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Volume III SPECIAL REPORTS

Part 12

Methods and Procedures

Prepared under the supervision of

RAY HURLEY

Chief, Agriculture Division

HOW THE CENSUS WAS TAKEN • DESCRIPTION OF METHODS AND PROCEDURES •



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PREFACE

Volume III, Special Reports, comprises one of the volumes presenting final summaries and results for the 1954 Census of Agriculture. The purpose of Part 12 is to outline the methods and procedures used in taking and compiling the results of the 1954 Census of Agriculture.

Since 1920, the Bureau of the Census has taken once each 5 years a Census of the Nation's farms and agricultural production. The increasing complexity of agriculture, and the accelerated rate of agricultural changes, resulting from increased technological developments and mechanization, have made the taking of a Nationwide Census of Agriculture a complex and difficult task. This report describes briefly the methods and procedures devised and used for meeting the many problems involved in the 1954 Census of Agriculture of the United States.

This report was prepared under the supervision of Ray Hurley, Chief, Agriculture Division, and with the assistance of Orvin Wilhite, J. Thomas Breen, and Henry A. Tucker.

December 1956

III

UNITED STATES CENSUS OF AGRICULTURE: 1954

REPORTS

Volume I .--- Counties and State Economic Areas. Statistics for counties include number of farms, acreage, value, and farm operators; farms by color and tenure of operator; facilities and equipment; use of commercial fertilizer; farm labor; farm expenditures; livestock and livestock products; specified crops harvested; farms classified by type of farm and by economic class; and value of products sold by source. Data for State economic areas include farms and farm characteristics by tenure of operator, by type of farm, and by economic class.

Volume I is published in 33 parts.

Volume II.-General Report. Statistics by Subjects, United States Census of Agriculture, 1954. Summary data and analyses of the data for States, for Geographic Divisions, and for the United States by subjects.

Volume III.---Special Reports

- Part 1.-Multiple-Unit Operations. This report will be similar to Part 2 of Volume V of the reports for the 1950 Census of Agriculture. It will present statistics for approximately 900 counties and State economic areas in 12 Southern States and Missouri for the number and characteristics of multiple-unit operations and farms in multiple units.
- Part 2.-Ranking Agricultural Counties. This special report will present statistics for selected items of inventory and agricultural production for the leading counties in the United States.
- Part 3 .- Alaska, Hawaii, Puerto Rico, District of Columbia, and U. S. Possessions. These areas were not included in the 1954 Census of Agriculture. The available current data from various Government sources will be compiled and published in this report.
- Part 4.—Agriculture, 1954, a Graphic Summary. This report will present graphically some of the significant facts regarding agriculture and agricultural production as revealed by the 1954 Census of Agriculture.
- Part 5.-Farm-Mortgage Debt. This will be a cooperative study by the Agricultural Research Service of the U.S. Department of Agriculture and the Bureau of the Census. It will present, by States, data based on the 1954 Census of Agriculture and a special mail survey conducted in January 1956, on the number of mortgaged farms, the amount of mortgage debt, and the amount of debt held by principal lending agencies.
- Part 6 .--- Irrigation in Humid Areas. This cooperative report by the Agricultural Research Service of the U.S. Department of Agriculture and the Bureau of the Census will present data obtained by a mail survey of operators of irrigated farms in 28 States on the source of water, method of applying water, number of pumps used, acres of crops irrigated in 1954 and 1955, the number of times each crop was irrigated, and the cost of irrigation equipment and the irrigation system.
- Part 7.-Popular Report-The American Farmer in 1954. This report is planned to be a general, easy-to-read publication for the general public on the status and broad characteristics of United States agriculture. It will seek to delineate such aspects of agriculture as the geographic distribution and differences by size of farm for such items as farm acreage, principal crops, and important kinds of livestock, farm facilities, farm equipment, use of fertilizer, soil conservation practices, farm tenure, and farm income.
- Part 8.--Size of Operation by Type of Farm. This will be a cooperative special report to be prepared in cooperation with the Agricultural Research Service of the U.S. Department of Agriculture. This report will contain data for 119 economic sub-

regions (essentially general type-of-farming areas) showing the general characteristics for each type of farm by economic class. It will provide data for a current analysis of the differences that exist among groups of farms of the same type. It will furnish statistical basis for a realistic examination of production of such commodities as wheat, cotton, and dairy products in connection with actual or proposed governmental policies and programs.

Part 9.---Farmers and Farm Production in the United States. The purpose of this report is to present an analysis of the characteristics of farmers and farm production for the most important types of farms as shown by data for the 1954 Census of Agriculture. The analysis deals with the relative importance, pattern of resource use, some measures of efficiency, and problems of adjustment and change for the principal types of farms. The report was prepared in cooperation with the Agricultural Research Service of the U.S. Department of Agriculture.

The list of chapters (published separately only) and titles for each chapter are as follows:

Chapter I-Wheat Producers and Wheat Production

- II-Cotton Producers and Cotton Production
- III-Tobacco and Peanut Producers and Production
- **IV**—Poultry Producers and Poultry Production
- V-Dairy Producers and Dairy Production
- VI-Western Stock Ranches and Livestock Farms
- VII-Cash-Grain and Livestock Producers in the Corn Belt

VIII—Part-Time Farming

IX-Agricultural Producers and Production in the United States—A General View

- Part 10.-Use of Fertilizer and Lime. The purpose of this report is to present in one publication most of the detailed data compiled for the 1954 Census of Agriculture regarding the use of fertilizer and lime. The report presents data for counties, State economic areas, and generalized type-of-farming areas regarding the quantity used, acreage on which used. and expenditures for fertilizer and lime. The Agricultural Research Service cooperated with the Bureau of the Census in the preparation of this report.
- Part 11 .- Farmers' Expenditures. This report presents detailed data on expenditures for a large number of items used for farm production in 1955, and on the living expenditures of farm operators' families. The data were collected and compiled cooperatively by the Agricultural Marketing Service of the U. S. Department of Agriculture and the Bureau of the Census.
- Part 12 .--- Methods and Procedures. This report contains an outline and a description of the methods and procedures used in taking and compiling the 1954 Census of Agriculture.

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CHAPTER I-PLANNING AND PREPARING FOR THE CENSUS

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Chapter I-PLANNING AND PREPARING FOR THE CENSUS

The planning for the 1954 Census of Agriculture was performed largely by staff members with experience in connection with one or more prior Censuses of agriculture or other Censuses. The results of the prior Censuses were available to this staff in the form of published reports, staff appraisals, records of work performed, and copies of detailed procedures, and these were used as a basis for planning.

Planning the Agriculture Questionnaire.—Planning for the questionnaire content began in connection with the sample Census of Agriculture taken in 1953 in the States of Virginia and Utah. The questions proposed for the 1954 Census were pretested in this sample Census taken in October-November 1953. This pretest involved the use of about 130 enumerators and the enumeration of approximately 7,600 farms scattered throughout the two States. The work of the enumerators during this pretest was observed by technical staff members, the questionnaires were edited and coded, tabulations were made, and reports presenting data from this pretest were published in March, 1954.

Selecting the questions.—The questions included in the 1954 Census of Agriculture were selected from requests and suggestions received from many sources, such as the United States Department of Agriculture, State Agricultural Colleges, farm publications, farm organizations, individuals, etc. The first list of questions deemed by the technical staff of enough importance to be considered for inclusion in a Nationwide Census of Agriculture was prepared in April 1953.

The selection of questions to be included in the Census was made on the basis of the advice and recommendations of a special advisory committee appointed by the Director of the Bureau of the Census. This special advisory committee included persons recommended by, and representatives of the following organizations:

Associations of Land Grant Colleges and Universities National Association of Commissioners, Secretaries, and Directors of Agriculture American Farm Bureau Federation Agricultural Publishers Association Farmers Educational and Cooperative Union of America Farm Equipment Institute National Grange The American Farm Economics Association Census Advisory Committee, American Statistical Association United States Department of Agriculture National Council of Farmer Cooperatives

In selecting questions to be included in the Census, the special advisory committee and the technical staff gave consideration to the possibility of obtaining satisfactory information more efficiently in some other way than through the Census of Agriculture, to the adequacy of the information that might be obtained through the Census, to the availability of data from other sources, to the usefulness of the data, and to the cost of securing and compiling the information. A reduced facsimile of an Agriculture Questionnaire (A1) appears on pages 8 to 11.

The special advisory committee also made recommendations regarding the publication of data for the Census, and the making of special surveys and reports in connection with the Census.

Establishing enumeration districts.-In order to secure the complete coverage of all areas, and to make assignments of work to individual enumerators, it was necessary to divide the area of the United States into small areas, called enumeration districts. The size of these small areas was determined by the amount of work each enumerator was expected to perform and by boundaries of existing local minor civil divisions, such as townships, districts, etc. Generally, it was planned to establish enumeration districts that would provide 150 to 160 hours of work for each enumerator. Usually, enumeration districts contained all of one or more minor civil divisions. Records of the work time, number of farms, and number of dwellings as shown by the 1950 Censuses of Agriculture, Population and Housing were used as a basis for estimating the workload for proposed enumeration districts. Enumeration districts were established so that all parts were contiguous and so that natural barriers would not impede travel. Generally, incorporated places, unincorporated places, and urbanized areas having a population of 1,000 or more in 1950 were made separate enumeration districts. Likewise, incorporated and unincorporated places of less than 1,000 population were made separate enumeration districts if they had relatively few farms and more than 150 dwelling units in 1950.

In 37 out of the 48 States, enumeration district boundaries were established to conform to existing boundaries of townships or similar minor civil divisions. In 5 States, enumeration district boundaries conformed only in part to boundaries of minor civil divisions as the enumeration district boundaries were drawn along township or section lines, roads, or streams. In 5 States, permanent statistical areas had been established using natural features as boundaries and these areas or combinations thereof were used as enumeration districts.

The total number of enumeration districts established was 41,221 of which 11,127 were for incorporated or similar urban places. The 30,094 enumeration districts outside of urban areas contained an average 153 farms each. The 11,127 enumeration districts for urban areas contained approximately 170,000 farms or an average of 15 farms each.

Base maps for use in indicating enumerators' districts were obtained generally from State Highway Departments. For areas with a high concentration of farms, the enumerators' maps were on a scale of approximately 2 inches per mile. For sparsely settled areas, the enumerators' maps were on a scale of one-fourth inch per mile. Blue line prints were made of these base maps for use in outlining enumeration districts. The boundaries of the enumeration districts were indicated with a colored pencil on the enumerators' maps. These maps usually covered areas somewhat larger than the enumeration district so as to facilitate their use by enumerators in determining location of the enumeration district boundaries. In order to maintain records and controls for enumeration districts, each enumeration district was assigned an identification number. This identification number contained two parts-one part identified the county and the other part identified the enumeration district within the county. Each enumeration district also contained a label, that identified the name, if any, of the area comprising the enumeration district.

METHODS AND PROCEDURES

FORM A1	U. S. DEPARTMENT, OF COMMERCE-BUR WASHINGTON	LAU OF THE CERS	US	Section IIICROPS HA Report all crops harvested, or to be	harvested this	ver from these	(tend snews		OFFI ONL
	CENSUS OF AGRICULTURE	195	4	for question 11) acres. If you rent i share.	and from other	s on shares incl	ude landlord's	C-1	No
2 line umber	QUESTIONNAIRE:	100	T	CORN AND BORGHUMS:					
(This box to be filled by Census Knumerator)				count had bondardad.	(1)	(2)	(3) How much of		
0			Office Use Only	n	How many	How much was	this year's crop was or		
	L-PERSON NOW IN CHARGE		Only	For each crop, answer thezo questions	or will be	or will be harvested?			
in a manner of the fait in charge, please be sure t in ARGE.)	illy or anyone else fills this questionnaire f hat all the information is given FOR the	PERSON IN			harvested?		(Include land- loci's share as aold except that used for feed or seed on this place.)		
1. What is your name? (Person in charge)					Acres		this place.)		Col
		(Last)	ľ	CORN: 16. CORN for ALL					
2. What is your address	(Route or street number) (Post O	Mce) (filate)	}	16. CORN for ALL PURPOSES this year?. □ None (De not include sweet corn, popeorn, broom- orn, kaft, or mile maile.)	*	ххх	- x x x	-	1
• What is your speet	(a) D White		1	If no corn was	Í				2
3. What is your racet (Cleck one)	(b) Negro (c) Other; What race?			harvested, check and skip to question [17].					3
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ection II.—OWNERSHII	P. RENTAL AGREEMENT, AND LOCATI	ON OF LAND		aballed corn = 1 hu. Report 1		(0.1210 020)			-
WNED LAND;		Whele acres		corn hogged off in question (c), not here.)					1
4. How many acres of h	and do you OWN?			(b) CORN for SILAGE?	· '	Tons (Green weight	x x x		2
(If you own more the ALL LAND OWNED.	and up you rate of land, INCLUDE Include not only cropland but and, wasteland, etc.)			(c) CORN hogged or grazed, or out for green or dry fodder (cars not husked or nearbed)?					3
also pastureland, woodin	and, wasteland, etc.)			(that in not induced of anapped) 7 (The lotal of the arres for questions (e), (b), and (c) must equal the arres for question 18.)		x x x	xxx		
"None" abo	d is owned, check the square for we.			(e), (b), and (c) must equal the acres for question 16.)					4
AND RENTED FROM				SORGHUMS: (Kafir, milo, hogari				C-2	5
5. Do you have a gran orest Service, Grazing Se	ing permit? (From the U. S. arvice, etc. Grazing lands used			amber, orange, atlas, "redtop," ote.)					6
nder Government Permit nied, hut livestock on	t are not to be included as land these permit lands should bei			117] SORGHUM for ALL PURPOSES except					
		xxx		ALL FURPOSES except sirup this year? None (Report sweet sorghum for sirup in question 60.)	*	x x x	xxx	_	
6. How many acres of la cluding any worked on s	nd do you.RENT FROM others, 🔲 None			If "None," check and					8
(Include any separat	nd do you.RENT FROM others, hares?			skip to question [18].					Ģ
school, railroad, and oth you rent free.)	tor land leased and land used by	}		(a) SORGHUM for grain or need?		Bu	Bu		2
If "None,"	check and skip to question [9].			(b) SORGHUM for SILAGE? .	·	Tons (Oreen weight	xxx		0
(a) Give the following i	nformation for each landlord:			(c) SORGHUM hogged or grazed, or out for dry forage		Tons	Tons of hay or	.	Irriga
		How many		(The total of the arres for questions (The total of the arres for questions (e), (b), and (c) must equal the arres for question \$7.)		cut (Dry weight	forage	T	1
Name a (or employer if the p	nd address of landlord lace is operated by a hired manager)	acres are rented	1	(o), (o), and (r) must equal the server for question 17.)	<u> </u>				2
		from each landlord?		SMALL GRAINS:	(1)	(2)	(3)	C-3	_
			·	WERE ANY OF THE	(1)	1 1	How much of		3
(Name)				FOLLOWING GRAIN CROPS THRESHED OR COMBINED	How many acres were	How much	this year's crop was or will be sold?		X
(NRDE)	(Post Office) (State)	(Acres)		THIS YEAR-	harvested?	harvested?	sold? (include landlord's ahare as sold ex- cept that used for feed or seed on this place.)		Cla
(Name)	(Post Office) (State)	(Acres)	ł	For each crop, answer these		1	for feed or seed		1
(List additional names u				auestions	. 1		an the places		
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 a part of his share in t a part of his share in t (a) Do you pay i (b) Do you pay i (c) Do you pay i<td>equal total for question 6.) equal total for question 6.) rrichs ALL the work animals or tractor p the operation of this place)? to your landlord any sake as rent? to your landlord any share of the crops? , b) to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your perate for others as a address of the onployer under FHER8: a EENTED TO others, includ- by forgets of to others in livestod ductad as rented to others in lives by forgets of to others, includ- by forgets of the others, includ- by fo</td><td>ючег { No · · { No · · { No · · · { No · · · { No · · · · { No · · · · { Yes · · · · { Yes · · · · { Yes · · · · · · · · · · · · · · · · · · ·</td><td>•</td><td><pre>guestions</pre></td><td></td><td>Bu Bu Bu Bu Bu Bu How many acrea were grown t b *</td><td>Bu Bu Bu Bu Bu Bu Bu X X X Bu Tons X X X X X X 100-1b bags X X X Bu Tons X X X Bu</td><td>002 007 010 017 100 101 102 103 104 105 105 106 107 108 109 110</td><td>2345678990X Trn 1234567890X REGIN</td>	equal total for question 6.) equal total for question 6.) rrichs ALL the work animals or tractor p the operation of this place)? to your landlord any sake as rent? to your landlord any share of the crops? , b) to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your perate for others as a address of the onployer under FHER8: a EENTED TO others, includ- by forgets of to others in livestod ductad as rented to others in lives by forgets of to others, includ- by forgets of the others, includ- by fo	ючег { No · · { No · · { No · · · { No · · · { No · · · · { No · · · · { Yes · · · · { Yes · · · · { Yes · · · · · · · · · · · · · · · · · · ·	•	<pre>guestions</pre>		Bu Bu Bu Bu Bu Bu How many acrea were grown t b *	Bu Bu Bu Bu Bu Bu Bu X X X Bu Tons X X X X X X 100-1b bags X X X Bu Tons X X X Bu	002 007 010 017 100 101 102 103 104 105 105 106 107 108 109 110	2345678990X Trn 1234567890X REGIN
 a part of his share in t a part of his share in t (a) Do you pay i (b) Do you pay i (c) Do you pay i (c) Do you pay i (d) Do you pay i (e) Do you pay i (f) Do Manual Actions and question 6 (a). AND RENTED TO O' 10. How many acress an information of the acress residues in part of the acress results of the pay acress area in this last he land (or while to be harvested this you DCATION OF LAND: 12. Is any of this land is other county? (d) Give names of other (c) Given of a formation of the acress results of the acress of the pay acress area (c) Given and a county? (d) Give names of other (c) SIDENCE AND AGI [13] Do you live on this 	equal total for question 6.) equal total for question 6.) rrish ALL, the work animals or tractor p the operation of this place)? to your landlord any share of the crops? , i) to your landlord any share of the livestor ductor? , i) to your landlord any share of the livestor ductor? , i) to your landlord any share of the livestor ductor? , i) to your landlord any share of the livestor ductor? , i) to your landlord any share of the livestor ductor? , i) to your landlord any share of the livestor ductor? , i) to your landlord any share of the livestor ductor? , i) to your landlord any share of the livestor ductor? to Joint faxes, keep of landlord, rent free,	Nower No ···· (P) Yes ···· (Acres)	•	<pre>guestions</pre>		Bu Bu Bu Bu Bu Bu acrea were grown? *	Bu Bu Bu Bu Bu Bu Hay or uch was or will harvested 7 x x x Bu Tons x x x x x 100-lb. bage x x x bage	002 007 010 017 100 101 102 103 104 105 105 105 105 106 107 108 109 110 111	2 3 4 5 6 7 8 9
 a part of his share in t a part of his share in t (a) Do you pay i (Buch as i. 3) (b) Do you pay i (Buch as i. 4) (c) Do you pay i (Buch as i. 4) (a) More in a pay and a pay is an is an	equal total for question 6.) equal total for question 6.) rrichs ALL the work animals or tractor p the operation of this place)? to your landlord any sake as rent? to your landlord any share of the crops? , b) to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your landlord any share of the livestod ducta? to your perate for others as a address of the onployer under FHER8: a EENTED TO others, includ- by forgets of to others in livestod ductad as rented to others in lives by forgets of to others, includ- by forgets of the others, includ- by fo	ючег { No · · { No · · { No · · · { No · · · { No · · · · { No · · · · { Yes · · · · { Yes · · · · { Yes · · · · · · · · · · · · · · · · · · ·	•	<pre>guestions</pre>		Bu Bu Bu Bu Bu Bu acrea were grown? *	Bu Bu Bu Bu Bu Bu Bu X X X Bu Tons X X X X X X 100-1b bags X X X Bu Tons X X X Bu	002 007 010 017 100 101 102 103 104 105 105 105 105 106 107 108 109 110 111	-2 3456789 17789 1234567890 XV REGIO

FIGURE 1.—The Agriculture Questionnaire (Form A1).

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PLANNING AND PREPARING FOR THE CENSUS

sur Census report will be used for statistical purposes only and cannot be used for pur	poses 0	f taxation, investigation, or regulation, Approval expires December	41-542 31, 195
HAY CROPS: If two or more cutlings	C-3	TREE FRUITS, NUTS, AND GRAPES:	·C-1
count the acres only once but give : (1) (2) (3) total production of all cuttings.		[50] Are any full or nut trees or grapevines on this place?	
WERR ANT OF THE FOLLOWING HAY GROPS CUT THIS YEAR- For each kind of hay cut, answer these questions		(c) Are there as many as 20 full and nut trees and grapevines of all kinds?, Question [02].	
C273 ALFALFA and Ame		51. How much land is in bearing and nonbearing fruit orchards, groves, vineyards, and planted nut trees? Acres *i (Report tenths of an serve, such as f ₂ , 1 f ₂ , etc. Do noti include herry acreage or nurseries.)	290
28. CLOVER, TIMOTHY.	022 823	(1) (2) (3) WHICH OF THE FOLLOWING KINDS OF FRUIT AND NUT TREES ARE OF THIS PLACE- FOR THE OF THIS PLACE- FOR THIS	
and mixtures of clover and None Tons	824	guestions on the former of this bearing get get get get get get get get get ge	
So. OATS, WHEAT, BARLEY, RYE, or other small grain out FOR HAYT. □ Nono figuidetext subwint pro pratic tesding	626	52. APPLES? Number Number 53. PEACHES? Bu. Bu.	201 202
authreited) 31. WII.D HAY (prairie, ' range, or marsh grass) out FOR HAY' Tons Tons Tons	027	84. PEARB?	205 208
32. Any OTHER HAY?. ONOR (Schucz przz, milit, od medow, Sudar przz, werddorz, ruk, wnier przz,	029	56. PLUMS and PRUNES? Bu. 57. APRICOTS? Bu.	211 214
ALFALFA SEED, CLOVER, GRASS, AND OTHER FIELD SEED CROPS:		58. GRAPES?	220 241
33. Were zuy alfalfa seed, clover seed, grass [No. 1/ "No," check and skip to seed, and other field seed crops harvested this year?		(Budded, graited, or top-worked.) 60. WILD or SEEDLING PECANS? lb lb	242
(Report production on a "'clean seed" basis.)	Ì	and NUTS?	
34. How much ALFALFA SEED was harvested? Acres * Pounds	030	(Olve name) (Olve quantity Figs, nectarines, Japanese persimmons, planted wainuts. meanue)	
35. How much SWEETCLOVER SEED was harvested?	033	[62] Are there any other crops (not mentioned before) that were or will be harvested this year on this place? Castor beans, dry field and seed peak, meloan for feed, mung beans, poperar, root and grain {	
36. How much VETCH SEED was harvested?	637	legumes), sugar-beet seed, sunflower seed	
37. What OTHER FIELD SEED CROPS wore harvested?		If "Yes," give the name of the crop, acres and quantity harvested, and value of sales. Yalue of this	
(Olve name) Acres * Pounds		Acres seld or to be aold of the function of the seld of the seld or to be add the seld or to be add the seld of th	
(Olive name) Bluestem, grama grass, millet, lespedeza, red clover, Sudan grass, winter peas.		(Olive name) (Olive quantity and (Dollars only) unit of measure) (Dollars only)	
COTTON, FOTATOES, AND OTHER CROPS:		Section IVLAND USE THIS YEAR, 1954 63. (Copy acres from question 11)	_
WHICH OF THE FOLLOWING CROPS WERE HARVESTED THIS YEAR- HOW THEN YEAR- HOW THEN YEAR- HOW THEN YEAR- HOW THEN YEAR-		Now we want to distribute the ACRES IN THIS PLACE according to how they were used this year. After you have accounted for a field or plot do not count this land again. Be sure to account for all the land. Give only whole seres.	
For each crop, onswer these questions		CROPLAND:	
[38] Cotton?Bales Bales	270	64a. From how many acres of land were CROPS HARVESTED (including lay cut) this year? None, (This area may be obtained by adding the acres in the fields fields from which one or more crops were harvested or	-
39. Broomcornt None * Tons of brush	273	hay was cut this year; acres in nonbearing and bearing planted tree fruits, nuits, and grapes; and scres in nursery and greenhouse products.)	
40. Sugarcane or Sorghum for Slrup7	285	To Be Filled by Census Enumerator:	
41. Irish polatoes for home use None Bu	286	(1) Add acres of all resps (with $\#$ in Sections 111 and V1) and netre total here,	
42. Sweetpotatoes for homo use or None (If less than 20 hushels were harvested, do not report acres.)	287 ↓	(3) Subtract the area for (2) from (1) and enter difference here . (This entry about be within three areas of the acres shown for question 64a.)	
VEGETABLES FOR HOME USE AND FOR SALE: 43. Were any vegetables, sweet corn, or melons harvested this year-	۸	64b. How many acres of cropland were used only for pastere (or grasing) this year?	
(a) For home use?		64d. How many acres of cropland have not been	-
(b) For sale for fresh market or to cannors, freezers, or other processors.		Accounted for? . None	-
How MANY ACRES WERE OR WILL BE HARVESTED THIS YEAR FOR SALE- (Report tenths of an acre, such as $\frac{1}{2}$, $$	c.,	and cutover land with young trees which have or will have value as wood or timber.)	
		65a. How many acres of woodland were pastured (or grazed) this year	_
Acres and Acres		OTHER LAND: 66. How many sores were in other pasture (not	
44. Cantaloups and muskmelons?		eropland pasture and not woodland pasture) 7 None If "None," check and skip to guestion [67]. (a) Of this other pasture, how many acress to be a set of the start pasture.	-
45. Dry onlons?		(a) Of this other pasture, now many acress do you consider to be improved pasturet (Improved by liming, fortilizing, accding to (Avres) grasses or leganos, irrigating, drahning, or controlling weeds and branh.) (67] How many acres wave in house lots, barn lots,	-
46. Watermelona?		latters, roads, ditteber, and wasteland?	
Service short and foundations and the service		Stephen V.—IRRIGATION, LAND-USE PRACTICES, AND CONSERVATION THIS YEAR, 1954	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Cabbage Green outons pimientos Carrots English peas Radishea		66. Of the land from which erops were harvested (reported in questions 64a), how many acres were IRRIGATED this year?	_
48. What was the value of all vegetables SOLD or TO BE SOLD this year?	141	If "None," check and skip to question [69].	
BE SOLD this year?		(a) Are there any crops that were not question [69].	
[49] Were any berries or other small [No. If "No," check and skip to fruits harvested this year for sale?		of this question.	
Give the name of each and the acres and quantity harvested in the spaces provided below.		(b) What are the names of crops that had the entire accage irrigated? (If all ordered was tributed, report "Ordiard" as one crop.) 1	
(Report tenths of an acre, such as the trian the ter. Do not include nonbearing area.)		4	
(flive name) Acres ★ Quarts		in questions 64b, 65a, and 66), how many acres were	_
(Ulte name) Acres ★ Quarts		70. How many acres of ROW CROPS or CLOSE-SEEDED CROPS were grown in strips this year for what crosion control?	-
Blackberries, hoysenberries, strawherries,	1 6	71. How many acres of crophand used for GRAIN or ROW CROPS this year were farmed on the contour?	_

FIGURE 1.—The Agriculture Questionnaire (Form A1)—Continued.

