1947	432	216	35	581	1,264	181	737	204	35	102	1,258	2,523
1948	354	230	138	610	1,332	201	827	192	51	174	1,444	2,776
1949	385	160	87	612	1,244	192	872	217	53	94	1,428	2,672
1950	433	243	148	730	1,554	183	729	218	65	169	1,365	2,919
1951	392	251	184	744	1,571	178	802	221	49	75	1,325	2,897
1952	424	262	136	762	1,584	184	801	213	53	92	1,344	2,927
1953	447	159	97	824	1,527	191	832	228	61	124	1,436	2,963
1954 2/	436	109	80	728	1,353	186	673	230	65	107	1,261	2,614

1/ Using 1947-50 average farm prices.

2/ Preliminary.

Table 38.- Equivalent farm value of changes in available stocks of all farm commodities, by commodity groups, 1924-54 1/

(Minus indicates addition to stocks.)

Calendar year	Crops									
	Food grains	Fruits and vegetables 2/	Oil crops 3/	Sugar crops	Feed grains	Hay, silage, and forage	Cotton 4/	Tobacco	Other crops 5/	Total crops
	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.
1924	40	11	-84	-11	---	---	-278	14	8	-301
1925	151	68	-6	-3	---	---	-212	-49	-11	-60
1926	-119	-55	-18	-12	---	---	-296	-5	-1	-506
1927	-57	-32	-48	-12	137	---	335	62	3	387
1928	-187	-30	26	6	-90	---	97	47	-4	-134
1929	-37	79	6/	-45	157	---	-108	-56	-2	-11
1930	-156	-29	-59	16	292	---	-393	-74	-1	-404
1931	-119	-58	10	21	-560	---	-577	-118	-31	-1,433
1932	22	-19	-9	-9	-578	---	80	36	-2	-479
1933	282	44	-32	-48	746	---	206	-84	-6	1,108
1934	329	-4	52	-2	1,198	---	218	92	11	1,895
1935	-9	7	-79	37	-1,373	---	172	-47	-10	-1,300
1936	147	29	70	7	1,294	---	14	94	30	1,686
1937	-356	-90	-141	-17	-1,565	---	-682	-86	-29	-2,966
1938	-255	-61	-13	-37	-314	-246	-359	1	3	-1,282
1939	84	9	-35	3	-178	63	55	-245	-18	-263
1940	-248	-6	-112	-11	-173	-85	-33	-129	-15	-812
1941	-582	47	-70	-25	-234	-7	112	28	-33	-763
1942	-324	18	-209	75	-314	-169	-8	23	246	-662
1943	723	-1	-13	20	757	90	127	176	-95	1,781
1944	9	45	126	35	-233	17	-66	-143	-51	-260
1945	324	77	24	-9	159	-72	392	-40	-2	853
1946	91	-164	83	-2	-334	105	718	-110	33	421
1947	-186	40	-50	-58	1,131	15	26	-75	23	867
1948	-202	-87	-231	46	-1,855	72	-401	-44	-4	-2,707
1949	-150	-75	-67	-10	-95	-29	-456	-15	-30	-926
1950	-236	1	-108	-39	-155	-78	740	-33	-61	29
1951	311	101	45	26	557	-77	48	-118	24	917
1952	-506	-35	-22	9	-82	113	-337	-127	20	-967
1953	-489	-74	-50	-14	-227	-34	-624	29	9	-1,474
1954 1/	-316	23	29	-12	-628	-60	-191	-132	61	-1,226

See footnotes at end of table.

Continued -

Table 38.- Equivalent farm value of changes in available stocks of all farm commodities, by commodity groups, 1924-54 ^{1/} - Continued

(Minus indicates addition to stocks.)