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METHODS AND PROCEDURES

ection VI FOREST PRODUCTS AND NURSERY AND GREENH	IOUSE] OM	GOATS AND KIDS, AND MOHAIR CLIPPED:
PRODUCTS THIS YEAR, 1954		[85] How many COATS and KIDS of all ages are on
FOREST PRODUCTS: 72. Was any firewood, fuelwood, fence posts, (C. No. 1/1010-11-14)		this place 7
umber, or other forest products cut this year for the rive, the		OF THIS TOTAL-
Yes	[74]. 0	(a) How many are ANGORA GOATS and KIDS?
FILE! WOOD ware or will be and this was an		(The total for questions (a) and (b) must equal the number for question 85.)
(b) How many PENCE POSTS were or will be cut	24.78	
this year on this place?	~X	This year?
73. How much was or will be received this year rom the sale of firewood, fence poets, logs, lumber, subimood, pilling and poler, bark, bolta, Christmas rees, hewn ties, mine timber, and other miscellaneous None	-	If "None," check and skip to question [87].
ulpwood, pilling and poles, bark, bolts, Christmas rees, hewn ties, mine timber, and other miscellaneous None		(a) How many POUNDS of MOHAIR and KID HAIR were CLIPPED this year (1954) including both spring and fail
orest products? sold • \$	/00	abearings?
NURSERY AND GREENHOUSE PRODUCTS, FLOWER AND VEGET		MULES AND HORSES:
SEEDS AND PLANTS, AND BULBS:	ADLE	[87] How many MULES, HORSES, COLTS, and PONIES are on this place?
[74] Were any nursery or greenhouse [No. 1 "No." check and a products, flower or vegetable seeds or { guestion [78].	skip to	If "None," check and skip to guestion [88].
products, flower or vegotable seeds or a guestion [78]. blanks, flowers, or builbs grown for sale [Yes	-	OF THIS TOTAL-
(1) (2)	2)	(a) How many are MULES and MULE COLTS?
Area (Report tenths of an How mu	uch was	(b) How many are HORSES and COLTS, including pontes?
acre, such as is, or will i rs, irs, etc.) value of	be the	for question 87.)
75 Hore many same of NURSERV	lara	HOGS AND PIGS:
75. How many seres of NURSERY PRODUCTS (trees, shrubs, vines, rnamontais, etc.) did you have this year?. Acres ★ ●\$		[88] How many HOGS and PIGS of all ages, including
		If "None," check and skip to question [89a].
76. How many CUT FLOWERS, OTTED PLANTS, FLORIST REENS, and BEDDING PLANTS	}	OF THIS TOTAL-
(ere grown this year for sale— (a) Under glass?		(c) How many were born since June 1, this year?
(b) In open7	/00	 (b) How many were born before June 1, this year? (The total for questions (a) and (b) must equal the number
77. How many of the following were		for question 88.)
produced this yoar for sale? Vegetables grown under glass, flower seeds, vegetable ceds, vegetable plants, bulbs, and		SOWS AND GILTS FARROWING:
nushrooms	. [[890] How many sows and gilts farrowed between None
(a) Under glass or in house? Square feet	/00	395. How many sows and gills farrowed aince June 1, this year, or will farrow before December 17 I None Irr
(b) In open? Acres ★		tnus year, or will larrow before December 17 None
Section VIILIVESTOCK NOW ON THIS PLACE AND LIVESTO	OCK	ANIMALS SOLD AND TO BE SOLD ALIVE THIS YEAR, 1954:
PRODUCTION THIS YEAR, 1954		(Report all sales from this place whether made by you or by others. Report as sold animals turned over to or sold for your landlord. Be sure to include animals which you will sell before January 1, 1955.)
Include all animals on this place owned by you and by others. Also, in my animals belonging to this place but grazing on national forests, g	nclude grazing	
iistricis, or on open range.		WERE ANT OF THE FOLLOWING ANIMALS SOLD HOW MANY OR WILL ANT BE SOLD THIS YEAR (1954) were or will be the be sold this or will be the
CATTLE AND CALVES:	fumber H	For each kind, answer these questions be sold this value of sales?
[78] How many CATTLE and CALVES of all ages are on this place?		90c. HOQS and PIGS sold or
In this place?		to be sold?
If "None," check and skip to question [83].		90b. CALVES sold or to be sold? . [] None 93/00
OF THIS TOTAL-		90b. CALVES sold or to be sold? None 93
OF THIS TOTAL- (a) How many are COWS? Include helfers that have calved		90c. CATTLE, not counting calves, None 00 /00/ /00 _
OF THIS TOTAL-		90c. CATTLE, not counting calves, sold or to be sold? None 95(00 90d. SHEEP and LAMBS sold or to be sold? None 95(00 90d. HEEP and LAMBS cold or to be sold? None 95(00
OF THIS TOTAL— (a) How many are COW87 Include helfers that have caived (b) How many are helfers and helfer caives 7		90c. CATTLE, not counting calves, one of the sold of to be sold? None of the sold of the sold of the be sold? 00 90d. SHEEP and LAMBS sold or of the be sold? None of the sold of the be sold? 00
OF THIS TOTAL (a) How many are COWS? Include helfers that have calved (b) How many are helfers and helfer calves?		90c. CATTLE, not counting calves, sold or to be sold? None 6300 - 90d. SHEEP and LAMBS sold or to be sold? None 6500 - 90c. HORSES, MULES, COLTS, and PONES sold or to be sold? None 6500 - 90c. HORSEN, MULES, COLTS, WOOL SHORN THIS YEAR, 1954: J
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FIGURE 1.—The Agriculture Questionnaire (Form A1)—Continued.

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PLANNING AND PREPARING FOR THE CENSUS

					Section XIOFF-PARM WORK AND OTHER INCOME	M
This block (c) Fill column 14 of A3. Is this place (D No for use by ENUMERATOR: listed in a shaded square? (Yes					Decision A1. Offer Anim Votes Avio Vote Offer Offe	_
Rection 1	III-FERTILIZER AND	IME		N	(a) Did any other member of your family living with you have a non- [] No	
			a Jaamary I		(a) Did any other member of your family living with you have a non- farm job, business, profession, or work on someone class farm this year 7.	-
Include all fertilizer and lin 1955, for use on this pla	te, whether purchased by)	ou or by you	r landlord.		(b) Have you any income this year from any of the following sources— sale of products from land rented out, each rent, boarders, old-age salisi- sance, persions, veterans' allowances, unemployment compensation, interest, dividends, profits from nonfarm business, and help from members [No	
FERTILIZER and FERTILIZING			Lice, polisions, veterals and waters, including, and hep from members No of your family? If "None" for question 104 and "No" for both questions (a) and (b), sip to question 105].	-		
			(Acres) on which used)			
If "None,	" check and skip to question	[101].			105. Will the income which you and your tamily receive iron work of (b) be the farm and from other sources (listed in questions 166. (a), and (b)) be greater than the total value of all sericultural products sold or to be sold from your place that year?	
100. On which crops was	FERTILIZER USED	(1)	(2)		from your place this year?	-
this year-		On how many	How many		Section XII.—PACILITIES AND EQUIPMENT NOW ON THIS PLACE	L
For each crop, answer the	se questions —>	acres was fertilizer used?	tons were used?		Include equipment and facilities that are temporarily out of order.	
	-	Acres		1	FIGET Do you have on this place-	
					(a) Telephone?	
(a) Hay and cropiand past	ture7 None				(b) Piped ranning water? . [No (g) Milking machine? [No	
(b) Other pasture (not cro	pland)? 🛛 None _					
(c) Corn 7	None				(c) Electricity?	
(d) Colton?	None				(d) Television set7 No	-
(c) Fruits, vegetables, and	i potatoes? . 🖸 None				(c) Home freezer (for quick No freezing and storing foods. Do not include refrigerator) 7. (Yes	
	None				Do not include refrigerator) 7. C Yes	
(f) Other crope?(Dire name)				107. HOW MANY OF THE FOLLOWING ARE ON THIS PLACE-	
					Include equipment, whether owned by you or by others, kept on this place.	
[101] How much LIME of MATERIAL was purchased	this year?		/00		Number	
(Include ground hydrated and burn	t lime, marl.	 dollars only 	(Acres) limed)		(a) Grain combines (for (f) Wheel tractors other harvesting and threshing than garden?	
oyater shells, etc. used for sprays or	sanitation).				grains or seeds in one	
				_	(g) Garden tractors7	
Section IXSELECTE	SD FARM EXPENDITURE	S, THIS YE	AR, 1954	M	(c) Pick-up halera?	
Include all expenses paid, or					(d) Field forage harvesters to you to hired workers of to	
	iandford for this place.	_	Dallara		(for field chopping of sliage othersliving on this place) 7	
102. How much was or w	ill be SPENT this year for-	-			(c) Motortracks (include reservoirs, and earth tanks?	
(a) MACHINE HIRE?.	k, such as tractor hire.	None \$_	/00	-		
threshing, combining ginning, plowing, and	k, such as tractor hire, g, sllo filling, baling, spraying.)				Section XIIIMISCELLANEOUS INFORMATION	
(b) HIRED LABORT .	0	None S_	/00	_	FARM VALUE, MORTGAGE DEBT, AND CASH RENT:	
or contract construction	nsework, custom work, on work. Include cash				109. About how much would the land and the buildings on it sell for?	
payments only.) (c) FEED for livestock a	nd poultry?	None	/00		(Give either total value or value per acre. Acres Total Value per value or acre	
(Include cost of grain concentrates, and rou	, hay, mill feeds, ughages; also, amounts mixing feed.)				Detters Detters	
					(c) LAND OWNED BY YOU? None \$/00 or \$	
(d) GASOLINE and ot and OIL for the farm busine	ess?	None \$_	/00	-	(b) LAND RENTED FROM OTHERS?	
			· · · · · · · · · · · · · · · · · · ·		(c) LAND MANAGED FOR	0R
	ection XFARM LABOR	None			(from question 9) (d) LAND RENTED TO	, : _
103. About how many he Sept. 26-Oct. 2 did you (th this place) do farm work or	chores on this place? 2. (Check one)	0 1 to 14 h	ours	-	OTHERS? (from question 10) None\$/00 or \$	
	(Check and) (3.	15 hours	or more		109. Is there any MORTGAGE DEBT on land and	
(a) How many OTHER	MEMBERS OF YOUR		Perman		buildings owned by you?	-
(a) How many OTHER FAMILY did 15 hours or me on this place the week of Ser RECEIVING CASH WAG	pre of farm work or chores pt. 26-Oct. 2 WITHOUT				110. If you rent from others any land for cash, what is the amount of CASH RENT for the year?	-
(Do not include nous	GWOLA.)			-	the amount of CASH RENT for the year?	
(b) How many HIRED P chores on this place the wee (Include members of y	our family receiving cash wa	🗆 Nor ges.)		-	111. On what date was this guestionnaire filledt (Oire month and day), 1954	
	and skip to question [104] .				112. Who furnished the information given in this report (Check which)	
HOW MANY OF THESE WEEK OF SEPT. 26-00	E HIRED PERSONS WO CT. 2 WERE EMPLOYEI	RKING TH	Е		Operator Diffed laborer	
	ing this year?			-	Wife or other member of operator's family Neighbor	
(d) Less than 150 days de (The total for question	uring this year? . ns (c) and (d) must equal th	🖸 Nor e number		,	Landlord Other	
persons (question 103	of pay and hours of work of (b))? (Enter information	below.)			REMARKS:	
(1)	(2)		(3)			
How many of these hired	What was the agreed cash rate of pay? (If more	How man	were these			
persons were paid on a	than one person, give average)	to carn	this pay?			
Monthly			hours			
basis 7 (Persons)	\$ /00 per month (Dollars only)		per month			
Weekly			hours			
basis ?	\$/00 per week (Dollars only)		per week			-
Daily			hours		ENUMERATOR'S RECORD-To be filled by Census Enumerator:	
baals?	\$/00 per day (Dollars chly)		per day		STATE COUNTY E. D. No TOWNSHIP OR PRECINCT	
Hourly					Have you reviewed each section of this questionnaire?] No
basis? (Persons)	\$ per hour (Dellars) (Cents)	X	x x) Yes
Piccowork					(Soumerstor) (Month) (Day)	1954
Piccowork basis?(Persons)	XXX	x	x x	Ιī,	Checked by (Crew Lesder) Date (Munth) (Day)	1954
the second						

FIGURE 1.—The Agriculture Questionnaire (Form A1)—Continued.

For example, if the enumeration district comprised an entire township, the enumeration district description consisted of the name of the township. The boundaries of enumeration districts were indicated on a copy of a county map retained for office use. A negative photoprint copy was made of these county maps for use by Crew Leaders. The preparation of enumerator maps was started in the latter part of May and completed in early September 1954. A reduced facsimile of a typical map furnished an enumerator is shown in figure 11.

Funds for the Census.-General specifications and costs for the various phases of the 1954 Census of Agriculture were prepared in 1953. However, in 1953 a decision was made that the 1954 Census of Agriculture would be taken for only a sample of the farms, and the budget request submitted to Congress in January 1954 provided for the appropriation of \$2,400,000 for the fiscal year beginning July 1, 1954 for the taking of this sample Census. However, the Congress decided that a complete Census of Agriculture should be taken in 1954 and an appropriation of \$16,000,000 was made by Congress on July 2, 1954. During the last week of May 1954, it appeared likely that Congress would approve the taking of a complete Census rather than a sample Census of Agriculture, and the plans that had been developed for a sample Census were modified and work on preparing for a complete Census was started during the last week of May 1954. However, lack of funds limited preparatory work during June 1954 to the starting of the preparation of enumerators' maps, revising plans, and getting proof copies of questionnaires and some instructional materials.

The plans for a complete Census of Agriculture prepared in 1953 called for an expenditure of approximately \$18,000,000 for the fiscal year beginning July 1, 1954, and for the expenditure of an additional \$6,000,000 to complete work on the Census. The appropriation of \$16,000,000 for the fiscal year beginning July 1954 required a revision of the plans and specifications of the Census. The necessary changes in plans because of the reduction in appropriation were made during July and August 1954. A total of \$6,000,000 was requested to complete work on the Census during the period July 1955 to December 31, 1956. Congress appropriated \$5,500,000 of this amount. However, because of economy in Census operations and reduced costs, \$1,000,000 of the \$21,500,000 funds appropriated were not expended for the Census of Agriculture and the increased cost, of \$400,000 to \$500,000, arising from the pay raise of approximately 7 percent approved by Congress effective March 1955, was absorbed.

The time schedule.—The satisfactory and efficient performance of a large number of different jobs required in connection with a Nationwide Census, many performed at different locations, required the establishment of a detailed time schedule so that each job was scheduled, and so that personnel, machines, instructions, and materials were available when required. A detailed time schedule for most operations connected with the Census was prepared in 1953 and was revised May 20, 1954, when it appeared that funds would likely be appropriated for the Census. The following outline shows the time schedule for many of the major parts of the job:

I. General:

- 1. Questionnaire content determined-May 20, 1954
- 2. Preparation of enumerator maps—May 20 to October 2, 1954
- 3. Shipment of materials for enumeration to field offices— August to October 2, 1954
- 4. Recruitment of field personnel—August 9 to October 27, 1954
- 5. Enumeration-October 2 to December 15, 1954

- I. General—Continued
 - 6. Editing and coding of questionnaires—December 1954 to August 1955
 - 7. Punching of tabulating cards—December 1954 to September 1955
 - 8. Tabulation of data for counties and States—March to October 1955
 - 9. Issuance of preliminary county and State data—March 1955 to January 1956
 - Issuance of final reports containing State and county data—October 1955 to September 1956
 - 11. Issuance of subject report presenting State and United States data—December 1956
 - 12. Completion of special tabulations-November 1956
 - 13. Completion of special reports-December 31, 1956
 - 14. End of Census work-December 31, 1956
- II. Planning and policy:
 - Revised plans and detailed specifications for the Census-June to September 1954

Qualification of field personnel established—June 4, 1954 Location for office processing determined—July 1954 Personnel policy regarding employment, promotions, etc.,

- of temporary office personnel established—June 30, 1954 Preparation of budget for completing work during period
- July 1, 1955 to December 31, 1956—August 1954 III. Operations related to the enumeration:

Enumerator maps prepared—May 20 to October 2, 1954 Forms and instructions for use in the enumeration sent for

printing: Agriculture Questionnaires for enumerators' use— Approved for printing, July 29 to August 16, 1954

- Agriculture Questionnaires for mail distribution-August 6 to August 16, 1954
- Enumerators' record book-July 20, 1954
- Employee appointment forms—June 1954
- Portfolio for use by enumerators—June 1954
- Enumerators' Instruction Book—June 21, 1954
- Crew Leaders' Instruction Book-August 5, 1954
- Instructions for supervisors of Agriculture Field Offices-July 24, 1954

Training materials for enumerators—July 5 to 25, 1954 Shipment of materials to field offices:

- Office forms and supplies—August 28, 1954
 - Enumerators' portfolios and training materials—August 28 to October 2, 1954
 - Materials for publicity regarding Census—September 1, 1954
- Appointment of Agriculture field supervisors—August 9, 1954 to September 13, 1954
- Training of technical instructors-August 23 to 28, 1954
- Training of Agriculture field supervisors—August 10 to September 13, 1954

Appointment of crew leaders—August 23 to October 11, 1954 Crew leader training—September 23 to October 11, 1954

Enumerators appointed-September 27 to November 1, 1954

Enumerator training—September 27 to November 8, 1954

- Packaging of Agriculture Questionnaires for mail distribution—September 7 to October 28, 1954
- Distribution of Agriculture Questionnaires by mail—September 21 to October 30, 1955
- Training of enumerators of quality check for Census-January 2 to 10, 1955
- Enumeration for quality check for Census—January to June 1955

IV. Operations related to editing, coding, tabulating, and publication of data: Receipt, editing, and coding of questionnaires: Recruitment of office personnel-October 1954 to March 1955 Training of supervisors-October to December 10, 1954 Instructions printed-November 1954 Training materials prepared-November 1954 Editing and coding starts-November 24, 1954 Editing and coding completed—July to August 1955 Punching of tabulating cards: Card forms outlined-May 27, 1954 Card forms designed and ordered-July 14, 1954 Machine requirements determined and machines rented-September 29, 1954 Instructions for punching prepared-November 1954 Training materials prepared-November to December 1954 Training of supervisors-November 1954 Punching begins-December 9, 1954 Punching completed—August 25, 1955 Correction of punch cards: Specifications for selection of cards with possible errors completed—August 15, 1954 Selection of cards-February 5 to September 24, 1955 Correction of cards-March 5 to October 22, 1955 Making of tabulations: Outline of tabulation plans completed-June 29 to July 13, 1954 Tabulation forms designed and ordered-October 1954 to February 1955 Machine requirements determined and machines ordered-July 1954 Tabulation of county data-March 19 to October 14, 1955 Tabulation of State economic area data-June 1955 to April 1956 Tabulation of subregion data-May 1956 to December 1956 Checking and review of tabulations: Instructions completed-March 16, 1955 County tabulations-April 16 to November 19, 1955 State economic area tabulations-July 1955 to March 1956 Economic subregion tabulations-May 1956 to October 1956 Preparing statistical tables for typing: Table forms sent for printing: Preliminary reports-January 27, 1955 to April 5, 1955 Final reports-March 20, 1955 to July 29, 1955 Preparation of county tables: Preliminary reports-April to December 1955 Final reports-June 1955 to April 1956 Preparation of State economic area tables-August 1955 to April 1956

Preparation of subregion tables-May 1956 to October 1956

 IV. Operations related to editing, coding, tabulating, and publication of data-Continued Typing of statistical tables: Preliminary reports—May to December 1955 County, State economic area, and State—August 9, 1955 to May 26, 1956 Subregions—August 1956 to November 1956
Printing of reports: Preliminary—April 30 to December 24, 1955 Final—County, State economic area, and State—De- cember 1956 Subregion—March 1957 Final—State and United States Summary—December 1956 Special reports—August 1956 to June 1957

Very detailed time and progress schedules were established for each operation. For example, the time schedule established for the issuance of preliminary reports for States and counties was as follows:

1955 week ending—	Number of preliminary reports to be issued
May 14	
May 21	
-	
May 28	40
June 4	
June 11	
June 18	100
June 25	100
July 2	100
July 9	
July 16	
July 23	
July 30	
A	100
Aug. 6	
Aug. 13	
Aug. 20	
Aug. 27	100
Sept. 3	100
Sept. 10	100
Sept. 17	100
Sept. 24	100
Oct. 1	100
Oct. 8	
Oct. 15	
Oct. 22	
Oct. 29	
	100
Nov. 5	100
Nov. 12	100
Nov. 19	100
Nov. 26	
Dec. 3	140
Dec. 10	
Dec. 17	
~~~~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~	100

The time schedule for operations related to the enumeration was varied according to areas of the country as the date for the start of the enumeration varied. The Act of Congress setting the date for the enumeration for the 1954 Census of Agriculture permitted some variations in the date for starting of the enumeration. In areas where the harvesting of crops was completed early and where weather and road conditions made travel in early winter difficult, the enumeration was started in October. The dates for the beginning of the enumeration for various parts of the country are shown in figure 2.

Adherence to the time schedule was checked periodically and administrative action was taken to correct situations that were delaying the work. The established time schedule was adhered to in almost every case.



FIGURE 2.--Enumeration starting dates, by areas: 1954 Census of Agriculture.

# CHAPTER II—THE ENUMERATION

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## 1954 CENSUS OF AGRICULTURE

#### FIELD ORGANIZATION CHART



FIGURE 3.—Field Organization Chart.

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# CHAPTER II—THE ENUMERATION

The job.—The enumeration required the organization of a field staff for the purpose of visiting all areas in the United States and obtaining the required information regarding each place and farm, the setting up of temporary offices, the selection and training of personnel, the supervision and control over personnel and operations, the actual enumeration, the checking of the enumeration, and the paying of personnel.

Organization of field staff.—The field staff was organized by function and by area. The outline on page 18 shows the organization and size of the field staff used for the 1954 Census of Agriculture.

The 5 Regional Offices and a considerable part of their personnel existed before work on the Census of Agriculture was undertaken and formed a part of the permanent staff of the Bureau of the Census. The entire organization below the level of Regional Offices was established temporarily for the 1954 Census of Agriculture. The 26 processing offices were supervised largely by permanent field personnel, who were reassigned temporarily from the permanent jobs of supervising current field activities of the Bureau of the Census. Except for the personnel of the Regional Offices and the supervisors of the 26 processing offices, a temporary field staff was recruited and employed for a limited period for work on the 1954 Census of Agriculture.

The Regional Offices.—The Regional Offices exercised general control over all field work. They assisted particularly in obtaining office space, selection of supervisors and other personnel for processing offices and Agriculture Field Offices, and for the handling of unforeseen problems. The personnel for each regional office, the average days of employment, and their average salary per 40-hour week were as follows:

Kind of personnel	Number employed	A verage days of employ- ment	Average salary per week
Supervisors	1	85	\$170
Assistant Supervisors	2	100	105
Clerks	1	100	61

Field Processing Offices.—Processing offices were established to provide trained supervisory personnel for the purpose of selecting, appointing, controlling, paying, and checking the work of the large number of temporary employees, most of whom did not have any prior experience in Government work and procedures.

The supervisors of processing offices were appointed during the period July to September 1954 and were employed on an average of 20 weeks. A brief outline of the work the supervisor performed during these 20 weeks follows:

First week:

Obtain space, supplies and equipment for processing office

Recruit administrative clerk

Second, third, and fourth week:

Organize office and train administrative clerk

Recruit and train clerk-typist and payroll clerk

Assist supervisors of Agriculture Field Offices in recruiting crew leaders

Supervise the processing of crew leader appointments

Second, third, and fourth week-Continued

Supervise preparation of payroll work sheets for personnel in processing office and in Agriculture Field Offices

Fifth through eighth week:

- Submit progress reports as required
- Assist supervisors of Agriculture Field Office to recruit enumerators
- Process enumerator appointments
- Recruit and train shipping clerk for processing office
- Supervise the preparation of payroll work sheets for personnel in processing office and Agriculture Field Offices
- Ninth and tenth week:
  - Recruit and train editing and tabulating clerks
  - Supervise the preparation of payroll work sheets for paying enumerators for training and for enumerators employed by the hour
  - Supervise the preparation of payroll work sheets for personnel in processing office and in Agriculture Field Offices

Eleventh through sixteenth week:

- Supervise the editing and tabulation of data for completed enumeration districts
- Return incomplete and not acceptable work of enumerators for completion and/or correction
- Inform supervisors of Agriculture Field Offices of unsatisfactory work and advise crew leaders on how to handle unsatisfactory work of enumerators
- Supervise the preparation and approval of payrolls for work completed by enumerators
- Supervise the preparation of payroll work sheets for personnel in processing office and in Agriculture Field Offices
- Prepare summary of completed enumeration districts by county and submit summary to Washington for approval

Ship materials for counties completed to central processing offices

Seventeenth through twenty-fifth week:

- Supervise the editing and tabulation of data for completed enumeration districts
- Return incomplete and not acceptable work of enumerators to crew leader for completion and/or correction
- Inform crew leaders of unsatisfactory work performed by enumerators and how to handle this unsatisfactory work
- Supervise the preparation and approval of payroll for work completed by the enumerators
- Prepare summary of completed enumeration districts by counties and submit the summary to Washington for approval
- Prepare a final report on all work completed
- Terminate all employees and close office

The administrative clerk supervised the clerical operations in the processing office particularly during the frequent periods when the supervisor was away checking on field operations and progress. All payrolls for enumerators, crew leaders, personnel in Agriculture Field Offices, etc., were checked and in most cases prepared in the office of the Field Processing Office supervisor by the payroll clerk. Payrolls of employees employed by the month and day were prepared once every two weeks, separate payrolls were prepared for each enumerator for his training and for each enumeration district he completed. Payrolls were sent to the Washington office for final audit and for the issuance of checks.

The appointments of all field personnel were prepared in the processing office. This work was performed by the appointment clerk. A description of the work of the tabulating clerks is given on page 69.

The personnel used in each processing office, the average length of employment, and average salary were as follows:

Kind of personnel	Number employed per office	Average days of employ- ment (in- cluding overtime)	Average salary per 40-hour week
Supervisors and assistant	1	¹ 161 9534 7444 3434 2444 23	\$117 66 61 57 57 57

¹ Total days for all 26 offices were 6,778.
 ² Number per office varied from approximately 10 to 50.
 ³ The number varied by office. The total number for the 26 offices was 114.

Agriculture Field Offices.-Agriculture Field Offices were established for the purpose of supervising and controlling the enumeration in a specific geographic area. In some cases, this area included as much as a State and in other cases only a few counties. In determining areas for which agriculture field offices would be established, the workload both in terms of the number of farms to be enumerated as well as the total land area to be covered were considered. The average number of farms per agriculture field office was approximately 40,000.

The number of personnel for each Agriculture Field Office, the average days of employment, and the average salary per 40-hour week were as follows:

Kind of personnel	Number employed per office	A verage days of employment (including overtime)	A verage salary per 40-hour week
Supervisor	1	88½	\$97
Assistant supervisor		84	82
A dministrativo clerk.		87½	67
Clerk		59½	57
Crew leaders		52	66
Enumerators		17¼	46

¹ The number varied by office.

The work performed by the supervisor and assistant supervisor of the Agriculture Field Offices varied by weeks as follows:

First week:

Arranged for office space and equipment.

Recruited administrative clerk

Arranged for appointment of assistant supervisor

Issued press releases and provided newspapers etc., with information about Census

Second week:

Attended training classes

Third, fourth, and fifth weeks:

Organized office and trained administrative clerk Contacted persons for obtaining lists of enumerators in each county

Recruited crew leaders

Arranged for crew leader training

Issued press releases and provided newspapers etc., with information about Census

Sixth week:

Supervised crew leader training classes

Issued press releases and provided newspapers etc., with information about Census

Seventh, eighth, and ninth week:

Supervised crew leaders in selection of the enumerators Issued press releases and provided newspapers etc., with information about Census

Tenth week:

Supervised enumerator training Issued press releases and provided newspapers etc., with information about Census

Eleventh to the fourteenth week: Supervised the enumeration Prepared and submitted progress reports Visited crew leaders and enumerators

Fifteenth and sixteenth week:

Terminated appointments of enumerators Supervised crew leaders in checking work of enumerators for completeness and coverage

Seventeenth and eighteenth week:

Supervised the completion of work in enumeration districts where work was not fully satisfactory Terminated appointments of crew leaders Closed office as instructed Terminated all employees

The administrative clerk usually served as a secretary for the Agriculture Field Office and assisted the office clerk in preparing the various required reports. These reports, to whom submitted, and their frequency are shown in figure 4.

The work of the supervisor and assistant supervisor required considerable travel. During the period of their employment the supervisors or assistant supervisors were away from their headquarters on the average for 19 days and traveled an average of 5,013 miles.

The job of the crew leader was concerned largely with the selection, training, and supervision of enumerators. One crew leader was appointed for each 10 to 18 enumerators. The area assigned each crew leader usually consisted of a county or combination of one county and a part of another county.

Crew leaders were appointed 5 weeks before the actual start of the enumeration. The distribution of the crew leaders' 52 days' work was as follows:

Attending training class	5 days
Recruiting enumerators, obtaining enumerator train-	
ing space and materials, and making a list of 15	
places in each enumeration district	16 days
Training enumerators	4 days
Recruiting and training enumerators for replace-	
ment, etc	3 days
Supervising enumerators during enumeration	19 days
Checking enumerators' work and shipping ma-	
terials	5 days

Crew leaders were required to visit enumerators at least twice and to check their work on the job. The miles traveled by crew leaders during their employment averaged 927.

The duties of enumerators are described under "The Enumeration." Enumerators were paid \$14 for completing the training and either \$1.25 per hour worked plus \$0.07 for each mile of travel by personally owned automobile or \$0.07 for each line filled on Form A2, \$0.40 to \$1.00 per Agriculture Questionnaire filled plus \$0.07 per mile for use of their personally owned automobile plus \$0.04 per mile traveled in personally owned automobile for the time spent in traveling. Enumerators worked on an average of 17.25 days each.

## FLOW CHART OF REPORTING SYSTEM for Enumeration Period

Technical Instructor	Grew Leader	Agriculture Field Office	Processing Office	Regional Supervisor (or his represen- tative)	Washington Office	Enumerator	Crew Lender	Agriculture Field Office	Processing Office	Regional Supervisor (or his represen- tative)	• Washington Office
		Fore FA-62, Agriculture Field Office Supervisor's Boli flation of Crew Leader Salection, is progred by the Agriculture Field Supervisor in the field and sent to the Agriculture Field Office.				Form FA-7, Enumera- tor's Daily Report, is submitted each day (including practice listing and enumeration done during training session).		Supervisor's Clerk files FA-7's ac- cording to plan outlined in Agri- culture Field Supervisor's Manual, after reviewing for discremanics, omissions, etc.			
		Form FA-63, Agriculture Field Super- visor's Semi-weekly Report of Crew Leader Recruitment, is mailed every Toesday and Friday until all crew leaders have been selected.		· ·	>			Discrepancies, etc. in FA-7 reports or failure to report for a 3-day period will be called to the attention of the crew leader by Supervisor's Clerk. (It is very important that FA-7's be correct.)			
Two copies of Form FA-MS, Report of Supervisory Train- ess, are prepared at the close of the last day of the last day of the crew leader training same(on.		Agriculture field Supervisor reviews Form FA-WG. Telephones report to Regional Supervisor vithin 28 horrs, 'and consults with him about any crew leader rated unsatifactory.			Chief, Field Divi-		Form FA-18, Crew Leader's Dally Ac- tlvity Report, is submitted each day after the closm of enumerator train- ing session.	The Agriculture Field Supervisor will review the FA-18's, noting particu- larly the number of visits to enumer- alors ande by the crew leaders, the progress and guality of enumeration reported and any problems which require action.			
training session, and given to the Agriculture Field Supervisor.	Form FA-13, Crow						<b>.</b>	Apriculture Field Supervisor should notify crew leader immediately to ad- vise him regarding errors and oblain an esplanation for non-receipt of FA- 18's. (Important)			
	Lender's Daily Re- port of Preparatory Work, is aubmitted deify until all enumeratore have been selected, ED's check llated, and training location secured.	Form FA-64, Agriculutre Field Office Control of Grew Landers' Preseratory York, is posted by Supervisor's Clerk from data on FA-13's.					Form FA-22, Rotlfi- cation of Completed ED or Incomplete ED to be Ressigned. is submitted by crew leader (1) for each completed portofolio mailed to the Processing Office and (2) for	Form Fi-56A, Record of Completed ED's and Incomplete ED's Reassigned, is posted from Fi-22's received from the crew leader. Bate ace totaled each Rondy and Thursdry.			
		Form FA-65, Agriculture Field Super- viaor's Sami-weekly Report of Greer Laaders' Fraparatory Work, is com- pieted by Supervisor's Clerk from FA-88 and malled every Towader and Fridary until all enumerators are salected, ED's check listed, and training loca- tions obtained.					such partially com- pleted portfolio, obtained from an enumerator, which is to be reassigned.	Form FA-65, Agriculture Field Office Semi-weekly Report for Crew Leaders, is prepared in duplicate by Soper-			
	Form FA-15, Crew Leader's Report of Examprators Begin- ning Training, is submitted on the first day of eng- merator training. Form 8-7003, Gath of Offics, and other required personnal	Tolegraph no later than the 2nd day after start of training session the number of memorators authorized and the number beginning training.						visor's Clork with data from the latest FA-7's and FA-65A's each Bonday and Thursday. Form FA-67, Agriculture field Office Semi-workly Summary of Progress by Grev Leader Districts, is presered by Supervisor's Clerk in duplicate each FA-65, from the most recent copies of each crew Leader's FA-18, and from the FA-18's for the office steff.		(drigina)	
	form FA-16, Crew Leader's Report of Training, is sub- mitted on the fast	Supervisor's Clerk reviews Form F4-18						Form FA-58, Seci-weekly Telegraphic Summary of Progress, is prepared by Supervisor's Clerk from totals on FA-57 and sect or night letter before close of business each Turesday and Friday.		Bight lotter	Hight lutter
	day of enumerator training or as soon thereafter as pos- sible. All 3 coffee of Form FA-19 should be attached for each enumerator who com- letes course satis- factorily.	and FA-1916 for correctness. He flies 3rd copy of FA-19 in employee's manile folder and forwards the complete fold- ier to the Processing Office. The other 2 copies of FA-19 are stapled to enum- erator's SF-50 and sent to Veshing- ton.		•	Payroll			for FA-53, Agriculture Field Office summary Analysis of Progress, is com- alated by the Agriculture Field Supervisor each Friday after sending the telegraphic report, FA-58. Sources for the entries are forms fa-51, FA-32, and FA-68. This report should be kept on the Supervisor's deak as an indication of how well the 1955 Census of Agriculture is pro- gressing.			
		Telegraph no later than the 3rd day efter close of enumerator training the number of enumerators authorized and the number who completed training estisfactorily.			*			Agriculture Field Supervisor's Final Report (Rarative), is prepared by the Agriculture Field Supervisor shortly before the Office closes.		Carbon copy	Chief, Field Divi

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THE ENUMERATION

Selection of personnel.--Except for supervisors and personnel of Regional Offices and supervisors of processing offices, all field jobs for the 1954 Census of Agriculture were temporary and were not under the civil-service system. Personnel for these jobs were usually selected from lists of candidates recommended by Senators, Congressmen, or by State and local political organizations. Qualifications were established for supervisors and assistant supervisors of Agriculture Field Offices. These qualifications were evaluated during and after a personal interview. Further evaluation was made of these personnel during the training classes prior to their beginning the performance of their jobs. Crew leaders, clerks, and enumerators were required to take tests. The tests given clerks were similar to those given to civil-service applicants. An example of the test given crew leaders and enumerators is shown in figure 5. Minimum grades were established for crew leaders and enumerators and persons whose grades were less than these minima were not considered for appointment, unless no other qualified person could be recruited.

Both crew leaders and enumerators were required to be citizens of the United States, to have at least a high school education or its equivalent, to be physically able to discharge the duties involved, to be able to write neatly and legibly, to be able to do simple arithmetic quickly and accurately, to be able to talk easily with people and gain their cooperation, to have some knowledge of farming and farm operations, and to have the use of an automobile. Preference was given to qualified veterans.

Most of the crew leaders and enumerators had no previous experience in collecting data. Farmers and farmers' wives made up the largest group. Persons previously associated with law enforcement or tax assessment or collection were not employed because respondents might associate them with their previous jobs and hesitate to give required Census information.

Training of personnel.—Nearly all the personnel used for the 1954 Census of Agriculture did not have prior experience in connection with a Census and many did not have any prior experience working at a government job. Therefore, all personnel were required to attend and satisfactorily complete a training course. The training of supervisors, assistant supervisors, crew leaders, administrative clerks, payroll clerks, and tabulating clerks was performed largely by personnel from the Washington Office of the Bureau of the Census or other cooperating government agencies. The training of enumerators was given by crew leaders.

The training classes usually were limited to less than 20 persons and in the case of enumerators to less than 10 persons. Training guides and training aids were provided for training at all levels. In order to insure uniform training for all personnel and to apportion training in accordance with the various parts of the job, the persons who performed the training were required to use training guides. These training guides provided detailed time schedules for the training, an outline and in some cases the actual statement of the material to be presented to the trainees. In order to insure uniformity of training and to facilitate the adherence to time schedules, a considerable part of the crew leader and enumerator training was given by the use of recordings and film strips. The training program also included the use of exercises, practice work, and trainee participation in training class exercises. The training program for crew leaders and enumerators required not only the filling out of a training questionnaire but also some actual enumeration. In the case of the enumerators, the training periods were limited to 4 hours each day in order to facilitate learning and the retention of the learning.

A. OUTLINE OF TRAINING OF AGRICULTURE FIELD SUPERVISORS AND ASSISTANTS

#### Duration of training:

Four days—9 a. m. to 4 p. m. with 1 hour for lunch and two 15 minute rest periods

#### First day:

- 1. Description of his job (1 hour)
- 2. Technical training  $(4\frac{1}{2}$  hours). (This consisted largely of a description of the job to be done, a description of the forms and questionnaires to be used by enumerators, an outline of the crew leader and enumerator training programs, methods used for determining how much enumerators were to be paid, etc.)

Second day:

- 1. Description of training program for subordinates (½ hour)
- 2. Description of crew leader responsibility (½ hour)
- 3. How to select and recruit personnel  $(4\frac{1}{2} \text{ hours})$

Third day:

- 1. Obtaining space, equipment, supplies and services (1 hour)
- 2. Preparing payrolls, etc. (¾ hour)
- 3. Conducting publicity in connection with the Census (1/2 hour)
- 4. Preparing of correspondence, etc. (¾ hour)
- 5. Confidential nature of Census data (1/4 hour)
- 6. Supervisor's responsibilities for managing personnel ( $\frac{3}{4}$  hour)
- 7. Questions  $(1\frac{1}{2})$  hours)

Fourth day:

- 1. Preparation of reports and use of controls  $(4\frac{1}{4})$  hours
- 2. Questions regarding work; other duties (1¼ hours)

#### B. TRAINING OF CREW LEADERS

Duration of training:

Five days

First day:

- 1. Description of his job  $(1\frac{1}{2} \text{ hours})$
- 2. Participation in a training program that comprised the same training programs given enumerator
  - (a) How to use maps  $(\frac{1}{4} \text{ hour})$
  - (b) Discussion of Agriculture Questionnaire A1 and form A2 (1¼ hours)
  - (c) Discussion of home training Agriculture Questionnaire (½ hour)
  - (d) How to enumerate (1 hour)
  - (e) Practice in enumeration in class room  $(2\frac{1}{4})$  hours)
  - (f) Assignment of enumeration district for enumera
    - tor and for practice training (½ hour)

Second day:

1. Eight hours of actual enumeration in an area nearby to training location, under the field supervision of instructor

Third day:

- 1. Discussion of problems encountered during actual enumeration (1¼ hours)
- 2. How to review each enumerator's work  $(1\frac{1}{2})$  hours)

Fourth day:

- 1. Practice presentation as an instructor using materials to be used in training enumerators (3 hours)
- 2. Hours of work, pay rates and inquiries relating thereto (¼ hour)
- 3. Locating training space  $(\frac{1}{4} \text{ hour})$
- 4. Selecting enumerators (1 hour)

# THE ENUMERATION



## METHODS AND PROCEDURES

	TEST 3-Costinued
TEST 3	Mr. Jones indicates that he owns 1 tract of 12 acres of cropland and 1 trac consisting of 8 acres of cropland, 2 acres of woodland and 2 acres of wasteland
FOLLOWING INSTRUCTIONS	He has also been using rent-free 6 acres of pastureland belonging to Mr. Smith.
On the basis of the information furnished, you are to complete the entries called for below.	Fill in the following:
For example-Given the following information-	OWNED LAND: Where arres
this form for lour	4. How many acres of land do you OWN: None -If you own more than one tract of land, INCLUDE ALL LAND OWNED. Include toxt only eropland but also pastureland, woodland, wasteland, etc.
years. He lives on this faim and the of your	also pastureland, woodland, wasteland, etc.
Complete the following entries:	
RESIDENCE AND AGE OF PERSON IN CUARGE:	LAND RENTED FROM OTHERS: 5. How many acres of land do you RENT FROM others.
Do you live on this place?	<ol> <li>How many acres of land do you RENT FROM others. Including any worked on shares?</li> <li>Unitude any caparate fields, meadows, pastureland, woodland, wasteland, etc. Also include land used by</li> </ol>
How old were you on your last hirthday?	you rent (ree.)
When did you begin to uperate this place? (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
"YES" is checked since the information indicates that Mr. Jones is the person in charge and that he lives on the farm in question. His age on his last birthday is given as 56. He has been operating the farm for the part 4 years which means that he begen to operate the farm in 1950. The month is not whom since the instruction states it is not necessary if the person began to operate the farm prior to 1952.	During most of the week of Oct. 24-30 Mr. Jones was ill. He worked about hours a day on Monday and Tuesday and an additional 4 hours over the week-en One son worked full time and another son worked 4 hours a day for 4 days. Neith of thes received any pay. His chird son worked about 10 hours during the we for which he was paid \$12.00.
Complete the following entries in a similar way.	6. About how many hours the week of $Oet_1 24-30 + 1$ . $\Box$ None
Mr. Jones has 3 horses, 2 colts, and 2 mules. One of his sons has a pony and in addition he boards 2 horses for friends.	did you't the person in charge of this place'do farm 1 = 1 to 14 hours work or chores on this place?
Fill in the following:	<ol> <li>ar-How many OTHER MEMBERS OF YOUR FAMILY did 18 hours or more of farm work or chores on, thir piper the work of Vet. 24-30 WITHOUT RECEIVING CASH WAGES:</li> </ol>
Include all animals on this place owned by you and by others.	on this place the week of Oct. 24-30 WITHOUT RECEIVING CASH WACKS?
MULES AND HORSES: How many MULES, HORSES, COLTS, and PONIES are on this place?	<ol> <li>def How many HIRED PERSONS did any farm work or charge on this place the week of 04rc. 24-307</li></ol>
OF THIS TOTAL- (o) How many are MULES and MULE COLTS? (b) How many are HORSES and COLTS, including points? (c) How many are HORSES and COLTS, including points?	
	- 6 -
- 5 -	
TEST 3-Continued	TEST 3-Continued
tot whele of Irish potatoes this year from 4 acres.	Mr. Jones estimates that he has purchased 4 tons of fortilizing material cost him an average of $\$50$ ton. He used the fortilizer as follows:
Wr. Jones harvested 5.5 business of the remainder on the farms. He also harvested to He sold 500 bushels, and used the remainder on the farms. He also harvested to bushels of sweetpotatoes from a strip he estimates to be about 1/10 an acre. He used 5 bushels on the farm and sold the other 11 bushels.	l ton on 7 acres of corn
used 5 bushels on the P	2 tons on 6 acres of potatoes $1/2$ ton on 3 acres of oats
Fill in the following: Reves	1/2 ton on 4 acres of hay
Idab Potators for home use.	Fertilizer was not used on any other crops or acreage.
If less than 20 businets were managed	NOTE: Convert all fractions of tons to tenths, i.e., 1/10, 2/10, 3/10, etc.
10. Sweetpolaises for home use or None * None for all?	Fill in the following:
	<ol> <li>How much COMMERCIAL FERETLIZER and FERETLIZING MATHIAN use purchased this year?. □ Name distant mode having a name, stas, roles intervals or exponent.</li> </ol>
	FERTULIZER and FERTULIZING     S.     00       MATERIAL was inducted targeted to be an inducted to
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This year Mr. Jones paid \$150 to have his wheat threshed, \$75 for tractor hire and \$15 for filling a silo. He pays a hired hand \$160 a month throughout hire and \$15 for filling a silo. He pays a hired hand \$260 are the second size of the second se	FERTILIZER and FERTILIZING       Source (1)       <
him and \$15 for mining the hand \$65 during the feat	FERTILIZER and FERTILIZING       Nume       5       00       Tates and the second
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FIGURE 5.—Selection Aid for Enumerators (Pers. 165 Form B)—Continued.

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Fourth day—Continued

- 5. Preparing for the checking of coverage  $(\frac{1}{4} \text{ hour})$
- 6. Preparing for making assignments of enumerators to enumeration districts (1/4 hour)
- 7. Training enumerators (½ hour)
- 8. Questions (1/4 hour)

Fifth day:

- 1. How to review enumerator's work (2 hours)
- 2. How to replace enumerators and make reassignments (¾ hour)
- 3. Completing the job (¾ hour)
- 4. Issuing materials and supplies to the crew leader for his area (1¾ hours)

C. TRAINING OF ENUMERATORS

Duration of training:

#### A total of 12 hours on 4 different days

First day:

- 1. Description of his job (1¼ hours)
- 2. How to use enumerator's map (Training given by presenting film strip and recording "Your Map is Your Guide") (¼ hour)
- 3. Explanation of Agriculture Questionnaire (A1) (1½ hours)
- 4. Review Agriculture Questionnaire filled out at home by each enumerator (½ hour)