Calendar year	Livestock					Total livestock ^{8/}	Total change
	Dairy products	Meat animals	Poultry and eggs	Animal fibers			
	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.		
1924	-5	39	5	---	40	-261	
1925	-2	99	-9	---	88	28	
1926	11	9	-1	---	19	-486	
1927	-8	6	6	---	4	391	
1928	-5	-80	-8	---	-92	-227	
1929	-16	17	1	---	2	-9	
1930	5	30	-15	---	20	-384	
1931	22	3	3	---	29	-1,405	
1932	6	41	29	---	76	-404	
1933	-40	-88	-13	---	-141	968	
1934	20	-144	-4	---	-128	1,767	
1935	13	186	2	---	200	-1,100	
1936	-29	-61	-15	16	-89	1,598	
1937	15	180	-2	-21	171	-2,795	
1938	-33	1	20	18	6	-1,276	
1939	31	-27	-19	12	-4	-266	
1940	-6	-116	-14	-5	-142	-955	
1941	-38	75	-1	-120	-84	-847	
1942	53	28	10	-119	-28	-690	
1943	-6	-36	-14	-27	-82	1,700	
1944	2	98	15	35	150	-110	
1945	11	-46	-67	-43	-145	708	
1946	-28	67	5	-42	5	426	
1947	6	-106	-19	78	-50	817	
1948	-37	26	70	43	101	-2,606	
1949	-80	24	-91	92	-57	-983	
1950	7	7	-38	47	23	52	
1951	68	-49	98	28	146	1,063	
1952	-51	-25	36	-25	-65	-1,032	
1953	-196	87	11	-19	-112	-1,586	
1954 ^{7/}	29	-23	-12	-1	-5	-1,231	

^{1/} Available stocks include holdings of farmers (free or under price support loans), of marketing agencies and processors, and stocks acquired by the Commodity Credit Corporation under price support and domestic supply programs. Coverage varies during the period. Average farm prices in 1947-49 used throughout. ^{2/} Fruits, vegetables, potatoes, sweetpotatoes, dry beans and peas, and tree nuts. ^{3/} Babassu kernels, castor beans, copra, cottonseed, flaxseed, palm kernels, palm oil (fruit equivalent), peanuts, olive oil (olive equivalent), rapeseed, sesame seed, soybeans, and tung nuts. ^{4/} Cotton lint only. ^{5/} Cocoa, coffee, tea, field crop and vegetable seeds, hops, and mustard seed. ^{6/} Less than 0.5 million dollars. ^{7/} Preliminary. ^{8/} Includes honey in addition to commodities listed.

Table 39.- Equivalent farm value of civilian food use of all farm commodities, by commodity groups, 1924-54

Calendar year	Crops											Total crops
	Dry beans and peas: 1/	Coffee, tea and cocoa:	Food grains:	Feed grains: 2/	Fruits:	Oil crops: 3/	Potatoes and sweet-potatoes:	Sugar crops: 4/	Tree nuts:	Vegetables:	Total	
	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.
1924	92	597	882	260	722	274	508	452	70	1,214	5,075	
1925	88	547	920	242	734	338	526	545	74	1,320	5,340	
1926	93	635	945	257	904	349	466	539	76	1,240	5,507	
1927	110	619	950	276	718	292	527	500	70	1,236	5,303	
1928	100	602	958	289	826	349	533	489	66	1,262	5,479	
1929	95	658	947	289	797	379	582	497	68	1,375	5,692	
1930	115	636	920	280	791	344	487	588	66	1,419	5,650	
1931	122	676	920	270	885	408	514	490	76	1,322	5,686	
1932	93	657	930	254	742	298	546	475	72	1,317	5,387	
1933	93	685	899	252	725	314	525	446	62	1,328	5,330	
1934	116	660	845	231	716	310	540	477	67	1,393	5,359	
1935	110	767	879	209	887	486	569	506	95	1,429	5,942	
1936	116	794	911	221	770	484	506	514	87	1,404	5,812	
1937	102	738	908	211	1,012	536	505	504	107	1,472	6,100	
1938	122	785	924	212	845	429	518	500	94	1,443	5,877	
1939	117	849	911	213	989	444	493	499	105	1,492	6,117	
1940	112	882	909	217	917	424	481	496	107	1,606	6,156	
1941	120	903	909	239	1,016	435	512	513	115	1,597	6,368	
1942	141	755	912	273	854	423	517	485	85	1,585	6,040	
1943	110	679	916	262	782	444	510	414	75	1,550	5,751	
1944	104	784	840	246	881	450	531	468	94	1,661	6,072	
1945	104	826	916	255	916	442	484	407	110	1,757	6,238	
1946	122	1,078	939	262	1,062	489	517	444	117	1,803	6,847	
1947	98	996	889	265	1,098	483	523	550	124	1,726	6,757	
1948	102	1,039	891	230	998	528	442	551	143	1,728	6,665	
1949	103	1,080	897	232	1,038	485	473	526	144	1,684	6,672	
1950	128	1,005	909	247	985	538	458	577	147	1,720	6,727	
1951	122	1,014	920	248	985	521	454	552	161	1,732	6,789	
1952	123	1,037	910	242	1,053	575	426	566	155	1,756	6,870	
1953	120	1,075	903	242	1,062	581	459	578	160	1,791	6,972	
1954	129	996	909	243	1,093	630	467	594	149	1,808	7,032	

See footnotes at end of table.