- 5. Explanation of how to fill questionnaires (Instruction given by film strip and recording) (1 hour)

Second day:

- 1. Instructions on how to fill questionnaires, continued (Instructions given by film strip and recording) (¾ hour)
- 2. Practice enumeration in class room. The enumerators acted as the enumerator and the crew leader as the respondent (3 hours).
- 3. Assignments of enumeration districts and distribution of supplies for enumeration on third day (¼ hour)

Third day:

1. Actual enumeration in an assigned area

Fourth day:

- 1. Discussion of problems encountered during enumeration on third day (1¼ hours)
- 2. Individual review of each enumerator's work  $(1\frac{1}{2})$  hours)
- Assignment of enumeration districts and delivery of work materials (1¼ hours)

Office space, supplies, and equipment.—It was necessary not only to obtain office space, but also equipment and supplies for the use of the large number of temporary personnel required for taking the Census. Office space was secured only for Field Processing Offices and Agriculture Field Offices. It was necessary for crew leaders and enumerators to use their own homes as their headquarters and offices.

In obtaining office space for Field Processing Offices and Agriculture Field Offices every effort was made to obtain free space. The first source explored was space in Federally owned or controlled buildings, such as Post Office buildings. Local governments and civic organizations were asked for free space in such public buildings as court houses, city halls, and schools. Free space was obtained for 82 of the 145 Field Processing and Agriculture Field Offices. The space used by Field Processing Offices averaged about 2,100 square feet per office. For the Agriculture Field Offices, about 975 square feet were used per office.

Several methods were used to obtain furniture, equipment, and supplies for the Field Processing and Agriculture Field Offices. Furniture was borrowed from Post Offices, other Government agencies, and local organizations. Much Government-owned used furniture was obtained free by transfer from regional governmental warehouses. When free furniture was not obtainable, items of reconditioned furniture were procured from regional supply centers of Federal Supply Service.

Reconditioned adding machines and typewriters also were purchased from Federal Supply Service regional supply centers. Some reconditioned office machines from the Department of Commerce stock were shipped to field offices, and, upon completion of the enumeration, returned to Washington for use during the central processing operations. In other cases, adding machines and typewriters were rented locally by the Field Processing and Agriculture Field Office Supervisors.

Record players and film projectors were required for training crew leaders and enumerators. This equipment was supplied from stocks returned from the 1950 Census and was shipped to the Agriculture Field Offices for distribution to the crew leaders. Two training records and film.strips were prepared for training crew leaders and enumerators. One, "Your Map is Your Guide", with a running time of 12 minutes, explained and illustrated how to use the maps provided for each enumeration district. The other, "Enumeration Instructions," with a running time of 54 minutes, was shown to the enumerators in two separate sessions; Part 1, in the last period of the first day's training session; and Parts 2, 3, and 4 at the beginning of the second day's training session. This film strip explained and illustrated the use of the various enumeration forms and how to conduct an interview by the device of having the training class accompany an enumerator from his breakfast table at home until the end of his first interview.

Paper, pencils, paper clips, and other standard office supplies were purchased from Federal Supply Service. These supplies were purchased and distributed by two different methods. Under the first method, the anticipated needs of each field office, conservatively estimated, were reported to regional supply centers of the Federal Supply Service, where packages containing the requested supplies were prepared for each field office to open in their regions. When the field office was ready to open, the supply centers shipped the supplies and usually, these supplies arrived the day the field office opened. Under the second method, the supplies were purchased in bulk for delivery in Washington. These bulk supplies supplemented the "packaged" supplies delivered direct, and were shipped to field offices as required.

Most of the supplies used by the enumerator, including the questionnaires, were assembled in Washington and placed in each enumeration district portfolio. A reserve supply of enumeration forms was sent to each Agriculture Field Office and to each crew leader.

**Packaging and distributing enumerator's supplies.**—Most of the supplies used by the enumerators, including the questionnaires, were assembled in Washington and placed in the enumerator's portfolio.

A separate portfolio (see fig. 6) was prepared for each enumeration district. The portfolio was made of two pieces of heavy cardboard, 13 inches wide and 20 inches long, attached together by a canvas hinge to form a folder. An open-topped, accordian-pleated heavy paper envelope was fastened inside the cardboard folder, with the opening in the envelope next to the canvas hinge. Thus the top piece of cardboard, when folded over, formed a full-length flap to help hold the contents securely. An elastic cord, attached to the back piece of cardboard, could be stretched around the portfolio to hold it closed.

The exact contents of the portfolio varied according to the location and expected number of farms in the enumeration district. In general, supplies of the following items were included:

Enumeration district map Enumerator's Record Book Agriculture Questionnaires Enumerator's Daily Report (preaddressed post card form) Specified Farm Coverage Cards (if required) Writing board and clip Blank envelopes

#### METHODS AND PROCEDURES

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FIGURE 6.-The portfolio.

Forty-two thousand enumerator's portfolios required for the Census were assembled and packaged in Washington. The forms and supplies were inserted in the portfolios at successive stations along a waist-high rack composed largely of roller wheels. Bulk supplies of a given kind were brought to each station on "skids" by hydraulic-lift trucks. As the portfolios moved from one end of the rack to the other, the required number of each type of supply was inserted. Forms required in small numbers were counted. The number of forms, such as the Agriculture Questionnaire, required in large numbers for each enumeration district, was determined by use of a measuring "spoon".

The filled portfolios were labeled for specific enumeration districts, packed by crew leader districts into wooden or cardboard boxes, and shipped to the Agriculture Field Offices. The portfolios for enumeration districts in each area were given to the respective crew leader on the last day of his training. He took these in his automobile and distributed them to enumerators on the last day of enumerator training. The wooden boxes were stacked and used as shelves in the Agriculture Field Offices. After enumeration had been completed, the portfolios were packed in the same wooden boxes for shipment to the Central Operation Offices.

Distribution of Agriculture Questionnaires by mail.—Approximately 7,900,000 copies of the Agriculture Questionnaire were distributed by mail to boxholders on the rural routes in all States except Alabama, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and 53 of 75 counties in Arkansas. These questionnaires, mailed about 2 weeks before the enumeration began, were accompanied by a letter asking the farm operator to examine the questionnaire and to answer the questions prior to the visit of the enumerator. (See fig. 7 for copy of letter.) When the enumerator made his visit he was instructed to ask for the questionnaire, check it, and obtain whatever information was needed to complete it. This procedure enabled the farmer to know in advance what information was required and provided some leeway of time within which he could supply the answers at his own convenience. This procedure was of particular importance to those farmers who preferred to supply the information on the basis of their records. Expected results were that the quality of the information would be improved and the work of the enumerator expedited. Records show that in the area in which the Agriculture Questionnaire was distributed by mail, the enumerator obtained and used the mailed questionnaire in 43 percent of the cases and that the questionnaire had been filled out completely by 23 percent of the farm operators in the area.

The questionnaires for distribution by mail were printed in Chicago, Ill. Consequently, arrangements were made for distribution from Chicago to the local post offices in all parts of the country. A crew of about 25 temporary employees was recruited to pack the questionnaires into bundles of 50, and to tie, label, and sack them for delivery to approximately 34,000 post offices. This operation was performed from September 2 to November 2, 1954 and required 3,851 hours of work by clerical and supervisory personnel.

#### ENUMERATION PROCEDURES

The enumerator was assigned a specified area or an enumeration district for which he was to perform the enumeration. For this area he was furnished a map.

Enumerator maps were used to insure the completeness of the work of the enumerator. Thus, enumerators were usually required to visit and to make a record of all dwellings indicated on the map. However, in order to keep the cost of the Census within reasonable limits and to make the enumerator's job appear reasonable to him, exceptions were made to this requirement. In the 11,127 enumeration districts comprising incorporated places and urban areas, the enumerator was provided with a list of the names, addresses, and description in terms of acreage and kind of farm for all farms included in the 1950 Census of Agriculture. For these enumeration districts the enumerator was required to visit and locate only the farms listed for the 1950 Census and any other places which, on the basis of information he obtained, were likely to be engaged in farm production. Also in 14,798 enumeration districts in rural areas, the enumerator was permitted, with the approval of his crew leader to omit the listing and mapping of dwellings in built-up areas containing 50 or more dwellings. The crew leader was to indicate on the enumerator's map the part of the enumeration district in which the enumerator was to begin his work. The instructions to the enumerator outlined a systematic method for the enumerator to follow in making his visits in order to insure

the complete coverage of all parts of the enumeration district. The enumerator was required to list each dwelling and place in his enumeration district on Form A2 (see fig. 9) and to enter answers, as required, for columns 1 to 16. The answers to the questions in columns 3 to 13 of Form A2 provided the basis for the enumerator to determine when he was to fill an Agriculture Questionnaire (Form A1), and a Landlord-Tenant Questionnaire (Form A3). (See fig. 10. This questionnaire was used in approximately 900 counties in the southern part of the United States where a considerable proportion of the farms were operated by croppers and share-tenants.) Form A2 was also used to designate a sample of places for which additional information was to be obtained and to record notes about places to which another visit would be required. Form A2 was used to designate a sample of places through the use of shaded squares that appeared on every fifth line. Enumerators were required to indicate by means of placing an "X" in a square, the size group in terms of acreage of the place for which the Agriculture Questionnaire was filled. If the size group was indicated in a shaded square, then the enumerator was required to obtain additional information on the Agriculture Questionnaire for the place listed on that line. Columns 16 and 17 of the Form A2 were used as a record to indicate when the enumeration for the line had been completed as well as when another visit would be needed to complete the enumeration.



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	roed, etc.	<ul> <li>WHEN NO ONE LIVES ON THE LAND IN THIS ED:         <ul> <li>(a) Enter name of person who rents land, grows crops on shares, or uses land for livestock,</li> </ul> </li> </ul>	of hi	ny hiser la	this Any	year-	-		20	or re	z of h	or re frai	An t eta	veg- bles.	Whe Hves ("Y any	es'' in col. 4		ED?			Fill .A1 ii— (1	"Yes" in col. 10 or "No" in col. 9 & "No" or	(b) FI	of Al if	you ha	Al in the through	ntry for e proper gh XIII ed X in	have answered all ques- tions and have com- pleted an		nber
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THE ENUMERATION

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Form	ized by Act of Congress (46 Stat. 21; 13 USC 201-218) which it U. S. DEPARTMENT OF COMMERCE HUREAU OF THE CINUS WASHINGTON	rqubes that a report be made. The inform Section II.—ASK LANDLORD THE ALL TENANT			oalidenti			The Census report cannol b							TROSE T CROPS	ENANTS	<b>₩НО РА</b> Ч	CIVE) A SE		
(1) For every per the help of others or b	LANDLORD-TENANT QUESTIONNAIRE Census of Agriculture 1954 HOULD THIS QUESTIONNAIRE BE FILLED? non who operates a farm binnelf either alone or with his family or wafe hands, and also retos farmland do has land worked on ahares by others. OR reno who does not operate a farm himself, but rents a to two or more permons or has farmland worked or	What are the sames of all year leasts, including cash retters and those work- ing for a size of the copal (in the name of back whether or not he or boot oils the same of ware? hands who do not receive a share of the cop, or periods who reals a bouse oily)	What is the total acreage assigned to him? cropiand, restureland, woodland, house lot, gardeo, etc.)	What does he pay as real? (Check each block which is applicable)	Do you get an Ai for him?	If "No" in Col. 4 in what fournehip (or during word, or ban), should he be numer- ated? (if in analer county gue some of county)	If "Yes" in Col. 4 enter ihe Une number of the A2.	BEMARKS	How much of the work- stock or power do yea furnish as your share in his opera- dons?	How many HORSES and MULES owned by you are kept on the land assigned to kim?	Boes he farm any land other than yours?	From how many acres of the land assigned to him (Col 2) were crops havtested (including hay cut) this year?	was or will harvested	b COTTON II be Likla year ad (Col. 2)!	How much TOBACCC was or Con- therested on this lan (Underline	) or BICE ible year ible year id (Col. 2)?	How man PEANUT will be has picking our this year (Col. 2)?	were or rested for	How much was or will harvested . this year o (Col. 2)? () corn or 56 shelled=1	l be /or prain pp this land 70 lb. car lb.
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ALL L land bu etc.)	cy acres of land do you OWN? Done remove than one tract of land, INCLUDE AND OWNED. Londed not only crop. it also percurband, weodiad, watchaid, is owned, check the square for "None."	7		Other Share of crops Other	⊡ Yea О № О Yea		Line No		None All Part None	No	O Yes O No O Yes	🗆 Nons	Acres	Bales	None Acres	Bu 162-Ib. bbl	Acres	Lb.	None	Bu
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Certified by	Information given to this report?	C. Add lines A+B. The total (or col. 2 about equal quest 7. Bread the totals is columns 9 through 19 to the includer and ask if you have the correct infor- mation for the land from which he gets either a share or all of the crops.		x x x	xxx	xxx	x x x		. x x x		x x x									
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METHODS AND PROCEDURES

Approved of the Bankers Me. 63-658.

Generally, the enumerator was required to list on Form A2 all dwellings and places in his enumeration district. The line number on Form A2 on which each dwelling or place was listed, was to be entered on the enumerator map, near to the location of the dwelling or place on the map. An illustration of the listing of places on Form A2 is given in figure 11 and an illustration of the enumerator's map showing the line numbers corresponding to dwellings and places is given in figure 12. This method used for indicating places enumerated on the enumerator's map aided in insuring that the enumerator had visited all places in the enumeration district and that the coverage of all parts of the enumeration district was complete.

In approximately 225 counties where there were a considerable number of farm operators who did not reside on their farms and where the farms were relatively large, enumerators were required to indicate on Form FA-100 (see fig. 13) the line number on Form A2 on which the operator of each 40 acres comprising the farm was located.

When an Agriculture Questionnaire or a Landlord-Tenant Questionnaire was required, the enumerator obtained, when avail-

Form A2

able, the copy of the Agriculture Questionnaire the operator had received by mail, or took a questionnaire from his portfolio and asked whatever questions were required for completing and checking the filling of the questionnaire. The enumerator was instructed to make his entries on the questionnaires and other records legible and make entries only when necessary or required by the questionnaire. (For example, if the answer to a question was "0", the enumerator was instructed to make no entry.)

Sections VIII through XII of the Agriculture Questionnaire were to be filled only for a sample of farms. This sample consisted of places listed on the Form A2 with the size of the place indicated in a shaded square and in addition, in selected States, places having an exceptionally large entry for a specified item. The specifications determining the additional places that formed a part of the sample when the entry for a specified item was exceptionally large, were given at the beginning of Section VIII of the Agriculture Questionnaire.

Enumerators in the selected counties in which the Landlord-Tenant Questionnaire was used, were provided with special instructions for filling this questionnaire.

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FIGURE 11.-A2 Listing form (illustrative example).



FIGURE 12.—Reduced facsimile of enumerator's map.

METHODS AND PROCEDURES

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THE ENUMERATION

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FIGURE 13.—Map for checking enumeration of farms in specified township and range survey areas (Form FA-100).

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In order to facilitate his work or provide records needed for control and payment for work, the enumerator was required to keep five other records. All except one of these were bound together with Form A2, to form a single booklet, called the Enumerator's Record Book. The records and the purpose of each were as follows:

**Record of Work and Travel** (Form FA-3).—This record provides a detailed record of the enumerator's travel, hours of work, and amount of work accomplished each day. The summary in part B of this record, was used for the calculation of the payment due the enumerator for his work in a completed enumeration district. (An illustrative copy of Form FA-3 appears in fig. 14.) This record also provided the information the enumerator needed for filling out his daily report of work. (See Form FA-7 in fig. 15.)

**Enumerator's Daily Report** (Form FA-7. See fig. 15).—This form was a preaddressed post card to the Agriculture Field Supervisor. The information needed for filling out this report was obtained from the Record of Work and Travel (Form FA-3). The enumerator was instructed to mail this report each day. This report served as a basis for indicating the amount of work performed each day and for measuring the progress of the enumeration.

**Record of Telephone and Other Costs** (Form FA-4. See fig. 16).—This record was maintained by the enumerator for the purpose of providing a basis for the payment of charges paid for telephone calls, etc.

**Record of A2 Listings Requiring Crew Leader Action** (Form FA-5. See fig. 17).—This form was used to list the names and addresses for operators living more than 15 miles outside the enumeration district, operators who refused to give the necessary information, and operators of places for which the enumerator was unable to obtain the required information. The purpose of this form was to secure a record for the crew leader of cases where the crew leader was required to take additional action in order to complete the enumeration.

Enumerator's Callback Record (Form FA-6. See fig. 18).— This record provided a summary, at a convenient place, of the places for which the enumerator was required to make other visits in order to complete his work.

Supervision of the enumerator and checking of his work .- The actual supervision of the enumerator by the crew leader began during the training period. The enumeration work performed by the enumerator during the training period was reviewed during the last day of the enumerator's training. After the completion of the training, crew leaders were required to devote full time during the enumeration period to visiting the enumerator while he was working in his enumeration district. The first of these visits was to be made, if possible, during the first few days of his work. The least capable enumerators were to be visited first. The duration of the crew leader's first visit was to be at least 3 hours and that of subsequent visits 1 to 2 hours. On the last visit the crew leader checked the work for the enumeration district completed by the enumerator and if the work was acceptable, took the materials for the completed enumeration district with him. Records indicate that the average number of visits by crew leaders to enumerators was 4.1. The kind and amount of review of the enumerator's work at each visit of the crew leader were outlined by the crew leader's instructions. At the first visit, the crew leader was instructed to observe at least one interview by the enumerator when he was filling out an Agriculture Questionnaire, and to help and to suggest improvements in interviewing. The crew leader was also required to review all the questionnaires and forms filled by the enumerator during his first day's work and

to check the enumerator's map to see that it was being used properly.

The review of questionnaires and forms involved the checking of Form A2 to see that entries were being made properly; that the indication of lines comprising the sample was being accurately made; the checking of Agriculture Questionnaires to determine that all entries were legible, that all required questions had been answered, and that Sections VIII through XII had been filled where required; and the comparison of entries for items that could be checked with the entries for other items on the questionnaire. The crew leader made a record of his checking on Form FA-18 (see fig. 19) and indicated on Form FA-17 (see fig. 20) the items which he thought would need checking on his subsequent visits. If the crew leader found the enumerator's work satisfactory, he was instructed to review every tenth Agriculture Questionnaire filled after his first visit. The crew leader was required to sign each Agriculture Questionnaire that he checked. In his review of materials for completed enumeration districts, the crew leader was instructed to make a complete review of the Enumerator's maps to see that the entire enumeration district had been covered, the Form FA-2 and the Agriculture Questionnaire had been completed satisfactorily, all specified farms had been accounted for, all callbacks had been made, and that the Forms FA-3 and 4 had been filled out accurately. The crew leader checked and completed the filling of part B of Form FA-3, so that the information in this part could be used as a basis for paying the enumerator for his work.

A review and summary of each enumerator's work was made in the Field Processing Office before the payment to the enumerator for his work was approved. This review and summary was made primarily by tabulating clerks. When work for an enumeration district was completed and approved by the crew leader, the completed work was mailed by the crew leader to the Field Processing Office. The crew leader was provided with cardboard boxes for mailing each enumerator's portfolio.

The first checking of the enumerator's work in the Field Processing Office consisted of the verification of the amount of work completed, miles traveled, hours worked, etc., in order to provide data for preparing the enumerator's payroll.

The work submitted for the first 3 enumeration districts by the crew leader was given a detailed intensive review in order to insure that the crew leader was making an adequate review of each enumerator's completed work. This review consisted of the checking to see that (1) each farm listed on the list of specified farms had been enumerated or satisfactorily accounted for, (2) an Agriculture Questionnaire had been obtained for each place for which the entries on Form A2 indicated that an Agriculture Questionnaire was required, (3) the designation of places in the sample had been performed accurately, (4) Section VIII-XII of the Agriculture Questionnaire had been filled completely, (5) the A2 line number had been entered for each place on the enumerator's map, and that all callbacks listed in Form FA-6 had been completed or a satisfactory explanation given. The results of this intensive review were recorded in Section II of Form FA-91 (see fig. 21).

For all enumeration districts except the first 3 received from the crew leaders, a review was made to determine (1) how many Agriculture Questionnaires were missing, (2) that the enumerator's section below Section VIII of the Agriculture Questionnaire had been properly filled, and (3) that the enumerator's map and other forms were present. If Agriculture Questionnaires were missing, form letters were mailed to the farm operators requesting that a report be submitted. A summary of the results of this review was recorded in Sections 3 and 4 of Form FA-91. Г

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<b>_</b>	Date	Speed	lometer re	adings	Miles	driven	obtained	(Form A1)	piece	rates	houri	y rate	
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	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	11-9-54	32,110	o a	32,131	21	21	12	12	9	9			] [
	11-10-54	32,16	6 3	32,190	24	45	13	25	10	19			
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FIGURE 15.—Enumerator's daily report (Form FA-7).

		······	Travel			Agricultu		Hours w	orked at	Hours w	orked at	
Date			er readings	Miles	driven	obtained (	Form A1)	piece	rates	hourly rate		
(1)		travel (2)	Ending of official travel (3)	Today (4)	To date (5)	Today (6)	To date (7)	Today (8)	To date (9)	Today (10)	To date (11)	
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Agricul	ture c		`otal	$\langle \rangle$	248	XXXX	Dollars X X X	X X X				
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reporte	d wer	e worked on t	he days specified.			-	-					
		Æ	David	Q. A	aston/	, 		narm	iber/30	2., 1954		
I certif	v the	t I have recei	ved the completed	portfolio wit	th all the doc	uments accou	nted for: the	at I have revi	ewed the ma	aterial submit	ted and	
find th	ē enu	meration has	been completed sat ked, miles driven,	tisfactorily f	or this enume	eration district	t. I further	certify that	the amount	shown for nu	mber of	
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FIGURE 14.—Record of production and travel (Form FA-3)—Continued.

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# THE ENUMERATION

		TMENT OF COMM	ERCE	State	Kan	isas			
	RECORD OF TEL	EPHONE CALLS AN	D ROAD,	County	ad	coch			
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10 w	A: Use a separate line for each paid oleting column 1 and columns 7 thro hen ED is completed. B: Enter road, bridge, and ferry to Part A.—TOLL AND LOCAL	toll call, completing ough 9. Attach receipt lis in part B, and attach	ch all receipts.						ate line, column
		TOLL CALLS	3			LOCAL CALLS			
Date	Person called	Points between w	Minutes charged	Total toll	Number	Cost	Total cost	Total tele- phone	
	rerson caned	From	То—	for	cost paid	calls	call	paid	cost
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FIGURE 16.-Record of telephone calls and road, bridge, and ferry tolls (Form FA-4).

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		TOLL CA	ALLS					LO	CAL CAI	LS	
Date -	Person called	Points betwo	en whic	h call w	is made	Min- utcs	Total toll	Num- ber	Cost per	Total cost	Total tele- phone cost
		From—		To		charged for	cost paid	calls	call	paid	
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Date	-ROAD, BRIDGE, AND FERRY Item (2)	Y TOLLS. (Reco	cipts for	cach mu l cost 3) 25	Tot ast be at to Date (1)	ached)	<u>.</u>	l Item		\$1.10	Total cost
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Figure 16.--Record of telephone calls and road, bridge, and ferry tolls (Form FA-4)-Continued.

# THE ENUMERATION

Form FA-	5 U.	. S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS	State Kansas	
			- County adcock	/
	ENUMER.	ATOR'S RECORD OF A2 LISTINGS REQUIRING CREW LEADER ACTION	ED Number 21-7	
miles ou mation	tside your l	ch day any A2 Listings with "No" in Column 3 and, "No" or "Do ED. (Where the person lives less than 15 miles outside your lete the A1 if an A1 is required. Also list any incomplete call ine) but have failed to locate a responsible person who could s. Discuss this listing with your Crew Leader each time he v	ED, you will visit the person to backs within your ED for which yo	obtain the necessary infor-
Date	A2 line No.	Name and mailing address of operator or owner	Reason not completed	Crew Leader's action and date
(1)	(2)	(3)	(4)	(5)
11-9	3	Marvin L. Williams Route 28, Boy 625 Dixon, Kansas	Operator lives about 25 miles outside my E.D.	Will check with enumera tor in ED 21-8 L8M
I-12	35	Eli W. Stone Route 7, Box 581 Iney, Kansas	Owner refused to give any information.	11-13 Will visit myself. zesm
1-13	48	Arthur Z. Jones 17 Edmon St. Kansas City, Kansas	Luies outside my E.D.	11-18 Outside my District. Will complete F.A. 21. 28m
1-19	11	William E. Murray Inez, Kansas	Have made repat- ed calls hit haven't been able to locate person who can give information	11-20 Will assign to Jones ZSM
		/		\/
4	[	Enumerator fills columns (1), (2), (3) and (4).	ne	ew Leader enters act is going to take and te of his discussion
		· · ·		
			<u></u>	

FIGURE 17.—Enumerator's record A2 listings requiring crew leader action (Form FA-5).

						UCTIONS			
			check list of AI						
								to make another call to obtain	
DUR. Identi	ING EA ify teler	ACH DAY the	at you make a by the letter	an attempt to "T" preceding	r callback lis	st, enter the d	late in Columns 3 through 9.		
									such referral was made.
			Da	te of personal	visit or teleph	one call		1	
Date	A2 line No.	First	Second	Third	Fourth	Fifth	Sixth	Date callback completed	Remarks
(1)	(2)	callback (3)	callback (4)	callback (5)	callback (6)	callback (7)	callback (8)	(9)	(10)
11-9	11	11-10	T 11-12	T /I-13	//-/5	T 11-16	11-19		Callback referred C.L.
11-9	19	11-10	T 11-12	11-15	1			11-15	Calbatter 6:00 p.m.
11-10	20	11-12	11-15					11-15	Ourter will return
11-12	36	11-16						11-16	Call at 8:00 a.m. July
					/				<b>^</b>
					/				
					<u>,</u>	·		Use Use	Remarks Column to recor
			Identify t			<u>`</u>		usef	ul information.
			placing th	e letter '	T before				
		L	the date e	ntry.					
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FIGURE 18.—Enumerator's callback record (Form FA-6).

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FIGURE 19.—Crew leader's daily activity report (Form FA-18).



B&R

Records of unsatisfactory work by the enumerator were recorded on Form FA-91 and the crew leader was informed immediately of the errors and inadequacies found during the review of the enumerator's work. If the review indicated 5 or more Agriculture Questionnaires (other than those for absentee farm operators) were missing, then the enumerator's work was returned to the crew leader with instructions to have the missing Agriculture Questionnaires obtained.

When the material for all enumeration districts in a county had been received and recorded, an additional review of the enumeration was performed before the enumeration was considered satisfactory. This review included the checking to see that all specified farms in the county had been enumerated or satisfactorily accounted for, the insertion into the proper enumeration district of any Agriculture Questionnaires received by mail from absentee operators or operators of farms not enumerated by the enumerator and the preparation of a county summary on Form FA-88. (See fig. 22 for an example of FA-88.) The data on FA-88 for 1954 was obtained by adding information from the Agriculture Questionnaire. The data for 1950 and for the check item 1954, were entered on the Form FA-88 before it was sent to the Field Processing Office. The data for 1950 were taken from tabulations for the 1950 Census of Agriculture. The data for the check item, 1954, represented, when available, the acreage of a selected cropusually one of the following: corn, wheat, cotton, tobacco or rice. The check data were available only for the county and were obtained from the Commodity Stabilization Service of the United States Department of Agriculture. The acreage for the crops selected for check items represented the measured acreage before harvest.

The data on Form FA-88 were compiled for two purposes: (1) To determine that the sampling procedures had been followed and (2) to determine that the coverage of the Census was reasonably complete. Criteria for the acceptability of the Census was established prior to the enumeration for each of these two purposes. The following table was used for determining the acceptability of the sampling procedure.

Acceptance Table for Percent of Farms in Sample

Total in column (7) of FA-88	Acceptable limits (in percentages)			
	Not less than-	Not more than—		
Less than 100 100 to 199 200 to 299 300 to 389 400 to 489 500 to 599 600 to 689 700 to 709 800 to 899 900 to 999	(*) 13.0 14.0 16.0 16.6 16.8 17.1 17.3 17.4	(*) 27.0 26.0 25.0 24.0 23.4 23.2 22.9 22.7 222.9		
1,000 to 1,249. 1,250 to 1,499. 1,250 to 1,499. 1,500 to 1,749. 1,750 to 1,999. 2,000 to 2,999. 3,000 to 3,999. 4,000 to 4,999. 5,000 to 7,499. 5,000 to 1,499. 5,000 to 2,499. 5,000 to 1,499. 5,000 to 2,499. 5,000 to 3,499. 5,000		22. 6 22. 4 22. 2 22. 0 21. 9 21. 7 21. 5 21. 3 21. 2 21. 0 20. 8		

*All counties to be accepted.

Acceptable percentages for the coverage of farms, land in farms, and for the check items were established for each county and were indicated on the FA-88 when it was sent to the Field Processing Office. Form FA-88's for all counties, including those not meeting the established standards, were sent to Washington for review and approval by the Chief of the Agriculture Division. Of FA-88's for 3,100 counties, 2,389 were approved when they were submitted to Washington. For 711 counties, additional checking and work were required before they were approved. The additional work included the obtaining of missing questionnaire for specified farms, the checking of enumerator maps for indication of areas not enumerated, the reenumeration of areas, and the obtaining of the required information when the Section VIII through XII of the Agriculture Questionnaire was not filled.

Control over time schedule and cost of the enumeration.-The enumeration involved the employment of a large number of persons at one time and the expenditure of as much as \$350,000 each work day. In order to insure that the enumeration would be completed within the planned time period and with the funds allotted for this purpose, time schedules were established for all important operations, and the number of employees, maximum length of employment, and the rates of pay of all personnel were prescribed. Checks on the compliance with established controls both for time of performance of jobs and the employment of personnel, and for the expenditure of funds were made on the basis of required reports. For enumerators, the number of employees authorized, the rate of pay, the maximum mileage and the maximum hours of employment, were furnished each crew leader on Form FA-32. (See fig. 23.) Most enumerators were paid on a piece-rate basis and for miles traveled in personally owned automobiles. These piece rates were established on the basis of records of work performance for prior Censuses, distance to be traveled, and the estimated time that would be required to fill questionnaires. In areas where the distance between farms was great, and in urban areas, enumerators were paid \$1.25 per hour of work plus \$0.07 per mile traveled by personally owned automobiles. The average hourly earnings for enumerators employed on a piece rate was \$1.15 plus payment for mileage traveled by automobile.

The date when enumerators were to begin the work was prescribed, and enumerators were required to work at least 8 hours each day until they had completed their jobs. Checking on the amount of work performed, hours of work, miles traveled, etc., was accomplished through the review and summarization of Form FA-7. This enumerator's daily work report was mailed at the end of each day to the supervisor of the Agriculture Field Office and the Form FA-3 was reviewed by the crew leader each time he visited the enumerator. Supervisors of Agriculture Field Offices notified crew leaders whenever it appeared an enumerator's work was not being performed on schedule and twice each week supervisors of Agriculture Field Offices were requested to submit to supervisors of Field Processing Offices and to Washington a summary showing number of enumerators working, Agriculture Questionnaires filled, miles traveled, hours worked, etc. These reports were reviewed carefully and immediate action was taken when the work was not being completed as scheduled.

The number of crew leaders, field supervisors, assistant field supervisors, and the number of each kind of clerical employee, as well as the duration of their appointment, were prescribed in advance of their employment and appointment. Extension of appointments were made in case of some employees but only upon approval from Washington. During the period of recruitment and hiring, crew leaders and supervisors were required to submit reports showing the number of employees recruited. Action was taken whenever necessary to insure that the authorized staff had been recruited and were trained and on the job on the day scheduled.

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Ferm F4-91 U.S. DEPARTME (10-26-54) BUREAU	State		
			County
1954 CENSUS OF AGRICULTURE			
RECORD OF PORTFOLIO REV	IEW		E.D. Number
Section 1 - PA	YROLL	VERIFICA	TION REVIEW
A. Incomplete Section IV of A1's	None	Number	A2 line Nos.:
B. Sample within 5%	Yes	No	If "No,-"%
C. A3's missing	None	Number	
D. Hrs. claimed within 10% (hourly ED's)	Yes	No	If "No," Allowed Claimed
E. Miles claimed within 10%	Yes	No	If "No," Allowed Claimed
F. Receipts or certifications missing	Yes	No	If "Yes," describe:
Section I completed by (Review clerk)			
	2 - IN	TENSIVE	REVIEW
A. Missing FA-101's	None	Number	
B. Missing Al's for A2 line Nos.	None	Number	A2 line Nos.:
C. Sampling correct	Yes	No	If 'No," A2 line Nos.:
D. Sample sections missing	None	Number	A2 line Nos.:
E. E.D. Map completed	Yes	No	****
F. FA-100 completed	Yes	No	
G. FA-30 completed	Yes	No	
H. FA-17 in portfolio	Yes	No	
I. FA-5 column (5) completed	Yes	No	
J. FA-6 columns (9) or (10) completed	Yes	No	
Section 2 completed by (Review clerk)			
Section :	3 - TA	BULATION	REVIEW
	None	Number	1
A. Missing Al's for followup	Yes	No	A2 line Nos.:
B. E.D. Map in portfolio	Yes	No	
C. FA-100 in portfolio (if required)	Yes	No	
D. FA-30 in portfolio ("C" ED's)	L	<u> </u>	
Section 3 completed by (Review clerk)			
Section	4 - F	OLLOW-UP	REVIEW
A. Requests for missing receipts, certifications o	r mate	rials mail	ed on (date) None
B. FA-92's mailed (if required) on (date)			None
C. FA-93's mailed (if required) on (date)			None
D. FA-94's mailed (if required) on (date)			None
Section 4 completed by (Review clerk)			
Section	5 - SU	PERVISORY	ACTION
Describe corrective action taken by Supervisor, if	f any r	equired by	v review entries above:
,			
	ervisor		· · · · · · · · · · · · · · · · · · ·
Enter any	Remark	s on rever	comm-DC-4275

FIGURE 21.—Record of portfolio review (Form FA-91).

Form F (Revis (10-19	A-88 ed) -54)				DEPARTMENT BUREAU O	OP COMMERCE P The Census	(Col. B. Covera	Al's for county 8 ÷ Col. 7) ge for county:			eptable Limits	Approved by RSMCurdy Date 12-1-54	Sheet of Sheels State
	3 0		UNTY SUS OF	UMMARY AGRICU	I TIIRF		I. Pars	s (Col. 4 ÷ Col. 3	n= <u>100.6</u>	_*	or higher	Date	45 NORTH DAKOT
								in Farms (Col. 10		2: _	2 or higher	12-1-54	County 364 Ramsey
	L	and A	rea 72	76,960	cres		or bigher						
CO	DPS			Number				Land in	Farms	· Check	Ites, 1954		
ounty	36	1950 (Totai		Sam	ple	A1's #ith 1,000	less than acres	(Ac.	res)	Acres 2	Bales =	A2	line numbers
E.D.	Procedure (2)	(3)	Total Al's (6)	Total Sample completed (5)	1,000 acres or Bore (6)	Total (Col.4-Col.6) (7)	Sample completed (Coi.5-Col.6) (8)	1950 (9)	1954 (10)	Check Data (11)	Census (12)	10,0	000 acres or more
1	C	3	1	0	0			(*)	0		0	Í	
2	A	184	190	64	25	-		117,487	117,410			none	
3	3	200	208	52	15			109,680	116,233			none	
4	A	157	151	53	24			105,044	105,673			none	
5	A	173	170	60	38			119 994	121,568	,		none	· · · · · · · · · · · · · · · · · · ·
6	A	158	156	46	21			91,612	98,631			1016	
7	A A	129	142	42	10		1	67,783	67564			101E	
	A	155	136	43	15			81,180	76,739			none	· · · ·
9		120	/33	50	25	 •		72,059		-			
	A	Urban	/33		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				79 785		17210	none	
10		Areas				<u> </u>		3,890					
11	<b> </b>												
12				<u>}</u>								1	
13				<u> </u>	-								
14						ļ							
15						<u> </u>							
16										-			
17													
18							<u> </u>						
19													
20													
21							1						
22													
23													
24							}						
25													
26	1					1	1					· · · · · · · · · · · · · · · · · · ·	
27					·								
28				<u> </u>									
• • • •													
29 30													
	I				173		+					<u>}</u>	
County	Totals	1,279			173	1		768,729					

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412357 0-57----4

FIGURE 22.—Coverage evaluation by ED's (Form FA-88).

**4**5



FIGURE 23.—Crew leader authorization for enumerator recruitment and record of piece rates and mileage allowances, 1954 Agriculture Census (Form FA-32).

CHAPTER III-CENTRAL OFFICE PROCESSING AND PUBLICATION

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# CENSUS OPERATIONS OFFICE

## DETROIT, MICH.

PITTSBURG, KANS.



*This staff was supplemented by detail of technical personnel from the Washington office.

FIGURE 24.—Organization Chart—Central Operations Office.

# CHAPTER III.—CENTRAL OFFICE PROCESSING AND PUBLICATION

### CENTRAL OFFICE PROCESSING

The job.—The objective of central office processing was to record the information obtained by enumerators so that data could be summarized and published in a useable and meaningful form. The job involved the inspection of questionnaires for completeness and consistency of information, arrangement of questionnaires by geographic areas, the entering of codes to provide for the meaningful classification of data, the preparation of punch cards, the detection and correction of errors arising both during the enumeration and during the office processing, the tabulating of the data, and the preparation and printing of statistical tables and reports.

Organization for the job .- The conversion of information obtained by enumerators for individual farms into published releases and reports required the organization of groups of trained personnel for performing the major central office operations. Since these operations were performed during a relatively short period, a considerable number of temporary employees were required. During this period of large-scale central office processing, the available permanent staff comprised less than 5 percent of the total personnel employed and were used largely for preparing plans and instructions, training personnel, technical review, overall supervision, and direction of the work. The major operations involved in central office processing were receipt and control of questionnaires, etc., editing and coding of questionnaires, punching tabulating cards, checking tabulating cards and tabulations for errors and consistency, the preparation of tabulations and the preparation and printing of statistical tables and reports.

The following table indicates the approximate number of employees engaged in operations related to central office processing for the first month in each quarter.

Month	Number of employees	Month	Number of employees
July 1954	116	October 1955	880
September 1954	139	January 1956	680
January 1955	960	April 1956	640
April 1956	1, 560	July 1956	400
July 1955	1, 325	October 1956	250

The temporary staff was recruited in accordance with civilservice regulations, largely from registers established from examinations given primarily to provide personnel for Census work. The temporary staff was given temporary appointments usually not to exceed 1 year. When the work required employment for more than a year, an extension of employment was made of personnel who had been trained for the performance of the work yet to be performed. In all central office processing, specialization and mechanical devices were used whenever possible to expedite handling and to reduce costs. A large part of the supervisory staff for clerical and machine operations consisted also of temporary employees. Permanent personnel occupied only key positions and positions requiring detailed knowledge of procedures or technical knowledge of agriculture.

The technical staff comprised a very important part of the total staff although the costs for the technical staff amounted to less than 3 percent of the total cost of the Census. The employment of the technical staff totaled approximately 1,100 man-months. About 70 percent of these man-months were provided by permanent staff. All personnel were given special training for the work and the kind and duration of this training is described under the various operations. Standards for both quantity and quality of work were established for all major processing operations and all personnel were required to meet these requirements in order to retain their jobs. For many operations, employees, whose work performance exceeded substantially the minimum work requirements, were given incentive payments.

Because of lack of office space, central operations offices were established for about 11 months in Pittsburg, Kans., and Detroit, Mich. All Agriculture Questionnaires were received, edited and coded, and cards punched at those two offices. All other operations were performed in Washington, D. C.

### RECEIPT AND CONTROL OVER QUESTIONNAIRES

After the checking had been completed in the 26 Field Processing Offices, the questionnaires were arranged by counties and shipped in boxes to one of the two central operations offices. The number of counties for which the questionnaires, materials, etc. were received at the 2 central operations offices by months were as follows:

Month	Number of counties for which questionnaires were received—			
	During month	To date		
December or earlier, 1954 January 1955 February 1955 March 1955 April 1955 May and later, 1955		949 2, 018 2, 347 2, 786 3, 028 3, 100		

When the materials and questionnaires were received at the two central operations offices, they were checked to determine that all the required materials for a county were present and the Agriculture Questionnaires were separated and placed in portfolio covers (these were cardboard covers, see fig. 26). Approximately 400 Agriculture Questionnaires were placed in each portfolio and the portfolio was properly labeled. Portfolios comprised the unit for work assignment for subsequent operations and the portfolios for a county were transmitted to the next operation as a unit. The portfolios were kept in a central file when not in use and records were maintained of the location and status of processing for each county.

After the completion of the editing and coding, the questionnaires for a county were rearranged. The Agriculture Questionnaires comprising the sample (questionnaires for which information in Sections VIII through XII was required) were numbered with a numbering machine, for the purpose of having a means of identification for the punching of tabulating cards, and were then placed in portfolios separate from those questionnaires not in the sample. All questionnaires were arranged by minor civil divisions and a sheet containing the minor civil division name and code was inserted in the portfolio in front of the first questionnaire for the minor civil division. For each county, questionnaires comprising the sample were numbered consecutively starting with the number 8,000 while questionnaires not in the sample were numbered consecutively starting with 1. Questionnaires for "specified farms" were numbered consecutively starting with X001.



FIGURE 25.-View of Interior of Central Operations Office, Pittsburg, Kans.



### EDITING AND CODING THE AGRICULTURE QUESTIONNAIRE

Each individual questionnaire was checked, edited, and coded by clerks. The checking consisted of seeing (1) that the questionnaires were completely filled out; (2) that the acreage of individual crops harvested was in reasonable agreement with the acreage of cropland harvested when 100 or more acres of cropland harvested were reported; (3) that the acres of land classified according to use accounted for the entire farm acreage of farms having 200 acres or more; (4) that the total of the acreage for the various uses of corn. sorghum, soybeans, cowpeas, and peanuts was in reasonable agreement with the total acreage reported for all purposes for each of these crops; (5) that the age and sex breakdown for cattle, hogs, and sheep, added to approximately the total number of such animals of all ages; and (6) that all entries for related items were reasonably consistent.

Editing consisted of the identification and withdrawal of questionnaires filled for places not qualifying as farms; the selection of questionnaires with entries of unusually large size for review by the technical staff; the selection of groups of questionnaires with common reporting errors in an individual enumeration district for referral to technical personnel for review; and the correction of obvious inconsistencies, such as reporting in an incorrect unit, or reporting in an improper place on the questionnaire. Entries determined to be in error were often referred to the technical staff and corrected on the basis of relationships existing on nearby farms, or, if the entries were large, on the basis of correspondence with the farm operator. In case of information missing for a group of questions, estimates were prepared on the basis of adjacent questionnaires for farms with similar operations, and, in some cases, on the basis of information obtained by mail from the operators. When estimates were made, letters were mailed to the farm operators to verify the information and, if the estimates were not in reasonable agreement with the information contained in the replies, the entries were corrected before the tabulations were made.

The detailed instructions for editing and coding of the Agriculture Questionnaire were as follows:

General.-Each Agriculture Questionnaire was to be examined individually. Figures written so poorly that they might not be read correctly were to be rewritten. Fractions were to be canceled for all questions for which the Agriculture Questionnaire did not provide for the reporting of fractions. For questions for which the questionnaire provided for the reporting of fractions, all fractions were to be converted into tenths. All entries for cents except for wage rates of hired employees working by the hour were Questionnaires with entries of 10,000 acres or to be canceled. more for acres in the place; \$25,000 or more of forest products sold: 1.000 or more cattle; 10,000 or more sheep, goats, or poultry; \$20,000 or more expenditure for fertilizer, hired labor, or feed; an expenditure of \$5,000 or more for lime; a value of land and buildings of \$1,000,000 or more; or for Indian Reservations were to be referred for review by the technical staff.

Misplaced entries were to be crossed out and entered in the proper space. Entries in a unit of measure different from the unit of measure shown on the Agriculture Questionnaire were to be converted into the appropriate unit of measure.

Questionnaires for places that might qualify as farms were to be selected for review by the technical staff. Questionnaires that did not contain entries of at least one of the following were selected for examination in regard to meeting the criteria of a farm:

(1) \$150 or more for total value of sales for vegetables, other field crops, nursery and greenhouse products, livestock and poultry and poultry products, and for forest products.

- (2) One or more cows, or two or more calves on hand.
- (3) Three or more hogs on hand.
- (4) Five or more sheep on hand.
- (5) Fifty or more poultry on hand.
- (6) Three or more acres harvested for corn, sorghum, small grains, soybeans, cowpeas, peanuts, dry field and seed peas and beans.
- (7) Five or more acres of hay other than sorghum, soybean, cowpeas or peanut hay.
- (8) One or more acres of tobacco, cotton, potatoes, vegetables for sale, orchard, nursery and greenhouse products, or irrigated land.
- (9) Five or more acres of cropland of all kinds.

Section I .- The editing and coding clerk entered a code for color of operator. The code was 1 for white operators, 2 for Negro operators, and 3 for other.

Section II.—The editing and coding clerk was furnished the following guide for determining the tenure of the farm operator:

Ques- tion 4	Ques- tion 6	Qu tion		Other c	onditions		Classification	(	Oode
Acres	None	No		Q.10-Acres	in This	Place	Full owner		1
Acres	Acres	No	me Q.4+	-Q,6-Q.10		This	Full owner		2
None	None	Ac	res See i	ice (Section	Manager		5		
None	Acres	No			in This	Place	Tenant	Se 1	e below.
Question			Quest	ion 8		C	lass of tenant		Code
7	a		ь	c	d				
No	s s	7es	No	No		Cash			4
No	r h	Zes	Yes in eith	er or both		Share	-cash		t
No No		No No	Yes	No Yes		Lives	share tock-share	!	( 7
Yes No No		No No	No No	No No	Ycs No	Other	ecified		8

Questionnaires that would be coded "manager" were to be referred to the technical staff for review unless:
a. The value of all farm products sold was \$5,000 or more.
b. The acres in the farm were 1,000 or more.
c. There were reported on the questionnaire, 10 or more cattle of all ages, 25 or more milk cows, 1,000 or more poultry on hand, sold or raised.

Possible code numbers for the classification of the farm by color, tenure, irrigation, economic class of farm and type of farm were printed in the center column of the Agriculture Questionnaire. Coding was performed by circling the number representing the appropriate code.

Section III.—In the case of such crops as corn, sorghum, sovbeans and cowpeas, for which the questionnaire provided for reporting the total acres for all purposes, the editing clerk was required (1) to enter a total acres when this total was not entered, but acres were reported for the various uses, (2) to enter acres and quantity harvested when total acres were reported without acreage and quantity harvested being reported for any use, and (3) when the total acres for all purposes was 100 or more, to add the acres for the several uses, check the added total against the total for all purposes, and to refer the questionnaire for review by the technical staff if the difference in the two totals was 20 acres or more.

Questionnaires for which the yield per acre exceeded 100 bushels for popcorn, sorghum, small grains, soybeans, cowpeas, or 10 or more tons for any hav crop or 50 bushels, 1,000 pounds or ½ ton per tree for any fruit were to be referred to the technical staff for review.

The quantity sold was to be checked against the quantity harvested and if the quantity sold exceeded the quantity harvested, the quantity sold was to be reduced to equal the quantity harvested.

If the quantity sold was not reported, estimated quantities sold were to be entered when the quantity harvested was (1) 100 bushels or more for rice or flaxseed, or (2) 200 bushels or more for corn, grain sorghums, wheat, rye, oats, buckwheat or barley, and there were no livestock or poultry reported on the farm, sold or raised. Likewise, estimated quantities sold were to be entered when the total bushels of corn, grain sorghums, oats and barley harvested but not sold were more than 30 times the number of cattle, horses, and hogs on hand or sold. However, no estimates of quantity sold were to be entered unless the estimate was at least 100 bushels. When the quantity of hay harvested was 25 tons or more, and none was reported as sold, the entire amount harvested was to be entered as sold when the number of horses, mules, sheep or cattle on hand or sold, did not exceed 1.

The acreage of land in fruit orchards, etc. (question 56) was to be estimated when there was no entry and the number of trees was 50 or more, or the number of grapevines was 500 or more. The editing and coding clerk was furnished a table of the number of trees per acre for various kinds of fruits for use in calculating the acreage.

Codes were to be entered for the crops reported in questions **35**, **50**, **54**, **64**, and **65**. An example of these codes for question **54** is as follows:

Crop	Code
Blackberries	186
Cranberries	192
Currants	199

When there were no entries for acres in Section III, and there was an entry of 10 or more acres for question 67a, entries were to be estimated for Section III.

Section IV.—The entry for question 66, Acres in The Farm was to be checked with the acres reported for questions 4 to 6, 10 and 11. If there were no entrics for questions 67 to 70, the entries were to be calculated. If the entry for question 67a was 100 acres or more, the entry was to be compared with the total of the acreages of crops harvested as listed in Section III. Differences of 20 acres or more, not accounted for by the harvesting of two or more crops from the same land, were to be referred for review by the technical staff.

Section V.—Acres for question 71 were checked to acres in question 68 and were corrected if greater than acres for question 68.

In the 20 States where irrigation was important additional coding was performed to provide for tabulation of data for irrigated farms and irrigated crops. Each questionnaire was coded to indicate whether all the cropland harvested was irrigated, part of the cropland harvested was irrigated, or none of the cropland harvested was irrigated. On farms on which part of the cropland harvested was irrigated, the crop code in Section III for each crop that was harvested from irrigated land was changed by adding 4 to the hundreds digit for the code. For example, the code number for cotton was 270. If the cotton was harvested from irrigated land, this code was changed to 670.

Section VI.—Estimates were to be entered for sales if none were reported by the enumerator when the entry exceeded 50 cords for firewood, 1,000 for the number of fence posts or 25,000 boardfeet for sawlogs and veneer logs. If area (acres or square feet) was reported and no sales reported or vice versa, for nursery or greenhouse products, the questionnaire was to be referred for review by the technical staff.

Section VII.—For cattle, sheep, and hogs, the questionnaire was to be inspected to see if there was an entry for a total when there were entries for the various age and sex groups comprising the total, or vice versa. Entries were to be made when there was a total but no entry for the various age and sex groups, and vice versa. If the total was 100 or more, the age and sex groups were to be added and the sum checked with the total. Differences of 20 or more were referred for checking by the technical staff.

For questions 81 and 83 entries for cows milked or milk produced yesterday were estimated when there was an entry for one question and no entry for the other question. Entries were to be corrected for question 82, when the entry was less than for question 81.