- Continued

Table 39.- Equivalent farm value of civilian food use of all farm commodities,
by commodity groups, 1924-54 - Continued

Calendar year	Livestock					Total civilian food use
	Dairy products	Eggs	Honey	Meat animals	Poultry	
	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.
1924	2,546	1,415	33	5,930	732	10,656
1925	2,597	1,409	34	5,741	768	10,549
1926	2,667	1,520	35	5,716	776	10,715
1927	2,690	1,557	36	5,674	834	10,791
1928	2,724	1,559	38	5,609	815	10,745
1929	2,804	1,557	39	5,637	810	10,847
1930	2,833	1,560	31	5,618	889	10,931
1931	2,874	1,579	30	5,754	812	11,048
1932	2,892	1,495	32	5,807	850	11,076
1933	2,880	1,424	27	6,051	890	11,272
1934	2,876	1,395	29	6,493	824	11,618
1935	2,916	1,360	30	5,322	801	10,430
1936	2,946	1,414	34	5,973	868	11,235
1937	2,997	1,518	31	5,808	872	11,226
1938	3,027	1,541	42	5,870	832	11,312
1939	3,119	1,567	34	6,223	927	11,870
1940	3,163	1,611	39	6,707	967	12,486
1941	3,170	1,569	43	6,711	1,038	12,531
1942	3,327	1,599	38	6,570	1,162	12,696
1943	3,200	1,709	43	6,752	1,405	13,109
1944	3,225	1,743	40	7,160	1,258	13,427
1945	3,405	1,987	48	6,691	1,384	13,514
1946	3,695	2,008	47	7,540	1,376	14,666
1947	3,657	2,090	37	7,899	1,309	14,993
1948	3,553	2,160	37	7,523	1,273	14,545
1949	3,628	2,165	42	7,520	1,411	14,766
1950	3,722	2,228	45	7,655	1,557	15,207
1951	3,700	2,313	50	7,394	1,704	15,161
1952	3,773	2,419	48	7,890	1,774	15,904
1953	3,790	2,449	42	8,468	1,778	16,527
1954 ^{6/}	3,889	2,558	41	8,569	1,926	16,983

^{1/} Includes cowpeas for peas. ^{2/} Includes corn sugar and sirup. ^{3/} Includes peanuts for all uses and some very minor food uses of normally nonfood oils. The inclusion of these nonfood oils makes "civilian food use of all farm commodities" greater than "civilian food use of farm food commodities," in table 34. ^{4/} Excludes corn sugar and sirup and honey. ^{5/} Includes popcorn and mustard seed in addition to crops listed. ^{6/} Preliminary.

Table 40.- Equivalent farm value of military takings of all farm commodities for food use, by commodity groups, 1941-54 1/

Calendar year	Dairy products	Fruits and vegetables	Grains	Meat animals	Oil crops	Poultry and eggs	Sugar crops	Other foods	Total food use
	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars
1941	61	67	15	148	3	48	6	15	363
1942	135	203	38	641	12	125	29	106	1,288
1943	258	288	79	1,047	22	241	46	135	2,116
1944	380	406	178	1,426	34	415	66	224	3,129
1945	308	327	376	1,186	32	377	74	228	2,909
1946	70	76	167	299	2	119	8	6	746
1947	73	73	339	225	2	54	8	1	775
1948	65	148	421	160	7	78	5	12	896
1949	77	99	446	153	39	49	4	29	896
1950	44	46	94	193	13	56	4	24	475
1951	84	127	88	440	12	132	8	66	958
1952	85	96	73	297	6	116	8	26	706
1953	77	72	72	284	10	110	7	24	656
1954 4/	73	60	38	255	5	96	5	20	552

1/ Includes quantities shipped for civilian use in liberated and occupied areas. Using 1947-49 farm prices.

2/ Includes fruits, vegetables, potatoes, sweetpotatoes, and dried beans and peas.

3/ Includes coffee, tea, cocoa, bananas, and honey.

4/ Preliminary.