Questionnaires with 5 or more cows milked (question 81) and no dairy products sold were referred for review by the technical staff.

Questionnaires with probable errors in value of dairy products sold and number of animals sold were to be referred to the technical staff for checking. Questionnaires to be referred included those with a value of whole milk sold of less than \$0.01 or more than \$0.10 per pound; of less than \$1 or more than \$100 per head sold for hogs, sheep or calves; of less than \$10 or more than \$1,000 per head for cattle, horses, or mules; of less than \$0.25 or more than \$2.00 per chicken sold; or of less than \$0.10 or more than \$1.00 for each dozen of eggs sold.

Questionnaires with 2 or more sows farrowing or 10 or more hogs on hand, and no hogs reported as sold; 10 or more cattle or 5 or more cows and no cattle or calves sold; 10 or more sheep and no sheep or lambs sold; or with 10 or more sheep, and no wool shorn were to be referred for review by the technical staff.

Estimates were to be entered when 100 or more chickens and no sales of eggs or chickens were reported and when there were 20 or more turkeys, ducks or geese and no sales were reported.

Codes were to be entered for each kind of poultry for question 97. Section VIII.—Sections VIII to XII were edited by the review clerk as the editing of these sections was performed only for questionnaires in the sample and as the sorting of the questionnaires into sample and nonsample groups was not performed until after the review of the work of the editing and coding clerk.

For questions 100 and 101, entries for acres were estimated when there were entries for tons or dollars, and vice versa. For question 100 entries of less than \$10 or more than \$100 per ton and for question 101, entries of less than \$1 or more than \$20 per ton were referred for checking by the technical staff.

Section IX.—When there was no entry for question 102, and there were hired workers reported for question 103b, estimates were entered. Questionnaires with no report for question 102b and, with reports of \$10,000 or more for the sale of vegetables, or nursery and greenhouse products, or 10 or more acres in orchards, were referred to the technical staff for review.

Section X.—The entry for 103b was checked with the entries for 103c and 103d, and inconsistencies were corrected.

Section XI.—Usually no special editing was performed for this section.

Section XII.—Usually no special editing was performed for this section.

Section XIII.—The entries for acres in this section were checked with the entries in Section II and the required corrections were made. For question 108, the total value was computed and entered if only the average value per acre was reported. When both total value and value per acre were given, the calculation of the total value was checked, but changes were made only when the calculated value exceeded the reported value by \$10,000 or when the reported value was double or more the calculated value. Coding for economic class of farm and type of farm.—The coding of farms by economic class of farm and by type of farm required estimating the total value of farm products sold. The estimates for the various groups of farm products sold were entered when required under the "Remarks" section of the Agriculture Questionnaire. The questionnaire contained the value of farm products sold for:

Vegetables Other-field crops Forest products Nursery and greenhouse products Dairy products Livestock Poultry and poultry products

For many crops the quantity sold was shown in Section III. The value of each crop sold was calculated by multiplying the quantity sold by State average prices. The State average prices were obtained in cooperation with the Agricultural Marketing Service of the United States Department of Agriculture, from a sample of dealers, buyers, farmers, etc.

For crops for which the quantity sold was not shown in Section III, the value of sales was to be calculated by multiplying the quantity harvested by State average prices, if the calculated value for the crop would amount to \$100 or more.

Except for farms operated by institutions, etc. (those were coded 9 for economic class), the economic class of farm for questionnaires with a total value of \$1,200 or more or under \$250 was determined by the amount of the value of all farm products sold. The code was as follows:

Total value of farm products sold	Code
\$25,000	1
\$10,000 to \$24,999	2
\$5,000 to \$9,999	3
\$2,500 to \$4,999	4
\$1,200 to \$2,499	5
Under \$250	8

If the total value of farm products sold was \$250 to \$1,199, the code for economic class was determined by the entries for questions 104 and 105. If the entry for question 104 was 100 days or more or if the answer for question 105 was "Yes", the code for economic class was 7. All other questionnaires with a total value of farm products sold of \$250 to \$1,199 were coded 6 for economic class.

The coding of type of farm was performed only for questionnaires with an economic class code 1 to 6, or 9. The type of farm was determined by comparing the value of the sales for a farm product or a group of farm products with the total value of all farm products sold. Usually, the type of farm was determined by the farm product or group of farm products that accounted for 50 percent or more of the value of all farm products sold.

Training of editing and coding clerks.—At the beginning of the training period each employee was given a memorandum outlining the work requirements for the training period. Briefly these requirements were as follows:

- (1) Editing and coding 10 training questionnaires during the training period with not more than six coding errors, nor more than ten other errors.
- (2) Editing and coding a portfolio of 350 or more Agriculture Questionnaires in 5½ working days with less than 15 coding errors per 100 questionnaires and less than 50 other errors per 100 questionnaires.

Each employee was provided with the following materials:

- (1) Instructions for editing and coding A1's.
- (2) A code card giving all the codes to be used.
- (3) A copy of a reference note for referring questions. (See fig. 27.)
- (4) A sheet containing various conversion factors for weights and measures.
- ( $\delta$ ) A slip to be inserted in place of questionnaire removed from a portfolio
- (6) A training questionnaire.
- (7) A Landlord-Tenant Questionnaire.
- (8) Red pencils.

FORM 2-36 (11-6-54)	U.S. DEPARTMENT OF COMMERCE Bureau of the census	STATE
	REFERENCE NOTE (Folio)	COUNTY
	EDITING REVIEWING	FOLIO NO.
E.D.	A2 LINE NOS.	L
E:D.	A2 LINE NOS.	
E.D.	A2 LINE NOS.	
E.D.	A2 LINE NOS.	
E.D.	A2 LINE NOS.	
REMARKS		
TECHNICIAN (	Name)	DATE
		CONH-DC 42914

FIGURE 27.—Reference note (Form 2-36). Used for referring questions for technical review.

Generally, editing and coding clerks were trained in groups of 10 to 20. The instructor, after asking the trainees to follow along with him, read the instructions from the beginning, holding up each form as it was mentioned in the instructions so that the clerks would become familiar with the terms used. A blackboard was utilized as much as possible. Its use was particularly effective in explaining the following procedures:

- (1) Rewriting or canceling entries.
- (2) Converting fractions.
- (3) Converting units of measure.
- (4) Entering codes.
- (5) Presenting editing problems.
- (6) Filling out reference notes.
- (7) Illustrating incomplete or impossible entries.

The giving of instructions required about 8 hours.

Editing of 10 training questionnaires .-- The use of the instructions was emphasized. The first Agriculture Questionnaire was given out for editing and coding. The trainees were not permitted to discuss the questionnaire with other clerks. No question covering a specific point was answered by the instructor. General questions which seemed appropriate were answered so that the whole training group could hear both the question and the answer. When most of the group had completed the editing of the first training questionnaire the editing of the questionnaire was discussed and the correct editing entries on the training questionnaire were given. Clerks were told where to look in their instructions to find why they had made errors. If the same error was made by several clerks the appropriate paragraph in the instructions was read by the instructor. After the trainees signed their names on the questionnaires, these were collected for recording the number of errors.

The remaining 9 training questionnaires were given out in groups of three. The same procedure was followed as outlined for the first training questionnaire.

The 10 training questionnaires were corrected as soon as possible and the number of errors recorded. The corrected questionnaires were given back to the trainees so that they could see their errors.

Editing of the first portfolio.—During the editing of the first portfolio, the supervisors were instructed to circulate through the group of trainees to:

- (1) Answer necessary questions concerning procedures.
- (2) Help clerks find the paragraph in the instructions needed to determine whether entries on the questionnaire were correct.
- (3) Observe clerks to see if they were working systematically and following procedure as outlined in their instructions.
- (4) Check codes to make sure editors were coding correctly.
- (5) Review several edited and coded questionnaires.
- (6) See that reference notes were made correctly when required.

The progress of editing and coding clerks in learning and becoming proficient in the performance of their work is indicated by the following data on questionnaires edited and errors made by weeks of experience.

Weeks of experience	Number of Agriculture Question-	Numb Agricult	Number of errors per 100 Agriculture Questionnaires			
	naires edited and coded per hour	Total	Coding errors	Other errors		
	11	18.7	5, 2	13.		
	20	17.3	4.8	13.		
	20	14.1	3.6	10.		
	20 21	14.1	2.8	10. 8.		
	23	8.8	2.1	6.		
	24	6.7	1.6	5.		
	25	5.1	1.3	3.		
	27	4.6	1.2	3.		
	27	3.9	1.1	2.		
0	30	3.5	.9	2.		
1	30	3.5	.9	2.		
2	31	3.3	.8	2.		
3	33	3.4	.8	2.		
4	34	2.7	.7	2.		
5	35	2.8	.7	2.		
6	36	2.6	.6	2.		
7	36	2.4	. 6	ĩ.		
8	36	2.0	.5	1.		
9	37	1.7	.5	1.		
	36	1.7	. 5	1. 1.		
1	39	1.5	.4	1.		
2	40	1.1	. 3			
3	41	1.1	. 3			
4	42	1.2	.4			
5	42	.9 [	. 3			
3	44	1.0	.3			
7	45	.8	. 3			
8	46	1.2	. 3			
9	47	1.2	.4			
)	49	$\tilde{1}, \tilde{2}$	. 5			
1	49		.4			
2	51	2.0	.6	1.		
3	52	2.0	.3	1.		
4						
*	56	1.0	. 5			

The work of the editing and coding clerks was reviewed. Clerks were selected for review work from the editing and coding clerks. The review clerks were given 4 hours of additional instruction. These 4 hours were devoted to reading of the instructions, making out a sample verification record (see fig. 28), observing a demonstration of how to sort the Agriculture Questionnaires representing the sample from other questionnaires, and to practicing the determination of codes for economic class of farm and for type of farm.

The job of the review clerk was to review either on a complete basis or a sample basis the work performed by the editing and coding clerks, to prepare a record of errors found in the work of the editing and coding clerks, to sort the questionnaires into two groups—those comprising the sample and those not comprising the sample—and to determine and enter the codes for economic class of farm and type of farm on questionnaires comprising the sample.

Until the error records indicated each editing and coding clerk was performing work of a satisfactory quality, all editing and coding work was verified completely. Editing and coding work was considered satisfactory if there were less than 3 coding and 8 other errors per 100 Agriculture Questionnaires. When the quality of editing and coding became satisfactory, only every tenth questionnaire was completely verified. If the verification of every tenth questionnaire indicated the work was not of acceptable quality, then all questionnaires were reviewed and all subsequent work of the editing and coding clerk was reviewed until the record of errors indicated that the work was of acceptable quality.

The performance of review clerks improved as their knowledge and skill improved and also as the work of editing and coding

Form <b>2-43</b> (11-18-54)		U.S. DEPAR B	TMENT OF C UREAU OF TH	OMMERCE E CENSUS	Sta	te	·	
	VERIFICATION	RECORD			Coui	nty		·.· ·
Name		Editor	' 1	number	Fol	io number		
Date edited	All Al's	Review	ver					
		Al's verified			Num	ber of ques	tionnaires	
	(A2 line )	numbers ending	in		{			
Type of erro	pr	Sections I-II Color-tenure (a)	Section III Crops (b)	Secti IV-V Irriga	/I tion	Section VII Livestock	Total (Non-sample)	Sections VIII-XIII (Sample) Class and type.
1. Poorly written fig corrected	ures not	(8)	(0)		) 	(d)	(e)	(f)
2. Figures entered by clerk, illegible	editing							
3. Fractions and decir cancelled	nals not						-	
4. Fractions not conv incorrectly conver								
5. Correct entries ch unnecessarily								
6. Sum of detail [±] 20 equal total	·does not							
7. Sum of detail $\frac{1}{2}$ 100 equal total	) does not							
8. Specified cross-ch made	ecks not			ļ				
9. Sizeable production and no value of pro	oducts sold							
10. Other relationship: questioned	s not							
11. Not coded								
12. Coded incorrectly								
13. Other (Specify)	<u></u>							
Total	l							
Remarks						*	۰ <b>۱</b>	
Name of reviewer			Unit n	umber		Date		
- -								
L	······································					L		omm-DC 43246

FIGURE 28.—Verification record (Form 2-43). For recording errors for editing and coding.

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### CENTRAL OFFICE PROCESSING

clerks improved. The following data indicate work performance by review clerks by weeks of experience on the job.

		of question- wed per hour	Weeks of experience	Number of question- naires reviewed per hour		
Weeks of experience	On a com- plete basis	On a sample basis (10 percent of question- naires)		On a com- plete basis	On a sample basis (10 percent of question- naires)	
2 3 3 3 3 0 1 2 3 3 4 5	$11 \\ 24 \\ 26 \\ 29 \\ 34 \\ 38 \\ 43 \\ 50 \\ 50 \\ 47 \\ 53 \\ 55 \\ 58 \\ 63 \\ 61 \\$	42 60 66 71 70 79 72 76 80 84 86 84 86 93 96 90 97	16	60 62 64 64 63 55 67 79 91 62 91 60 71 88 87 79	98 97 103 97 101 101 106 99 105 102 110 115 125 128 142 135	

The use of sample verification of editing and coding resulted in the saving of approximately 45,000 man hours in reviewing. The number and proportion of the Agriculture Questionnaires reviewed on a complete basis by week, after review on a sample basis was started, were as follows:

	Agriculture Questionnaires reviewed				
Week	Total	On com- plete basis	On a sample basis (10 percent of question- naires)		
1         2         3         4         5         5         5         6         11         12         13         14         15         16         16         17         18         19         20         21         22         23         24         25         26         27         28         20         21         22         23         24         25         26         27         28         29         30         7	Number 56, 244 142, 992 119, 783 130, 278 153, 067 201, 976 201, 9	Percent 85.8 84.3 74.8 78.7 73.2 80.0 76.9 63.2 55.7 49.6 46.6 42.5 38.5 35.1 26.5 38.5 29.5 27.3 26.6 22.8 14.2 10.5 13.0 9.2 9.1 5.0 7.8 9.2 9.1 1.5 0 7.8 9.2 1.5 2.4 3.5 1.5 2.4 3.5 1.5 2.4 3.5 1.5 2.4 3.5 2.4 3.5 2.4 3.5 2.4 3.5 2.4 3.5 2.4 3.5 2.4 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 2.5 3.5 3.5 2.5 3.5 3.5 2.5 3.5 3.5 2.5 3.5 3.5 2.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3	Percent 14. 2 15. 7 26. 2 21. 3 20. 0 23. 1 36. 8 44. 3 50. 4 457. 5 64. 9 73. 5 72. 7 73. 4 77. 2 85. 8 89. 5 88. 5 88. 5 88. 5 89. 5 89. 7 0 90. 9 90. 9 95. 0 92. 2 87. 0 81. 5 75. 7 75. 7 7 75. 7 7 7 7 7 7 7 7 7 7 7 7 7 7		

### PUNCHING

In order to provide for compilation of data, all information in the Agriculture Questionnaires was transferred to punch cards. Ten separate punch cards were used. (See fig. 29 for copies of these cards.) The punch card used for each part of the Agriculture Questionnaire is indicated in the column "Office use only" on the questionnaire. (See fig. 1.) For example, the information for questions 66 to 72 on the Agriculture Questionnaire was punched on the A card. The number of cards punched for all Agriculture Questionnaires was as follows:

Card type	Number of cards (thousands)	Card type	Number of cards (thousands)
Total	30, 136	I J K	3, 831 398 3, 522
С G Н	9, 889 1, 142 3, 674	L M N	1, 101 1, 082 642

Cards L, M, and N were required only for Agriculture Questionnaires in the sample. The punching was performed on International Business Machine Company's type 024 punching machine. (See fig. 30.)

All the personnel employed for card punching were temporary and none had any prior experience in punching. All employees were given a training course consisting of approximately 80 hours. During the first 40 hours the punching machine operator was trained, in how to use the punching machine, by means of a series of punching exercises and 6 tests. The second 40 hours of the training consisted of punching cards from a portfolio of Agriculture Questionnaires prepared for training purposes and the completion of 3 tests. The appointments of operators who did not satisfactorily complete tests given during training were terminated.

Generally, punching machine operators were trained to punch, and punched, only one of the 10 types of cards. Work units assigned to punch operators consisted of one or two portfolios of Agriculture Questionnaires (400 to 800 Agriculture Questionnaires).

The number of cards punched per hour varied according to the experience of the punching machine operator and the type of card. The average number of cards punched per hour for each card type was as follows:

Type of card	Average number punched per hour	Type of card	A verage number punched per hour
All cards	147	I J K	150 47 187
C G H.	158 133 167	L M N	102 162 114



FIGURE 29.—Punch cards used for the 1954 Census of Agriculture.

# CENTRAL OFFICE PROCESSING



FIGURE 30.---I B M type 024 Punching Machine.

Figures 31 and 32 indicate the relationship of the weeks of experience of punching machine operators to the number of cards punched for C card at the Pittsburg Operation Office and for the H card at the Detroit Operation Office. The quantity of cards punched per hour was influenced by a system of incentive pay. Operators who punched more than a prescribed number of cards of acceptable quality during a 2-week period were given extra pay for each 100 cards punched above the established standard. Incentive pay was paid for approximately one-third of all cards punched and approximately 71.4 percent of all cards were punched by operators during periods for which they received incentive pay.

The punching of cards was verified either completely or on a sample basis. The purpose of verification was not to eliminate all errors but to insure that the level of errors was kept within acceptable levels. Until the verification of punched cards indicated the work was of satisfactory quality, the work of each punching machine operator was verified 100 percent. Verification was performed by the use of a manually operated verifier. (See fig. 33.) All cards found in error were corrected.

As soon as it was determined that less than 6 percent of the cards punched by a punching machine operator contained errors and that the number of cards not punched did not exceed 1.2 percent, only a sample of 4 percent of the work of the card punching machine operator was verified. However, when the errors found in the 4-percent sample indicated that the quality of the work was not acceptable, the work of the operator was verified 100 percent, until the record of errors indicated that the work was of satisfactory quality. Card punching machine operators were required to produce work of acceptable quality within a given time period in order to be retained as an employee and in order to receive incentive payment for the work performed in excess of established standards. Card punching machine operators with the poorest work performance were assigned to verification work. Except for excess cards (cards representing unusually large quantities for an item), cards found in error during verification on a sample basis were not corrected.

The use of sample verification of cards resulted in a saving of approximately 140,000 man hours. The number and proportion



FIGURE 31.---C cards punched per hour by weeks of experience, Pittsburg Operations Office.

Wasks of

20

Experience

10

of the cards verified on a 100 percent basis and on a sample (4 percent) basis by two-week periods were as follows:

	Cards verified			
Period	Total	On 100 percent basis	On a sample basis	
Prior to Mar. 13 Mar. 14 to Mar. 20 Mar. 27 to Apr. 0 Apr. 10 to Apr. 23 Apr. 24 to May 7 May 8 to May 21 May 22 to June 4 June 5 to June 18 June 19 to July 26 July 17 to July 20 July 31 to Aug. 13 Aug. 14 to Aug. 26.	2, 567, 911 2, 732, 089 2, 346, 108 2, 476, 149 2, 169, 117 2, 278, 096 2, 470, 653 1, 885, 249 1, 966, 001 1, 909, 290	Percent 23.9 6.1 4.2 4.7 4.1 4.6 3.6 3.9 27.6 3.7 2.7 0.7 0.5	Percent 76. 1 93. 9 95. 8 95. 9 95. 4 96. 4 96. 1 72. 4 96. 1 72. 4 96. 3 97. 3 99. 3 99. 5	

Correction of punching and other errors prior to publication.— The checking for errors before the publication of data was performed at three stages—before tabulation, after tabulation, and just prior to publication.

Before tabulation, all punch cards were subject to an examination by means of electric statistical machines for possible errors. Mechanical methods were used to select punch cards which lacked required information, those on which the data punched were inconsistent or unreasonable, and those with data of sufficient importance to warrant further verification. Specifications were established for each card type so as to select cards having any of the characteristics of these three groups and all cards were passed through the Census Multicolumn Sorter for the purpose of selecting these cards. Before the selection of error cards was made, reproductions of C cards were made, so that the information for only one crop appeared on a C card. (The information for as many as 3 crops was punched on a C card. See fig. 26.) The specifications for the selection of cards for further verification were as follows: (See fig. 26 for copies of the cards and fig. 1 for a copy of the Agriculture Questionnaire.)



FIGURE 32.-H cards punched per hour by weeks of experience, Detroit Operations Office.



### All Cards

- 1. All excess cards. (These were cards punched for entries with figures larger than the maximum number that could be punched in the column or columns provided on the punch card.)
- 2. All cards with misplaced "X". If there was no entry on the questionnaire for an item, an "X" was to be punched in the first column provided for punching the item on the punch card. Cards with the "X" punched in a column other than the first column would contain errors, and hence were selected.

### Card A

- 1. The number of acres for any land use greater than the total acres in the farm.
- 2. "Total land" divided by ten (10) greater than any use.
- 3. Acres reported as "improved other pasture" greater than all other land used for pasture.
- 4. 1,000 or more acres in any CROPLAND group.
- 5. 20 acres or more of cropland harvested for a card with a code of 8 for economic class.
- 6. Cards classified as "cropland wholly irrigated" with a number for "acres of total cropland harvested" in excess of "irrigated cropland harvested."
- 7. Cards classified as "cropland partly irrigated" with the same entries for "total cropland harvested" and "irrigated cropland harvested."
- 8. Any entry for "acres of irrigated cropland harvested" in excess of "total acres of cropland harvested."
- 9. No number for "acres of irrigated land" with an "irrigatedfarm" code.
- 10. Any entry of less than 10 years for "age of operator."
- 11. Any entry for "year began operation" between 55 and 99 indicating the years 1855-1899 or 1955 to 1999.
- 12. All cards for farms of less than 3 acres.
- 13. All entries for color code, tenure code, or class code other than those provided for by the coding scheme.
- 14. Any entry for "irrigated pasture," greater than the entry for "cropland pastured" or the entry for "improved pasture."
- 15. The number for acres in either "conservation practices" greater than the acres for "cropland harvested."
- 16. The economic class code of 9 with a code for type of farm other than 12.
- 17. Any "crop" type of farm code and no entry for "acres of cropland harvested."
- 18. 1,000 or more total acres in farm not classified as a "specified farm."

### Card C for corn

- 1. Total acreage of corn for all purposes reported without an entry of acres for grain, silage, or hogged off.
- 2. Total acreage for all purposes less than the acreage reported for any use.
- 3. Any "total acreage" report of 400 or more acres.
- 4. All reports with quantity harvested without acreage harvested or acreage harvested without quantity harvested.
- 5. All reports of 1,000 or more bushels of grain per acre harvested for grain.
- Any total production of 1,000 bushels of grain on a farm having \$1,200 or less "value of all products sold."
- 7. 100 or more tons of silage produced per acre harvested, or 200 tons or more in total.
- 8. Less than 1 ton of silage per acre harvested.
- 9. Bushels of corn sold exceeding bushels of corn harvested for grain.

### Card C for sorghums

- 1. Total acreage for all purposes without an amount either for acreage for grain, acreage for silage or acreage hogged or grazed.
- 2. Total acreage for all purposes less than the acreage for any use.
- 3. Any total acreage for all purposes of 400 or more acres.
- 4. All reports with quantity harvested without acreage or acreage harvested without quantity harvested.
- 5. All reports of 1,000 or more bushels of grain per acre harvested, 100 or more tons of silage per acre, or 10 or more tons of hay per acre harvested.
- Acres exceeding the corresponding quantity harvested except for acreage hogged off which required no quantity harvested entry.
- 7. Bushels of grain sold in excess of bushels of grain harvested.

#### Card C for crops other than corn and sorghum

- 1. Quantity harvested without acreage. When space for quantity was provided for on the questionnaire, all reports of acreage without quantity harvested.
  - In addition to the general specifications for all crops there were additional conditions for specific crops as follows:

#### Small Grains, Sugarbeets, Tree Fruits

- 1. Production in excess of 100 units per acre or per tree of bearing age.
- 2. Quantity harvested less than quantity sold or acreage harvested.

### Hay Crops, Cotton

- 1. Production in excess of 10 units per acre harvested.
- 2. Less than one-tenth unit of production per acre harvested.

#### Tobacco, Seed Crops, Potatoes

- 1. Production in excess of 1,000 units per acre harvested.
- 2. Less than 1 unit of production per acre harvested.

#### Small Fruits

1. Production of 100 or more units without acreage.

#### Vegetables

1. Ten or more acres of any crop.

#### Other Crops

- 1. Twenty or more bushels of potatoes without acreage.
- 2. Production of tree fruits or nuts with entry for trees of nonbearing age only.
- 3. Trees of bearing age in excess of 100 with no entry for quantity harvested.
- 4. Entries of acreage harvested without quantity harvested.

#### Card G

## 1. All sales of \$1,000 or more.

- 2. More than 100,000 board feet of lumber cut with no entry for the sale of forest products.
- 3. No dollar amount representing sales but with an entry of 100 or more cords of firewood cut, or 1,000 or more fence posts cut or any number of cords of pulpwood cut.
- Maple trees tapped without report for maple syrup made; or gallons of syrup or pounds of sugar made and no numberfor number of trees tapped.
- 5. More than 1 gallon of syrup or one-tenth pound of sugar per tree tapped.
- 6. Any report of \$50,000 or more for sales of horticultural products.
- 7. Any report of acreage or glass area in horticultural specialties with no number for "value of sales"; or value of sales and no amount for area.

- 1. Number of total cattle reported without a number for any age-sex subgroup.
- 2. 100 or more cows on hand with no calves or heifers on hand.
- 3. Number of cows milked yesterday greater than total number of cows on hand.
- 4. Number in any age-sex subgroup greater than number of total cattle.
- 5. Number of milk cows on hand exceeding total of all cows.
- 6. Less than one-tenth of milk cows on hand reported as having been milked yesterday.
- 7. Milk cows on hand numbering five or more and none reported as having been milked yesterday.
- 8. More than 10 gallons of milk production per cow milked yesterday.
- 9. An amount punched for quantity of whole milk or cream sold without an amount for dollars or the number of dollars without the quantity sold.
- 10. Ten or more cows milked yesterday with no amount of dairy products sold for the year.
- 11. More than \$1,000 income from dairy products sold for every cow milked.
- 12. Milk reported as being sold for less than 10 cents a gallon or less than 1 cent a pound.
- 13. Value of cream sold more than \$10 per pound of butterfat or less than 10 cents per pound of butterfat.

#### Card I

- 1. Number of horses or mules greater than the total of both kinds.
- 2. Number of hogs in either of two age groups larger than total for both groups.
- 3. A number for total hogs with no number for either age subgroup.
- 4. Ten or more total hogs on hand and none sold.
- 5. The number of "hogs born before June 1" less than the total of all ages without a number for "hogs born since June 1."
- 6. The number of "sows farrowed or to farrow" greater than "total hogs on hand."
- 7. Two or more sows on hand but no report for "hogs sold."
- 8. The average value of hogs sold less than 1 each.
- 9. The average value of calves sold less than \$1 each.
- 10. The average value of cattle sold less than \$1 each.
- 11. The average value of sheep or lambs sold less than \$1 each.
- 12. The average value of horses or mules sold less than \$1 each.
- 13. The value of hogs sold averaging more than \$100 each.
- 14. The value of cattle or calves sold averaging more than \$1,000 each.
- 15. The value of sheep sold averaging more than \$100 each.

#### Card J

- 1. All cards with a number for sheep 1 year of age or over with no number for "wool shorn."
- 2. All cards with number for total sheep with no number for the age-sex classification. All cards with the number for the age-sex group exceeding the total sheep.
- 3. All cards with 100 or more pounds of wool per sheep shorn or less than 1 pound per sheep shorn.
- 4. All cards with total goats and with number for kind of goats not shown.
- 5. All cards with more than 10 pounds of mohair per goat clipped or less than 1 pound of mohair per goat clipped.
- 6. All cards with a report for goats clipped less than one-tenth of the number of Angora goats on hand.

Card K

- 1. All cards with 100 or more chickens on hand with no number for either chickens sold or eggs sold.
- 2. All cards on which the amount for "value of other chickens sold" or amount for "value of broilers sold" is less than onetenth of the number punched for "number sold."
- All cards on which the amount for "value of other chickens sold" or the amount for "value of broilers sold" is more than ten (10) times the number punched for "number sold."
- 4. All cards on which the amount for "value of eggs sold" is more than ten (10) times or less than one-tenth (1/10) the number representing "dozen sold."
- 5. All cards with ten or more turkeys raised or 100 or more of "poultry other than chickens or turkeys" raised without a report of sales for "other poultry and poultry products" or miscellaneous poultry reported as sold and no entry for "number raised."
- 6. All cards with 1,000 or more chickens on hand.

#### Card L

- 1. Numbers for value of land and buildings larger than 1,000 times the number for acres.
- 2. Land values of less than \$1 per acre provided value was reported.
- 3. Acres of "land rented to others" in excess of entry for "land owned" or "land rented from others."
- 4. Entry for "cash rent paid" greater than 10 percent of "value of land rented from others," or no entry for acres rented from others but with an amount for "cash rent paid."
- 5. Any column for farm facilities punched other than "yes" or "no."
- 6. "Yes" report for "mortgage debt" with no number for "acres owned."
- 7. A card coded as "livestock-share tenant" with a crop type of farm code.
- 8. Cards with incorrect tenure codes such as:

Full owner with no "land owned."

Part owner with no entry for either land owned or land rented from others.

Tenant with no entry for "land rented from others" or with entry for "land owned."

Manager with no entry for "acres managed."

Economic class codes 8 or 9 with entry "other than miscellaneous" for type of farm.

- 9. Report of "value" without an accompanying acres entry.
- 10. Ten or more ponds, 3 or more garden tractors.
- 11. Any digit in column for class, color, tenure, type of farm codes other than that specifically provided by the code.

#### Card M

- 1. All cards representing \$20,000 or more for any expenditure.
- 2. Hired labor expenditures of \$5,000 or more without hired workers on farm or any number of hired workers with no amount shown for cash expenditure for hired labor.
- All reports of \$5,000 or more of expenditures for gasoline and oil, or for machine hire, and any hired labor in amount of \$5,000 or more, if the economic class code was 5 or higher.
- 4. Any number for total hired workers without the number to be employed "less than 150 days" or "more than 150 days" or the number of workers in either of these subgroups exceeding the total or the number of workers unequal to total workers when only one subgroup was reported.
- 5. Any card with reports for monthly, weekly, or daily workers with the corresponding reports for the number of hours, number of workers, or amount of wages paid missing.
- 6. All reports for hourly workers with either the number of workers or the rate of pay missing.

#### Card M-Continued

- All reports for hours worked by monthly workers of 400 or more hours or less than 100 hours, for weekly workers of 100 or more hours or less than 20 hours, and for daily workers of 20 or more hours.
- 8. Any card representing 10 or more workers for any basis of pay group.
- 9. All cards whereon all the expenditure items were punched "X."
- 10. All punches for color, tenure, economic class, or type of farm other than that provided by the appropriate code.

#### Card N

- 1. More tons of fertilizer applied to crops than the total of tons purchased.
- 2. More than 200 pounds of fertilizer applied per acre of hay or pasture.
- 3. More than 1 ton of fertilizer applied per acre of crop fertilized.
- 4. Absence of number for either tons, cost, or acres on which applied.
- 5. An amount for tons of fertilizer purchased with no entry for "acres of crops on which used."
- 6. Absence of number for lime for either tons, cost, or acres on which applied.

The number of cards selected for each type for further verification was as follows:

Card type	Total number	Cards selected by mechanical edit		
	of cards	Number	Percent of total cards	
All cards	38, 410, 859	3, 143, 893	8.2	
A. C-1 (corn). C-2 (sorghums). C-3. G. H. J. J. K. L. M. N.	372, 657 14, 828, 890 1, 141, 986	$\begin{array}{c} 274,508\\ 215,494\\ 62,883\\ 1,188,824\\ 52,013\\ 452,188\\ 160,862\\ 58,473\\ 101,619\\ 205,288\\ 202,209\\ 169,532\\ \end{array}$	5.7 7.3 16.9 8.0 4.6 12.3 4.2 14.7 2.9 18.7 18.7 26.4	

All cards selected by the mechanical edit were listed on an IBM type 402 tabulating machine (see fig. 41). These listings were reviewed by members of the technical staff. Cards that appeared to be in error were marked on the listings. These cards and all excess cards (cards containing very large entries) were checked to the Agriculture Questionnaires and corrections were made when required. The following table indicates the number and proportion of each type of card corrected.

	Cards corrected			
Type of card	Total number of cards	Percent of cards selected	Percent of total cards punched	
All cards	1, 327, 918	42.2	3. 3	
A C-1 (corn) C-2 (sorghums) G H I J. K L M N.	152, 500 117, 940 22, 091 394, 100 11, 947 198, 839 75, 881 6, 784 50, 712 70, 470 152, 869 73, 785	55. 6 54. 7 35. 1 33. 2 23. 0 44. 0 46. 4 11. 6 40. 9 34. 3 75. 6 43. 5	$\begin{array}{c} 3.2\\ 4.0\\ 5.9\\ 2.7\\ 1.0\\ 5.4\\ 2.0\\ 1.6\\ 1.4\\ 6.5\\ 14.1\\ 11.5\end{array}$	

Checking for errors after tabulation involved the checking of totals for counties, minor civil divisions, or other geographic areas for possible mistakes. Part of this checking was clerical in nature, and involved the checking for consistency of totals for the same or similar item on various tabulations. The major part of this checking was performed by technical staff and involved comparison of totals, averages and ratios for adjacent areas, for the 1954 and prior Censuses, and of totals and averages with data secured from other sources.

Prior to publication, the data in statistical tables were checked and reviewed. Checking comprised the comparison of data in various tables for consistency and the review involved the visual examination of the data by the technical staff.

### ADJUSTMENT OF DATA FOR THE SAMPLE PRIOR TO TABULATION

**Description of the sample.**—The sample used for the 1954 Census of Agriculture consisted of specified farms and one-fifth of the remaining farms. Thus, the sample for most areas comprised somewhat more than 20 percent of all farms and in fact represented 22.5 percent of all farms in the United States. Farms in the sample comprised a larger proportion of all farms in the Western States than in other geographic areas.

The actual selection of farms in the sample was made by Census enumerators as part of the enumeration procedure. The enumerator listed the head of each household or each place on a single line on Form A2 and determined whether an agriculture questionnaire was to be obtained. If he filled an Agriculture Questionnaire, he was required to indicate in which one of the 5 size-of-farm groups the farm belonged. Each line on the Form A2 contained squares listing 5 size-of-farm groups. The enumerator was required to indicate for each farm or place enumerated in which of these 5 size-of-farm groups, the farm or place belonged. A random fifth of the squares for each of four of these 5 size groups was lightly shaded. (See fig. 9 for a facsimile of a page of Form A2.) If the farm was indicated as belonging in a shaded square, the farm was included in the sample. The fifth square, always shaded, was provided for indicating all farms of 1,000 acres or more; thus all farms of 1,000 or more acres were included as a part of the sample.

In some States, all farms with more than a specified acreage of cropland harvested, or irrigated cropland harvested, or more than a specified number of total cattle and calves on hand, milk cows on hand, or chickens sold also were included in the sample regardless of the size of farm. These farms, and all farms of 1,000 acres or more, were designated as "specified farms."

Adjustment of the sample.—For the 1954 Census of Agriculture, it was considered desirable to make adjustments in the sample in order to improve the accuracy of estimates based upon tabulation of data for the sample.

An adjustment in the 20 percent part of the sample was made by a process essentially equivalent to stratifying the farms in the sample by size, for the purpose of (1) improving the reliability of the estimates from the sample on an economic area level, and (2) for the purpose of reducing the effects of possible biases introduced because some Census enumerators did not follow perfectly the method devised for selecting the farms in the sample. In order to adjust the sample for each State economic area, counts were obtained of all farms except "specified farms" and of sample farms except "specified farms" for each of ten size-of-farm groups based on "acres in this place." The 10 size-of-farm groups were as follows: Under 10 acres, 10 to 29 acres, 30 to 49 acres, 50 to 69 acres, 70 to 99 acres, 100 to 139 acres, 140 to 179 acres, 180 to 259 acres, 260 to 499 acres, and 500 to 999 acres. In determining the extent of the adjustment the difference between the number of farms in the sample exclusive of "specified farms" and the total number of farms exclusive of "specified farms" divided by 5 was obtained for each size group. The actual adjustment for each size group in the sample was made by eliminating tabulating cards for farms when too many were included in a size group and by duplicating all tabulating cards for one or more farms when too few were included in the sample size group. The farms for which all the information was eliminated or duplicated were selected at

random from counties over- or under-represented in each size group in the State economic area. Although adjustments were made in 98 percent of the counties in the United States, the gross adjustments involved were small, averaging 3.2 percent for farms eliminated and 4.0 percent for farms duplicated for the United States. These adjustments are summarized in the following table:

SUMMARY OF SAMPLE ADJUSTMENT BY SIZE OF FARM FOR THE UNITED STATES: 1954 CENSUS OF AGRICULTURE

Size of farm Number of farms Farms Farms duplicator dupli- ented nated elimi- cuted nated size farms farms farms farms furgers farms	ljustmont
of farms Farms Farms Farms dupil- elimi- plus farms	
cated nated childhated	(number
Total 4, 782, 416 37, 181 29, 928 67, 110	+7, 243
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} +5,565\\ +3,162\\ +1,436\\ +742\\ -120\\ -601\\ -2,246\\ -3,223\end{array}$

In order to illustrate the sample adjustment process, the actual calculations for Economic Area 3b in New York consisting of Chemung, Schuyler, Steuben, Tioga, and Tompkins counties is described. The following table shows the summary for the State economic area, of the total number of farms in each size group; the sample number that would be expected in a 20 percent sample, obtained by dividing the total number excluding "specified farms"

Size group (total acres in place)	Total number farms ¹	Expected number in sample (total number divided by 5)	Actual number in sample as desig- nated by enumer- ator	Differ- ence be- tween expected number and actual number	Adjustments to be made
Under 10	491	98. 2	90	-8.2	Duplicate information on 8
10 to 29	596	119. 2	99	- 20. 2	questionnaires. Duplicate information on
30 to 49	492	98.4	105	+6.6	20 questionnaires. Eliminate information on 7
50 to 69	734	146.8	142	4.8	questionnaires. Duplicate information on 5
70 to 99	988	197.6	200	+2.4	questionnaires. Eliminate information on 2
100 to 139	1, 379	275.8	258	-17.8	questionnaires. Duplicate information on
140 to 179	1,007	201.4	192	9.4	18 questionnaires. Duplicate information on 9
180 to 259	1, 247	249.4	267	+17.6	questionnaires. Eliminate information on
260 to 499	1, 103	220, 6	230	-+-9.4	18 questionnaires. Eliminate information on 9
500 to 999	199	39. 8	43	+3.2	questionnaires. Eliminate information on 3 questionnaires.

¹ Excludes specified farms.

by five; the actual number designated as sample farms, the difference between the expected number and the actual number, and the direction of the adjustments specified in each size group.

The direction of the adjustments to be made in each size group was determined by the direction of the net difference for all counties in the State economic area. To illustrate the allocation of adjustments among counties, data are given for size group "under 10 acres" in the preceding table.

County	Total number farms ¹	Expected number sample farms	Actual number sample farms	Difference
Chomung Schuyler Steuben Tioga Tompkins Total	69 113 121	15. 6 13. 8 22. 6 24. 2 22. 0 08. 2	10 13 20 25 22 90	$ \begin{array}{r} -5.6 \\ -0.8 \\ -2.6 \\ +0.8 \\ 0.0 \\ \hline -8.2 \\ \end{array} $

¹ Excludes specified farms,

In this illustration 8 duplications were allocated to Chemung, Schuyler, and Steuben counties as the original sample in these counties was less than 20 percent. Tioga and Tompkins counties were not assigned adjustments in this size group because the original sample was equal or greater than 20 percent. The actual allocation of the adjustments to the various counties was made one at a time and each adjustment was assigned the county with the greatest ratio for the difference between expected sample size and actual sample size to the standard deviation. In this example the ratios were as follows: Chemung County, 1.59; Schuyler County, 0.24; Steuben County, 0.61. Therefore, the first adjustment was assigned Chemung County. After this adjustment the new ratio for Chemung County became 1.30; the difference for that county continued to be the largest, therefore, the second adjustment was made in Chemung County. The table at bottom of page indicates the sequence of adjustments as they were determined.

The selection of the questionnaire for which the tabulating cards were to be duplicated (or eliminated) was made by a random process. In this example, 5 questionnaires were selected at random from the 10 farms with less than 10 acres in Chemung County, for duplication.

When the questionnaires to be duplicated or eliminated had been selected, colored finder tabulation cards with "ears" were punched with the identifying information for these questionnaires and these cards were inserted with the punch cards for the county. These finder cards readily identified cards for questionnaires that were to be duplicated or eliminated. Cards to be eliminated were removed from the file before making the tabulations and cards to be duplicated were duplicated with a reproducing punch and placed in the file for tabulating. The adjustments for the sample were made only when the cards for the sample were to be used for making tabulations.

Chemung County		Schuyler County		Steuben County	
Ratio ¹	Adjustment	Ratio ¹	Adjustment	Ratio 1	Adjustment
1.59 1.30 1.02 .74 .45 .17	Assigned 1st adjustment (duplication). Assigned 2d adjustment. Assigned 3d adjustment. Assigned 4th adjustment. Assigned 6th adjustment.	0. 24	Assigned 8th adjustment.	0, 61 . 38 . 14	Assigned 5th adjustment. Assigned 7th adjustment.
Summary	5 adjustments assigned Chemung County	1 adjustment assigned Schuyler County		3 adjustm	ents assigned Steuben County

Ratio of the deviation of the sample number from the expected sample number to the standard deviation.
#### TABULATION

All tabulating work was performed by the use of punch cards by electric tabulating equipment. The table below indicates the number and duration of use of various types of punching and tabulating equipment for the Census, including the preparation of special tabulations for special reports. The tabulations were prepared using Census-built and International Business Machine Company statistical machines. (See table below and figs. 34 to 43.)

Tabulation sheets showing tabulations made by counties appear in the appendix. Tabulations made for State economic areas and for subregions were similar to those made by counties. Tabulations for the L, M, and N cards at the county level and for all tabulations for State economic areas and for subregions included only the cards for farms in the sample. As it was necessary to multiply the totals for cards for farms, except specified farms, in the sample by 5 in order to obtain an estimated total for all farms, tabulating machines were modified to mechanically make this multiplication during the tabulating. Illustrative examples of the various diagrams used on the several tabulating machines are given in figures 44, 45, 46, and 47.

Several steps were taken to maintain quality of the tabulating work. For most tabulations, card counts were established in advance and if the tabulation did not show a total card count within 3 of this control count, the tabulations were not usually considered acceptable and were rerun. In order to prevent errors arising because of machine failure, test decks of cards (see fig. 48) were established for each tabulation. These test decks were tabulated 4 times each 8 hours and if the tabulation did not show the correct totals, immediate steps were taken to locate the cause of the error. Immediately after the completion of tabulations, the tabulated data of a sample comprising one-tenth of the horizontal lines were examined for evidence of machine errors.

#### NUMBER OF PUNCHING AND TABULATING MACHINES BY TYPE USED BY MONTHS FOR THE 1954 CENSUS OF AGRICULTURE*

Month and year	Punching machine (IBM type 024)	Punching machine used for card correction (IBM type 031)	Collator to match, mergo, and check sequence of cards (IBM type 077)	Sorting machino (IBM type 082)	Counting and tabu- lating machine (IBM type 101)	Tabulating machine (IBM type 402)	112 counter accounting machine capacity 160 cards per minute (IBM type 407)	Reproduc- ing gang- punching, summary punch machine eapacity 100 cards per minute (1BM type 514)	90 or 120 selector combina- tion multi- columm sorter and 60 counter unit tabu- lator (Census machine 487 and 489)	Multi- column sorter 80 column board wired (Census macbine 488)	Census 60 counter unit tabu- ulator old type not combined with multi- column sorter (Census machine 581)	Census 60 counter unit tabu- lator combined with multi- column sorter with moderni- rations (Ocnsus type 582)
1954 November December	43 207			1 1		1		1 1				
1955 January February March April	327 328 330 315	18 26 26 26	2 3 3 5	9 9 15 18	1 1 5 7	1 6 12 12		7 8 12 12	5 8 11 14	2 2 3	3 3 4 4	1 2 3 3
May June July August	299 299 236 116	26 26 26 26	3 6 5	18 18 24 27	8 8 10 10	12 15 17 14	2 5 5	10 13 14 12	14 14 15 15	.3 3 5 5	4 4 4	3 3 3 3
September October November December	3 1 1 1	26 9 9 6	5 3 2 1	27 21 21 17	10 6 6 5	11 8 8 6	5 5 5 5	7 7 6 5	14 13 13 13	5 5 5 5	4 5 5 5	3 1 1 1
1956 January February March April	1 6 13 36	3 8 4 6	4 3 3 2	10 11 11 11	5 5 3	4 4 4 4	3 3 3 3	6 6 6	13 6 6	5 	7	1
May June July August	76 18 18 8	7 2 2 1	2 1 1	6 6 5	1	3 3 3 2	1	4 4 4 2	3 3 1 1	1 1 1		
September October November December	11 9 7 7	2 2 2 2 2		5 9 5 5		2 3 2 2		2 3 3 2		1		

*IBM refers to machines of the International Business Machines Co.







# CENTRAL OFFICE PROCESSING



FIGURE 36.-I B M type 101 counting and tabulating machine.





FIGURE 38. - I B M type 407 accounting machine.



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# CENTRAL OFFICE PROCESSING





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# CENTRAL OFFICE PROCESSING

FIGURE 44.--Illustrative example of wiring diagram, type 101, control panel.



FIGURE 45.—Illustrative example of wiring diagram, type 402-403, control panel.



IBM

INTERNATIONAL BUSINESS MACHINES CORPORATION ACCOUNTING MACHINE, TYPE 407 CONTROL PANEL



FIGURE 46.-Illustrative example of wiring diagram, type 407, control panel.

120 OL U. B. A



FIGURE 47.—Illustrative example of wiring diagram, unit counter 101.

# CENTRAL OFFICE PROCESSING



Figure 47.--Illustrative example of wiring diagram, unit counter 101-Continued.

CARD -11 スパットをうたい書での意味をうたたちたちのたちのであたちたちでのたちのであたとうたちのたちあたちのあたちのたちたちたちのたちのたちのたちのたちのたちのたちのたちの ALL DESCRIPTION OF A DE TORDERS AND AND AND ADDRESS AND AD UNALLY ADDRESS OF TAXABLE PARTY. TATALAS AND ADDRESS OF TAXABLE PARTY. 44

FIGURE 48.-Test decks of cards used to discover tabulating machine errors.

# EVALUATION OF THE COMPLETENESS OF THE CENSUS

Generally, reliable data to indicate the completeness of the Census of Agriculture are not available from other sources. Programs for providing measures of the completeness of the Census were a part of the 1950 and 1954 Censuses of Agriculture. These programs required the making of a special survey to provide estimates regarding the completeness of the counting of the number of farms, and the acres of land in farms, cropland harvested, corn, wheat, and cotton.

For 1954, two samples were used for this special survey. The first sample comprised 772 small geographic areas or segments in rural areas in 319 counties. These small areas usually contained 4 or 5 farms each and the total number of farms for all these areas was 2,800. The location of the 319 counties containing these small areas is indicated by figure 49.

The sample of segments was selected by grouping the counties in the United States in 200 groups so that each group had slightly less than 30,000 farms according to the 1950 Census of Agriculture. For each of these groups, a sample of counties was selected with probabilities proportionate to the number of farms in 1950. In the part of the 200 groups of counties, where the acreage of wheat and cotton was important, the selected sample was spread among about 50 additional counties in order to reduce variability of the sample for the acreage of wheat and cotton. Within the counties selected for the sample, a sample of segments, each comprising 3 to 5 farms, was selected so that the sample would be self-weighting at the proportion of 1 in 1,500.

The second sample was obtained after the completion of the enumeration by drawing the boundaries of the 772 segments on the enumerator's maps and making a list by the use of the Form A2 of all places which the Census enumerator indicated as located within the segment area. This list sample, covered to a large extent, the same places and farms as the 772 segment sample. This list sample was supplemented by taking a sample of 1 out of 950 farms of 1,000 to 9,999 acres (this resulted in a sample of 120 farms) and a sample of 1 in 20 of all farms of 10,000 acres or more (this resulted in a sample of 365 farms).

The evaluation program called for the re-enumeration of all places in the 772 segments and all places listed in the list sample. A group of 60 specially selected and trained enumerators were used for this re-enumeration. They were given 40 hours of training and were provided with detailed questionnaires for recording the information. Aerial photographs or other detailed maps were given them for the 772 segments. The enumerators were required to indicate on the aerial photograph (see fig. 50 for an illustrative example) or on special maps, the location, and boundaries of every field within the segment. Detailed information regarding the area and agricultural use of each field was obtained. Enumerators were required to account for the area of the segment. Enumerators were instructed to fill Agricultural Questionnaires for any place or farm found in the segment and not included in the list sample. For places and farms in the list sample, and not located within the 772 segments, enumerators were instructed to obtain detailed information regarding the area comprising the farm and its agricultural use.

After the completion of the reenumeration the reports of the special enumerators were checked against the Agriculture Questionnaires filled by the Census enumerators by Central Operations Office personnel. In all cases, when there were significant differences between the two reports, another special enumerator was sent to check and obtain a report for the reasons for the differences.

Estimates on farms missed in the Census were obtained on the basis of detailed records and maps of all places located within the 772 segments. Estimates on the coverage of land in farms, and the acreage of cropland harvested, wheat, corn, and cotton harvested were based on the detailed data for farms included in the list sample, and located outside the segment as well as on the detailed data for farms in the 772 segments.



FIGURE 49.-Evaluation program-Location 319 counties comprising sample used in evaluating completeness of enumeration.



FIGURE 50.—Aerial view with sample segment delineated.

#### PREPARATION AND PUBLICATION OF REPORTS

Reports are the important end product of a Census. The kinds of data to be published determine not only the content of the questionnaire but also the kinds of tabulation made.

The form of reports was related to timing. Every effort was made to make the basic data for counties and States available as soon as possible. The series of releases AC54-1 and AC54-2were issued with data for each county and State as soon as the data became available. (See appendix, figs. 51 and 52, for facsimiles of these releases.) The time schedule for the issuance of preliminary release, AC54-1, is given on page 13. Final reports appeared in three volumes. Volume I contained detailed data for counties, State economic areas, and States. Volume II contained a summary by subject for States and geographic divisions of the data presented in Volume I. Volume III comprised special reports. A list with a brief description of all final publications for the 1954 Census of Agriculture appears on page IV.

The publication process.—Generally, the offset or multilith printing process was used for printing reports for the 1954 Census of Agriculture. The setting of type was limited largely to texts for all reports and for the preparation of analytical reports.

In preparing copy for printing, work tables were prepared from the tabulations. These work tables (see appendix, fig. 53 for an illustrative example) had preprinted stubs and an indication of the source of the data. The data were posted on these forms and tables were reviewed by subject-matter technical staff before being sent for typing for offset printing or multilithing. Preprinted forms (see fig. 54 for an illustrative sample) were used for preparing typed copy. The typing was performed with electric typewriters. After typing, a photoprint was made of the typed table and this photoprint was used for verification of the typing. Verification of the typing was usually accomplished by proofreading headings, notes, and a sample of the lines containing data for each page. The verification of data was usually accomplished by adding the typed data and checking with established totals.

**Printing.**—The printing of preliminary reports was performed by the Department of Commerce. The printing of final reports (Volumes I, II, and III) was performed by the United States Government Printing Office, using either its own facilities or that of contractors.

APPENDIX

#### DESCRIPTION OF PRELIMINARY REPORTS OF THE 1954 CENSUS OF AGRICULTURE

Series AC54-1.—One 4-page report for each county and for each State in the United States, one summary report for the United States, one each for the North, the South, and the West.

These reports presented preliminary results on number of farms, farm characteristics, acreage in farms, value of land and buildings, uses of land, farm facilities and equipment, specified classes of livestock, specified crops harvested, and fertilizer and lime used. Available comparable data from the 1950 Census of Agriculture were also included.

Series AC54-2.—Value of Farm Products Sold by Source.—This series supplemented Series AC54-1. There was one report for each. State with data by counties, and one for the United States with statistics by States. The report presented information on the value of sales of field crops, vegetables, fruits and nuts, and horticultural specialties; the value of sales of dairy products, poultry and poultry products, livestock and livestock products; and the value of sales of forest products.

Series AC54-3.—Consisted of preliminary reports presenting data on selected items from the 1954 Census of Agriculture as follows:

No. 1—Farm Expenditures for Gasoline and Other Petroleum Fuel and Oil.

- No. 2—Farm-Mortgage Debt Rises with Increasing Farm Land Values.
- No. 3—Summary of selected items from the 1954 Census of Agriculture by Congressional Districts, by States. Data were presented for number of farms, value of products sold, selected facilities, and principal crops, for Congressional Districts with 1,000 or more farms.

**Press releases.**—Several hundred advance reports, on almost as many subjects, were prepared and issued as press releases. Among these releases were reports on the following:

Statistics for selected items of inventory and agricultural production for the leading 100 counties of the United States.

Sales from farms of different economic classes, for States and for the United States.

Summary reports for the United States on selected items such as farms classified by value of farm products sold in 1954; average age of the American farmer; increase in farm facilities and equipment; expenditures for selected items; etc.

All preliminary and advanced reports or releases were superseded by the final volumes of the 1954 Census of Agriculture. For a description of final reports, see page IV. LIBERTY COUNTY, GEORGIA