Table 41.- Equivalent farm value of domestic nonfood use of all farm commodities, by commodity groups, 1924-54 1/

Calendar year	Food commodities					Nonfood commodities					Total domestic nonfood use	
	Grains	Food	Livestock	Other food	Total food commodities	Fibers	Hay	Oil crops	Tobacco	Other nonfood commodities		
	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.		Mil.dol.
1924	5,116	466	1,873	212	7,667	1,025	2,213	60	328	80	3,707	11,374
1925	5,912	526	1,865	172	8,476	1,206	1,932	90	374	78	3,680	12,156
1926	5,286	571	1,951	180	7,988	1,211	1,861	100	369	88	3,630	11,618
1927	5,604	521	1,964	194	8,284	1,347	2,382	84	406	98	4,316	12,600
1928	5,819	529	1,913	245	8,507	1,203	2,044	105	402	78	3,830	12,337
1929	5,554	571	1,967	200	8,291	1,286	2,123	136	387	100	4,032	12,324
1930	5,345	508	1,937	206	7,996	1,009	1,824	115	424	90	3,461	11,457
1931	5,237	534	2,040	236	8,048	1,019	1,849	105	374	116	3,463	11,511
1932	5,818	440	2,028	261	8,547	901	2,069	87	328	87	3,472	12,019
1933	5,668	436	2,073	250	8,428	1,158	1,882	106	355	94	3,596	12,023
1934	4,494	415	2,016	300	7,225	1,008	1,541	95	401	86	3,130	10,355
1935	4,165	432	1,964	306	6,866	1,098	2,306	111	384	134	4,035	10,901
1936	5,081	507	1,971	259	7,818	1,378	1,754	111	449	106	3,797	11,615
1937	4,453	529	1,924	286	7,192	1,418	2,070	156	448	136	4,229	11,420
1938	5,171	484	1,978	302	7,934	1,104	2,100	89	422	152	3,867	11,802
1939	5,453	525	2,047	282	8,306	1,395	2,281	97	477	144	4,395	12,701
1940	5,531	598	2,052	318	8,499	1,519	2,437	82	460	150	4,648	13,147
1941	5,767	654	2,254	315	8,990	1,972	2,534	111	496	159	5,273	14,263
1942	6,834	697	2,195	275	10,001	2,114	2,572	73	571	182	5,513	15,514
1943	8,356	837	2,095	349	11,637	1,952	2,680	56	638	156	5,482	17,119
1944	7,481	819	1,992	312	10,604	1,787	2,615	73	618	183	5,276	15,880
1945	7,239	728	1,932	317	10,216	1,751	2,574	78	642	158	5,203	15,419
1946	6,920	755	1,728	428	9,831	1,944	2,546	65	622	176	5,353	15,184
1947	6,420	794	1,761	313	9,288	1,687	2,438	63	636	176	5,000	14,288
1948	5,961	768	1,678	384	8,791	1,764	2,414	73	651	177	5,078	13,868
1949	6,574	786	1,637	327	9,324	1,497	2,267	70	646	210	4,691	14,015
1950	6,633	848	1,705	412	9,599	1,912	2,412	70	677	214	5,284	14,883
1951	6,800	894	1,614	346	9,654	1,818	2,542	64	708	199	5,330	14,985
1952	6,576	858	1,492	247	9,172	1,702	2,598	66	727	242	5,335	14,508
1953	6,416	823	1,570	278	9,088	1,685	2,525	63	731	198	5,202	14,290
1954 1/2	6,077	752	1,775	261	8,865	1,519	2,479	62	690	178	4,928	13,793

1/ Includes civilian use and all military takings. Based on 1947-49 farm prices. 2/ Copra, cottonseed, flaxseed, olive oil (olive basis), peanuts, soybeans and sunflower seed. 3/ Babassu kernels, castor beans, palm kernels, palm oil (fruit basis), rapeseed, and tung nuts. 4/ Preliminary.

Table 43.- Equivalent farm value of total exports and shipments of all farm commodities, by commodity groups, 1924-54 ^{1/}

Calendar year	Cotton ^{2/}	Grains ^{3/}	Meat animals	Tobacco	Dairy, poultry, and eggs	All others	Total exports and shipments
	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.	Mil.dol.
1924	1,038	662	482	301	41	197	2,721
1925	1,302	454	371	260	34	206	2,627
1926	1,383	488	324	267	30	191	2,683
1927	1,432	657	284	278	30	207	2,888
1928	1,337	493	289	324	27	207	2,677
1929	1,173	467	313	307	22	202	2,484
1930	1,012	348	260	304	24	164	2,112
1931	1,059	298	209	272	20	178	2,036
1932	1,361	241	180	208	11	163	2,164
1933	1,266	106	194	225	10	150	1,951
1934	881	106	188	226	11	137	1,549
1935	894	65	101	208	11	165	1,444
1936	826	67	95	223	10	146	1,367
1937	883	171	94	230	11	166	1,555
1938	678	546	120	260	14	190	1,808
1939	723	307	142	185	14	212	1,583
1940	588	206	118	128	29	150	1,219
1941	246	183	253	157	176	171	1,186
1942	216	139	535	137	368	165	1,560
1943	313	155	910	222	499	322	2,421
1944	235	220	843	171	553	400	2,422
1945	458	751	525	275	493	398	2,900
1946	699	893	481	377	480	416	3,346
1947	609	1,327	226	300	338	434	3,232
1948	529	1,218	116	256	215	524	2,858
1949	865	1,245	214	288	199	418	3,229
1950	917	805	192	268	257	344	2,783
1951	867	1,410	230	296	264	381	3,448
1952	700	1,290	264	235	92	339	2,920
1953	499	962	301	296	144	373	2,575
1954 ^{4/}	695	765	280	261	178	635	2,814

^{1/} Includes military shipments for civilian use in occupied and liberated areas and United States Department of Agriculture deliveries.

^{2/} Cotton lint only.

^{3/} Includes wheat, rice, barley, corn, grain sorghums, oats, buckwheat, and rye.

^{4/} Preliminary.

Table 44.- Equivalent farm value of United States Department of Agriculture net purchases of farm commodities for export, by commodity groups, 1941-54 ^{1/}

Calendar year	Beverages		Dry beans and peas		Food grains		Fruits and nuts		Oil crops		Potatoes and sweet potatoes		Sugar crops		Vegetables		Feed grains		Cotton		Tobacco		Other crops		Total crops	
	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.
1941	---	27	1	27	1	---	---	---	---	---	---	---	---	---	---	11	28	71	---	---	---	---	---	---	---	166
1942	---	68	22	63	24	1	1	1	24	12	12	12	12	101	97	22	14	101	101	125	125	125	125	1	341	
1943	3	37	79	63	79	2	2	2	79	14	14	14	30	171	125	25	14	171	171	125	125	125	8	667		
1944	4	37	76	19	72	6	6	6	72	21	21	21	21	72	57	5	11	72	72	57	57	57	11	391		
1945	18	-9	272	16	15	8	8	8	15	12	12	12	12	91	8	6	29	91	91	8	8	8	20	486		
1946	9	7	438	-12	4	6	6	6	4	10	10	10	10	251	2/	5	37	251	251	2/	2/	2/	22	777		
1947	---	5	638	1	1	11	11	11	1	---	---	---	---	83	5	2/	72	83	83	5	5	5	3	7	819	
1948	---	16	374	2	2	5	5	5	2	---	---	---	---	-2	2/	2/	23	-2	-2	---	---	---	7	427		
1949	---	2/	267	19	16	-4	-4	-4	16	---	---	---	---	1	---	2/	147	1	1	---	---	---	-1	445		
1950	---	4	141	-4	21	11	11	11	21	---	---	---	---	2/	---	---	69	2/	2/	---	---	---	2	244		
1951	---	7	322	32	67	1	1	1	67	---	---	---	---	2	---	---	70	2	2	---	---	---	1	502		
1952	---	---	94	-32	16	---	---	---	16	---	---	---	---	---	---	---	11	---	---	---	---	---	2/	89		
1953	---	---	89	1	10	---	---	---	10	---	---	---	---	---	---	---	6	---	---	---	---	---	2/	110		
1954 ^{3/}	---	2/	30	2/	14	---	---	---	14	---	---	---	---	---	---	---	3	---	---	---	---	---	2/	47		

Calendar year	Dairy products		Meat animals		Poultry and eggs		Animal fibers		Total livestock		Total USDA net purchases	
	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	Mill.dol.	
1941	89	189	88	---	---	---	---	366	532			
1942	217	619	285	---	---	---	---	1,121	1,463			
1943	204	919	283	---	---	---	---	1,406	2,075			
1944	172	644	401	---	---	---	---	1,217	1,609			
1945	217	426	9	---	---	---	---	652	1,137			
1946	117	291	155	---	---	---	---	563	1,340			
1947	44	14	81	---	---	---	---	139	958			
1948	39	5	15	---	---	---	---	59	486			
1949	28	8	26	6	68	513	513	68	446			
1950	105	26	69	3	203	680	680	203	680			
1951	72	8	99	---	179	103	103	179	103			
1952	7	2/	5	---	12	183	183	12	183			
1953	61	12	---	---	73	155	155	73	155			
1954 ^{3/}	99	9	---	---	108	---	---	108	---			

^{1/} Valued at 1947-49 farm prices.
^{2/} Less than 0.5 million dollars.
^{3/} Preliminary.

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