#### 1954 CENSUS OF AGRICULTURE-Preliminary

#### FARMS • FARM CHAPACTERISTICS • FARM PRODUCTS

April 1955

(57-089) Series AC54-1

Bureau of the Census

**U. S. DEPARTMENT OF COMMERCE** 

This release presents figures from the 1954 Census of Agriculture, together with available comparative data from the 1950 Census of Agriculture. The figures from the 1954 Census are preliminary and are subject to revision. A similar report will be released for every county in the United States. A preliminary report, carrying State totals only, will be issued following the publication of figures for all of the counties in the State. After that, final figures for this county and for other counties in the State will be published in a State Report. Generally, the data for both 1954 and 1950 are based upon the tabulation of reports for all farms in the county. However, the 1954 and 1950 data for items followed by a star ( $\pi$ ) represent estimates for all farms inade on the basis of reports from a sample of approximately 20 percent of the farms. These estimates are subject to sampling errors and hence will not agree exactly with totals obtained by a tabulation of data for all farms. Inventory items are for October-November for 1954 and for April for 1950; and production items are for the calendar years 1954 and 1949.

County total Item County total Item FARMS, ACREAGE, AND VALUE FARMS BY SIZE 236 159 67 6 Farms.....number 1954. 607 548 326,400 31.0 1950... 3 acres.....number 1954. 1950 ... 169 153 172 3 to 9 acres.....number 1954 101,029 1950... 107,554 10 to 29 acres.....number 1954... 1950... Average size of farm.....acres 1954... 166.4 175 68 64 31 39 20 25 15 7 68 3 9 5 7 16 17 4 14 18 14 30 to 49 acres.....number 1954... 1950 ... 196.3 1950... Value of land and buildings⁴.....average per farm, dollars 1954... 1950... 10,217 50 to 69 agres.....number 1954.. 1950... 6,018 51.81 mber 1954... 1950... 70 to 99 acres..... average per acre, dollars 1954 .... 1950... 33.36 100 to 139 acres.....number 1954... Land in farms according to use: 1950... 140 to 179 acres 100 488 500 4,038 5,618 385 348 1950... 1949... acres 1954... 1949... 180 to 219 acres.....number 1954... 1 to 9 acres.....farms reporting 1954... 1949 ... 10 to 19 acres.....farms reporting 1954... 260 to 499 acres.....number 1954... 60 93 19 29 12 1949 1950 ... 500 to 999 acres.....number 1954... 20 to 29 acres.....farms reporting 1954... 1950 ... 1,000 acres and over.....number 1954 1954... 15 11 10 1949... 99 acres.....farms reporting 1954... FARMS BY COLOR AND TENURE OF OPERATOR 949 . . . 100 to 199 acres.....farms reporting 1954... 1949... Farms by color of operator: White operators......number 1954... 200 acres and over.....farms reporting 1954... 1949... Cropland used only for pasture.....farms reporting 1954... 1949... 209 209 166 398 382 1950 ... Nonwhite operators.....number 1954 142 115 1950... by tenure of operator: acres 1954 ... 1,962 550 458 33 58 34 21 28 3.5 5.1 2 8 1949 ... 1950... 255 124 2,507 1,167 260 167 Part owners.....number 1954... Cropland not harvested and not pastured..farms reporting 1954... 1947... acres 1954... 1949... 1950 Woodland pastured.....farms reporting 1954... 1949 ... 1950 ... acres 1954 ... 57 448 ,491 176 215 1949 ... 1950... Cash tenants.....number 1954... 1950... acres 1954 Share-cash tenants.....number 195 1954... 1949... 13,235 1 3 4 1 2 2 2 10 Other pasture (not cropland and not woodland).....farms reporting 1954... Share tenants.....number 1954... 107 57 4,175 1,497 1950 ... 1949... acres 1954... 1950... 1949... Livestock-share tenants.....number 1954 55 2.544 Croppers..... 69 564 499 17,664 Other and unspecified tenants.....number 1954... 1950... 6,855 SPECIFIED FACILITIES AND EQUIPMENT* Irrigated land in farms.....farms reporting 1954... ••• Telephone.....farms reporting 1954.... 37 14 518 380 94 187 124 34 1949... 1950... Electricity......farms reporting 1954... 1950... ••• acres 1954... 1949... ••• ••• Television set ......farms reporting 1954... Land in cover crops turned under for green manure.....farms reporting 1954.... Piped running water.....farms reporting Home freezer.....farms reporting 1954 ... 1954 acres 1949 .... 227 1950... Cropland used for grain or row crops farmed on contour......farms reporting 1954.... acres 1954.... 10 2 1 3 3 3 3 ••• 1950 ... FARM OPERATORS 950 ... Residing on farm operated.....operators reporting 1954.... 1950... 580 521 Not residing on farm operated.....operators reporting 1954... 1950... .... 11 21 number 1954... 1950... With other income of family exceeding value of agricultural products sold*...operators reporting 1954... 1949... 10 1950. 1 10 number 1950... 1950... porting 1954... 498 342 1 12 12 Field forage harvesters ..... farms reporting Working off their farm, total*.....operators reporting 1954.. 454 number 1954... 343 398 263 1929 Artificial ponds, reservoirs, and earth tanks.....farms reporting 1954... 16 18 1949... number 1954

FIGURE 51.—Facsimile of preliminary report Series AC54-1.

2-LIBERTY COUNTY, GEORGIA

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#### FARMS, FARM CHARACTERISTICS, AND FARM PRODUCTS

0	¥	County total	Item
County tot	Item		SPECIFIED FACILITIES AND EQUIPMENT Continued
	FARMS BY TYPE OF FARM Continued	188	Notortrucks
	1950	143	1950
	Livestock farms other than dairy and poultrynumber 1954		number 1954 1950
	1950 General farmsnumber 1954	82	ractorsfarms reporting 1954
	1950		1950 number 1954
	Primarily crop		10.00
	Primarily livestock	82	Wheel tractors other than gardenfarms reporting 1950
	1950	39 90	1950 number 1954
	Crop and livestock		
	Miscellaneous and unclassified farmsnumber 1954		Garden tractors
	1950	6	crawler tractors
	FARMS BY ECONOMIC CLASS*		number 1954 utomobilesfarma reporting 1954
	Commercial farms	196	1950
	Class I (value of products sold, \$25,000	205	number 1954
	or more)number 1954		arms by class of work power: 1950
	Class II (value of products sold, \$10,000-	275	No tractor, horses, or mules
	\$24,999)number 1954		No tractor and only 1 horse or mulefarms reporting 1954 No tractor and 2 or more horses and/or
	Class III (value of products sold, \$5,000-		miles
	\$9,999)number 1954		Tractor and horses and/or mulesfarms reporting 1954 Tractor and no horses or mulesfarms reporting 1954
	Class IV (value of products sold, \$2,500-	45	
	\$4,999)number 1954		FARM LABOR [*]
	1950	473	Family and/or hired workersfarms reporting 1954
	Class V (value of products sold, \$1,200-\$2,499)number 1954 1950	620	persons 1954
	Class VI (value of products sold, \$250-\$1,199)number 1954		Family workers, including operatorfarms reporting 1954 Operators
	1950 Other farmsnumber 1954	108	unpuld members of operator's familyfarms reporting 1954
	1950	1 100	persons 1954 Hired workersfarms reporting 1954
	Part-time ¹ number 1954	25 48	persons 1954
	Residential (with less than \$250 value of 1950		SPECIFIED FARM EXPENDITURES*
	products sold)number 1954	593	pecified farm expendituresfarms reporting 1954
	Abnormal (public and private institutional farms, etc.)number 1954		
	HORSES AND MULES		Machine hire and/or hired laborfarms reporting 1954
	Horses and/or mules	174	1949 Machine hirefarms reporting 1954
	1950 number 1954	83	1949
	1954 1950	2 000	dollars 1954 1949
	CATTLE AND DALRY PRODUCTS	167	Hired labor
	Cattle and calves	139	1949 dollars 1954
5,	number 1954	65 558	1949
5,	Cows, including heifers that have 1950	505	Feed for livestock and poultryfarms reporting 1954
	calvedfarms reporting 1954	409 104,043	1949 dollars 1954
3,	1950 number 1954		Gasoline and other petroleum fuel and 1949
3,	1950	107	oilfarms reporting 1954
	Milk cows	99	1949
	number 1954	18164	dollars 1954 1949
	1950 Heifers and heifer calvesfarms reporting 1954	496	Commercial fertilizerfarms reporting 1954
1,	number 1954		dollars 1954 tons 1954
	Steers, bulls, and steer calvesfarms reporting 1954	5,808	acres on which used 1954
1,	number 1954 Whole milk sold	55	Lime and liming materialsfarms reporting 1954 toms 1954
	1949	595 4,037	dollars 1954
54;	gallons 1954 1949		acres limed 1954
26, 26,	dollars 1954	63	rops on which commercial fertilizer was used, 1954: Hay and cropland pasturedfarms reporting
	Cream soldfarms reporting 1954 1949	242	tons
	pounds of butterfat 1954	938	acres on which used Other pasturefarms reporting
	1949	257	tons
	dollars 1954	1,205	acres on which used Cornfarms reporting
	Hogs and pigsfarms reporting 1954	466	tons
4,	1950 number 1954	2,773	acres on which used Cottonfarms reporting
4,	1950		Cottonfarms reporting tons
	Born before June 1	155	acres on which used
2,	Born since June 1		Fruits, vegetables, potatoes, etcfarms reporting tons
2,	number 1954 Sows and gilts farrowingfarms reporting 1954	287	acres on which used
	number 1954	121	Other cropsfarms reporting
	June 1 to December 1		tons acres on which used
12/2/ 12	number 1954 Average date of enumeration	450	
11/14-11	POULTRY AND POULTRY PRODUCTS		FARMS BY TYPE OF FARM
	Chickens, 4 months old and over, on handfarms reporting 1954		fruit-and-nut
	1950	18	1950
12,	number 1954 1950		Cash-grain
8,	Chickens sold		Cottonnumber 1954
	1950	6	1950 Other field-cropnumber 1954
2	number 1954 1950	12	1950
2,	Broilers sold	5	egetable.farmsnumber 1954
	number 1954 dollars 1954		1950 ruit-and-nut farmsnumber 1954
	Hens, roosters, pullets, etcfarms reporting 1954		1950
		2	hairy farmsnumber 1954
	number 1954 dollars 1954		1950

¹Part-time farms include those with value of products sold of \$250-\$1,199 and operator either reporting 100 days or more of off-farm work or reporting other income exceeding value of agricultural products sold.

FIGURE 51.—Facsimile of preliminary report Series AC54-1-Continued.

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#### LIBERTY COUNTY, GEORGIA-3

# APPENDIX

FARMS.	FARM	CHARACTERISTICS,	AND	FARM	PRODUCTS
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Item	County total	Item	County total
POULTRY AND POULTRY PRODUCTSContinued		SPECIFIED CROPS HARVESTED-Continued	
hicken eggs sold	30	Annual legumes-Continued Soybeans grown for all purposes-Continued	
1949	92	Soybeanc harvested for beansfarms reporting 1954	
dozens 1954 dollars 1954	12,670 5,454	1949 acres grown alone 1954	
		acres grown with other crops 1954	
urkeys raised	23 18	bushels 1954 1949	 1
number 1954	.97	Sovbeans cut for hay	
1949 Light breedsfarms reporting 1954	945 10	1949	
number 1954	97	acres grown alone 1954 acres grown with other crops 1954	1
Heavy breeds	13	tons 1954	1
number 1954	300	Soybeans hogged or grazed, or cut for	
urkeys kept for breedingfarms reporting 1954	26 76	silagefarms reporting 1954	
number 1954 Light breedsfarms reporting 1954	18	acres grown alone 1954 acres grown with other crops 1954	
number 1954	52	Soybeans plowed under for green	
Heavy breedsfarms reporting 1954 number 1954	8 24	manurefarms reporting 1954 acres grown alone 1954	
		acres grown with other crops 1954	10
ANIMALS SOLD ALIVE		Cowpeas grown for all purposesfarms reporting 1954 1949	80 17:
attle, hogs, sheep, horses, or mules sold alivefarms reporting 1954	5	acres grown alone 1954	28
1949	253	1949	42
dollars 1954 1949	99,936 137,789	acres grown with other crops 1954 1949	10:
Cattle and/or calves sold alivefarms reporting 1954	135	Cowpeas harvested for dry peasfarms reporting 1954	64
1949	144 1,507	acres grown alone 1954	17) 40
number 1954 1949	1,327	acres grown with other crops 1954	. 4
Cattle sold alive, excluding calvesfarms reporting 1954	100	bushels 1954 1949	46
number 1954 dollars 1954	674 27,048	Cowpeas cut for hay	1
Calves sold alive	103	1949	4
number 1954 dollars 1954	833 19,831	acres grown alone 1954 acres grown with other crops 1954	18
		tons 1954	24
Hogs and pigs sold alivefarms reporting 1954 1949	192 196	Cowpeas hogged or grazed, or cut for	20
number 1954	2,861	silagefarms reporting 1954	2
. 1949 dollars 1954	2,676 51,982	acres grown alone 1954 acres grown with other crops 1954	5
Horses and mules sold alivefarms reporting 1954	8	Cowpeas plowed under for green	
pumber 1954	37	manurefarms reporting 1954 acres grown alone 1954	••
dollars 1954 SPECIFIED CROPS HARVESTED	1,075	acres grown with other crops 1954	•••
m:	100	Peanuts grown for all purposesfarms reporting 1954	2
Corn for all purposesfarms reporting 1954 1949	426 464	1949 acres grown alone 1954	4
acres 1954	2,461	1949	4
1949 Harvested for grainfarms reporting 1954	3,022	acres grown with other crops 1954 1949	4 7
1949	434	Peanuts harvested for picking or	
acres 1954 1949	1,801 2,470	threshing	3
bushels 1954	21,585	acres grown alone 1954	
1949 Cut for silagefarms reporting 1954	34,099	acres grown with other crops 1954 pounds 1954	1,23
1949		1949	3,21
acres 1954	5	Peanut vines or tops saved for hay or	
 tonsgreen weight 1954	 92	foragefarms reporting 1954 1949	1
1949		acres grown alone 1954	
Hogged or grazed, or cut for green or dry fodder	64	acres grown with other crops 1954 tons 1954	
1949	92	1949	2
acres 1954 1949	655 552	Velvetbeans grown for all purposesfarms feporting 1954 1949	10
		sores grown alone 1954	é
orghums: Sorghum for all purposes except sirupfarms reporting 1954	1	acres grown with other crops 1954 bushels 1954	30
. 1949		1949	26
acres 1954 1949	5	Hay crops, excluding specified annual legumes and sorghum hay: Alfalfa, clover, and their mixtures cut	
		for hay	
all grains:	1	acres 1954	
		tonn 105/	
Wheat threshed or combinedfarms reporting 1954 1949		tons 1954 Lespedeza cut for hayfarms reporting 1954	
Wheat threshed or combinedfarms reporting 1954 1949 «cres 1954		Lespedeza cut for hayfarms reporting 1954 1949	
Wheat threshed or combinedfarms reporting 1954, 1949 acres 1954 1949 bushels 1954 bushels 1954		Lespedeza cut for hayfarms reporting 1954	
Wheat threshed or combinedfarms reporting 1954 1949 acres 1954 1949 bushels 1954 1949		Lespedeza cut for hayfarms reporting 1954 acres 1954 1949 1949 tons 1954	
Wheat threshed or combinedfarms reporting 1954, 1949 acres 1954 1949 bushels 1954 bushels 1954	···· ··· ··· ··· ··· ··· ···	Lespedeza cut for hayfarms reporting 1954 1949 acres 1954 1949	
Wheat threshed or combinedfarms reporting 1954 1949 acres 1954 1949 bushels 1954 1949 Oats threshed or combinedfarms reporting 1954 1949 acres 1954 1949	   11 12 68	Lespedeza cut for hayfarms reporting 1954 1949 acres 1954 1949 1954 Oats, wheat, barley, ryc, or other small grains out for hayfarms reporting 1954	
Wheat threshed or combinedfarms reporting 1954 1949 acres 1954 bushels 1954 bushels 1954 1949 Oats threshed or combinedfarms reporting 1954 1949	···· ··· ··· ··· ··· ··· ···	Lespedeza cut for hay	
Wheat threshed or combinedfarms reporting 1954, 1949 acres 1954 bushels 1954 bushels 1954 0ats threshed or combinedfarms reporting 1954 1949 acres 1954 1949 1949	  11 12 68 518	Lespedeza cut for hayfarms reporting 1954 1949 1949 1949 tons 1954 1949 Oats, wheat, barley, rye, or other small grains cut for hayfarms reporting 1954 1949 acres 1954 1949	
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Wheat threshed or combinedfarms reporting 1954 1949 acres 1954 bushels 1954 0ats threshed or combinedfarms reporting 1954 1949 acres 1954 1949 bushels 1954 1949 bushels 1954 1949 bushels 1954 1949 1949 bushels 1954 1949 1949 1949 1949 1949 1949 1949 1949 1949 1949 1949 1949 1949	  11 12 68 518 800 6,932 	Lespedeza cut for hayfarms reporting 1954 1949 1949 1949 1949 Oats, wheat, barley, rye, or other small grains cut for hayfarms reporting 1954 1949 0 tons 1954 1949 0 ther hay outfarms reporting 1954 1949 0 ther hay outfarms reporting 1954 1949 0 ther field orops;	
Wheat threshed or combinedfarms reporting 1954, 1949, bushels 1954 1949 bushels 1954 1949 Oats threshed or combinedfarms reporting 1954 1949 bushels 1954 1949 bushels 1954 1949 bushels 1954 1949 bushels 1954 1949 bushels 1954 1949 bushels 1954 1949 1949 1949 1949 bushels 1954 1949	  11 12 68 518 800 6,932   	Lespedeza cut for hayfarms reporting 1954 1949 1949 1949 1949 Oats, wheat, barley, rye, or other small grains out for hayfarms reporting 1954 1949 Cother hay outfarms reporting 1954 1949 Other hay outfarms reporting 1954 1949 Other field orops: Crimson olover seed harvestedfarms reporting 1954	
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Wheat threshed or combinedfarms reporting 1954, 1949, acres 1954 bushels 1954 1945 Cats threshed or combinedfarms reporting 1954 1949 Barley threshed or combinedfarms reporting 1954 1949 Barley threshed or combinedfarms reporting 1954 1949 Cother grain threshed or combinedfarms reporting 1954 1949 Cother grain threshed or combinedfarms reporting 1954 1949 bushels 1954 1949 bushels 1954 1949 bushels 1954 1949 2954 1954 1954 1954 1954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2954 2955 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956 2956	  11 12 68 518 800 6,992     4 7 75	Lespedeza cut for hayfarms reporting 1954 1949 acres 1954 1949 1949 Oats, wheat, barley, rye, or other small grains cut for hayfarms reporting 1954 1949 Cother hay outfarms reporting 1954 1949 Other field orops: Crimson olover seed harvestedfarms reporting 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1954 1955 1956 1956 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 1957 19	

FIGURE 51.—Facsimile of preliminary report Series AC54-1-Continued.

4-LIBERTY COUN TY. G

Item	County total		
	County total	Item	County total
SPECIFIED CROPS HARVESTEDContinued her field crops-Continued		SPECIFIED CROPS HARVESTED-Continued	
Lupine seed harvestedfarms reporting 1954		Tree fruits, nuts, and grapes-Continued Peaches	
1949 acres 1954		1950	24
1949		Trees of all ages	11
pounds 1954 1949		Trees not of bearing agenumber 1954 Trees of bearing agenumber 1954	1:
Irish potatoes harvested for home use or for salefarms reporting 1954	60	Quantity narvestedbushels 1954	10:
1949	98	Pearsfarms reporting 1954	2
Bores 1954 ¹ 1949 ²	4	1950 Trees of all agesnumber 1954	21
bushels 1954 1949	637	1950	70 1,73
Sweetpotatoes harvestad for home use or	899	Trees not of bearing agenumber 1954 Trees of bearing agenumber 1954	1 69
for salefarms reporting 1954 1949	123 284	Quantity harvestedbushels 1954	
acres 1954 ¹	29	1949 Cherriesfarms reporting 1954	79
1949 ² bushels 1954	158	1950 Trees of all agesnumber 1954	
1949 Cotton harvestedfarms reporting 1954	8,529	1950	
1949	46 69	Trees not of bearing agenumber 1954 Trees of bearing agenumber 1954	
acres 1954 1949	109	Quantity harvested	
bales 1954 1949	78	Plums and prunes	2
lobacco narvested	111 56	1950 Trees of all agesnumber 1954	18
1949 acres 1954	48	1950 Trees not of bearing agenumber 1954	1,01
1949	104	Trees of bearing age	10
pounds 1954 1949	130,525	Quantity hervestedbushels 1954 1949	
Sugarcane or sorghum harvested for sirupfarms reporting 1954	71	Figsfarms reporting 1954	3
1949	212	1950 Trees of all agesnumber 1954	10
acres 1954 1949	25 83	1950 Trees not of bearing agenumber 1954	23
gallons 1954 1949	1,538 6,206	Trees of bearing agenumber 1954	1
Root and grain crops hogged or grazed, other than		Quantity harvested	1,46
corn, sorghums, and annual legumesfarms reporting 1954 1949	33 14	Grapes	3
acres 1954	671	1950 Vines of all agesnumber 1954	180
1949	128	1950 Vines not of bearing agenumber 1954	400
egetables harvested for home use (other than irish and sweet potatoes)farms reporting 1954	554	Vines of bearing agenumber 1954	129
1949	482	Quantity harvestedpounds 1954 1949	1,000
getables harvested for sale farms reporting 1954	44	Improved pecans (budded, grafted, or top-worked)	30
1949 acres 1954	45 105	1950	17
1949	67	Trees of all agesnumber 1954 1950	346
Solddollars 1954 1949	4,806 4,534	Trees not of bearing agenumber 1954 Trees of bearing agenumber 1954	10
Snap beans (pole and bush types)farms reporting 1954 acres 1954	(3)	Quantity harvestedpounds 1954	839
Green lima beans	1	1949 Wild or seedling pecansfarms reporting 1954	3,74
acres 1954 Cabbagefarms reporting 1954	1 2	1950 Trees of all agesnumber 1954	34
acres 1954 Cantaloups and muskmelonsfarms reporting 1954	(3)	1950	180
встев 1954	1	Trees not of bearing agenumber 1954 Trees of bearing agenumber 1954	
Sweet cornfarms reporting 1954 acres 1954	( ³ , ²	Quantity harvested	50
Cucumbers and pickles	24		267
acres 1954 Okrafarms reporting 1954	41	Nursery and greenhouse products, flower and vegetable seeds and plants, 1954:	
acres 1954 Blackeyes and other green cowpeasfarms reporting 1954	2	Nursery and greenhouse products, flower and vegetable seeds	
acres 1954	i i	and plants, flowers, bulbs, and mushroomsdollars Nursery products (trees, shrubs, vines, ornamentals,	
Sweet peppers and pimientosfarms reporting 1954 acres 1954		etc.)farms reporting acres	
Squashfarms reporting 1954 acres 1954	(3) 2	Solddollars	
Tomatoes	5	Flowers and flowering plants grown for sale: Grown under glassfarms reporting	
acres 1954 Watermelonsfarms reporting 1954	4 25	square feet Grown in openfarms reporting	
acres 1954 Other vegetablesacres 1954	53	BCTES	
	2	Soldfarms reporting dollars	
erries and other small fruits harvested for sale: Strawberrlesfarms reporting 1954	1	Vegetables grown under glass, flower and vegetable seeds and plants, bulbs, and mushrooms produced for sale:	
1949		Grown under glass or in house farms reporting	
aores 1954 1949		square fest Grown in openfarms reporting	
quarts 1954 1949		aores	
ree fruits, nuts, and grapes:		Soldfarms reporting dollars	
Land in bearing and nonbearing fruit orchards, groves, vineyards, and planted nut treesfarms reporting 1954	34	Forest products, 1954:	
1950	346	Firewood (and fuelwood) cut	125
ecres 1954* 1950 ⁵	59 92	cords (4'x 8') Fence posts cutfarme reporting	69: 40
Apples	9 39	number	11,09
Trees of all agesnumber 1954	22	Sawlogs and veneer logs cut	23 1,338
1950 Trees not of bearing agenumber 1954	84	Pulpwood cut	64 4,331
	20	Value of firewood, fence posts, logs, lumber, pulpwood,	
Trees of bearing ageQuantity harvested		and piling and poles sold farms reporting	72

¹For 1954, does not include acreage for farms with less than 20 bushels harvested. ²For 1949, does not include acreage for farms with less than 15 bushels harvested. ³Reported in small fractions. ⁴For 1954, does not include acreage for farms reporting less than 20 fruit and nut trees and grapevines; ³For 1950, does not include acreage for farms reporting less than 1/2 acre.

FIGURE 51.-Facsimile of preliminary report Series AC54-1-Continued.

### 1954 CENSUS OF AGRICULTURE-Preliminary FARMS • FARM CHARACTERISTICS • FARM PRODUCTS

### U. S. DEPARTMENT OF COMMERCE Bureau of the Census

March 1956

#### IDAHO

# (No. 82) Series AC54-2

VALUE OF FARM PRODUCTS SOLD BY SOURCE

The value of farm products sold in Idaho amounted to \$332,125,790 in 1954, an increase of 18.2 percent from the sales of \$281,025,323 in 1949, according to the results of the 1954 Census of Agriculture released by the Bureau of The value of the Census, U. S. Department of Commerce. farm products sold in 1954 in Idaho, according to source of sales, was as follows: Field crops other than vegetables, fruits, and nuts, \$185,145,886; livestock and livestock products, other than dairy and poultry products, \$90,654,325; dairy products, \$37,731,469; fruits and nuts, \$6,507,486; poultry and poultry products, \$5,503,846; forest products, \$1,551,888; and horticultural specialties (nursery and greenhouse products), 1,433,936.

A comparison of the value of farm products sold, by given on page 2. source, for 1954 and 1949 follows:

#### DEFINITIONS AND EXPLANATIONS

Total value of farm products sold .- The data given represent the value of farm products sold based on information obtained from farm operators in the 1954 Census of Agriculture. The total value of all farm products sold represents the total of sales from each farm regardless of who shared in the receipts. The landlord's share of the crops and livestock sold and, also, the livestock which the landlord took from the tenant's farm were considered as sales from the tenant's The value of all crops sold represents the value of farm. crops sold from the harvest of 1954 regardless of when sold. The sales of livestock and livestock products represent the sales during 1954 regardless of when the livestock were raised or produced.

In obtaining the value of farm products sold from farm operators, census enumerators were instructed to obtain the gross value of all sales without deductions of any kind. However, in the case of milk, poultry, eggs, etc., deductions were often made by the buyers of farm products for hauling, handling, marketing, etc., before making payments to farmers. In such cases, farmers often considered the amount received after the deductions of marketing cost as the gross value of farm products sold.

The data given for the value of all farm products sold represent totals for all farms regardless of the amount sold. In the case of part-time farms, residential farms, etc., the value of all farm products sold may have been very small. Therefore, the average value of farm products sold per farm, computed on the basis of the data given in the accompanying table, may not indicate accurately the value of all farm products sold by commercial farms. Data on the number of commercial farms and for all farms classified by economic class

Source	1954	1949
All crops sold, total	\$196,684,262	\$153,836,501
Field crops (other than vegetables and fruits and nuts) Vegetables Fruits and nuts Horticultural specialties	185,145,886 3,596,954 6,507,486 1,433,936	146,027,104 3,345,976 3,201,619 1,261,802
All livestock and livestock products sold, total Dairy products Poultry and poultry products Livestock and livestock products	133,889,640 37,731,469 5,503,846	126,321,394 27,817,955 6,134,311
(other than dairy and poultry products)	90,654,325	92,369,128
Forest products, total		
Data for 1954 for individual co	ounties in the	e State are

are given in the preliminary report, Series AC54-1, issued for each county.

The value of farm products sold does not include income of farm operators from nonfarm sources, government payments for soil conservation, lime and fertilizer furnished, nor subsidy payments, etc.

The value of livestock and livestock products sold, the value of farm products sold, the value of vegetables sold, and the value of horticultural specialties sold were obtained from each farm operator at the time of enumeration during the period October to December 1954. The values of field crops and fruits and nuts sold were calculated by multiplying the quantity sold by State average prices obtained by the Agricultural Marketing Service of the U.S. Department of Agriculture in cooperation with the Bureau of the Census. The value of field crops includes all crops sold except vegetables, fruits and nuts, forest products, and horticultural-specialty crops (nursery and greenhouse crops). The value of vegetables sold does not include the value of Irish potatoes or sweetpotatoes sold. The value of fruits and nuts sold includes the value of berries and small fruits sold. The quantity sold for the principal crops was obtained from each farm operator, while the quantity sold for less important crops and for fruits and nuts was estimated.

The statistics given in this release will be included in Volume I of the reports of the 1954 Census of Agriculture. Detailed data for a large number of items for the 1954 Census of Agriculture have already been published for each county and the State in Series AC54-1.

FIGURE 52.-Facsimile of preliminary report Series AC54-2.

2-IDAHO

VALUE OF FARM PRODUCTS SOLD BY SOURCE: 1954

					Val	ue of all far	rm products s	old (dollars)				
State	All farms			LA	l crops sold			All live	stock and live	stock produc	ts sold	
county	(number	Total	Total	Field orops ¹	Vegetables	Fruits and nute	Horti- cultural specialties	Total	Dairy products	Poultry and poultry products	Livestock and livestock products ²	forest products
The State	38,735	332,125,790	196,684,262	185,145,886	3,596,954	6,507,486	1,433,936	133,889,640	37,731,469	5,503,846	90,654,325	1,551,888
Ada abA	2,007	11,619,157	2,802,230	2,017,078	210,390	185,921	388,841	8,811,927	4,981,566	473,902	3,356,459	5,000
Adams	283	2,121,150	549,265	192,303	205	356,717	40	1,518,874	114,288	20,341	1,384,245	53,011
Bannoej:	873	6,644,395	4,068,913	4,050,989	741	12,933	4,250	2,575,182	611,483	179,526	1,784,173	300
Bear Lake	759	3,163,872	1,088,676	1,087,701	35	940		2,075,196	618,195	43,566	1,413,435	
Benewah	440	2,584,708	1,898,917	1,898,161	216	540	1	478,972	137,620	61,799	279,553	206,819
Bingham	2,160	21,744,327	15,456,133	15,402,181	7,274	24,027	22,651	6,288,194	1,915,448	224,680	4,148,066	
Blaine	321	3,846,727	1,063,904	1,058,290	· · · ·	214	5,400	2,782,148	235,741	16,170	2,530,237	675
Boise	142	600,840	97,996	96,376		1,620		486,816	22,934	13,022	450,860	16,028
Bonner	1,150	1,871,364	352,259	322,744	231	19,244	10,040	1,396,204	711,654	80,273	604,277	122,901
Bonneville	1,483	16,180,566	11,332,636	11,285,110	5,401	7,183	34,942	4,844,963	1,151,963	219,108	3,473,892	2,967
Boundary	596	2,405,720	1,543,461	1,537,636	161	3,607	2,057	748,007	405,992	52,036	289,979	114,252
Butte	271	2,568,188	1,358,719	1,358,385		334		1,209,469	76,435	46,644	1,086,390	
Саљав	131	1,813,527	1,373,476	1,373,430	40	6		439,785	29,219	7,557	403,009	266
Canyon	4,183	32,072,372	17,800,659	14,062,957	1,358,207	1,837,363	542,132	14,266,218	6,733,944	600,223	6,932,051	5,495
Caribou	578	6,353,221	3,825,607	3,825,432		175		2,527,614	498,091	61,750	1,967,773	
Cassia	1,225	13,892,923	7,706,287	7,691,203	104	1,520	13,460	6,186,436	1,236,527	154,738	4,795,171	200
Clark	67	1,019,605	191,015.	190,982,		33		828,590	28,486	2,389	797,715	
Clearwater	389	1,308,210	897,635	892,044	3,122	2,469		249,259	41,274	28,700	179,285	161,316
Custer	290	2,099,951	494,423	494,198	50	175		1,604,828	66,852	14,416	1,523,560	700
Elmore	407	3,629,143	1,174,509	1,158,771	13,234	2,504		2,444,234	118,047	77,321	2,248,866	10,400
Press 1.3 (m	1 000	6 010 000										
Franklin	1,098 892	5,988,799 10,100,429	2,742,441	2,653,495	77,171	4,975	6,800	3,246,358	1,520,515	615,784	1,110,059	•••
Gem	916	6,278,951	2,664,365	7,016,302	716 174,689	4,023 1,938,483	350	3,077,888 3,593,308	480,466	90,315	2,507,107	1,500
Gooding	1,038	8,682,887	3,678,685	3,628,850	33,328	3,652	12,855	5,004,190	1,435,859	170,745	1,940,637 3,397,586	21,278
Idaho	1,090	9,638,946	6,293,851	6,278,054	1,410	14,387		3,028,795	333,419	115,139	2,580,237	316,300
				. ,								
Jefferson	1,247	9,992,414	€,681,582	6,656,194	8,875	11,505	5,008	3,310,832	987,650	126,785	2,196,397	
Jerome	1,122	15,781,779	9,301,911	9,270,652	11,850	3,854	15,555	6,479,868	1,144,183	82,755	5,252,930	
Kootenai	1,324	4,236,432	2,315,007	2,181,436 9,422,437	36,075	24,081	73,415	1,756,181	812,327	386,638	557,216	165,244
Lemhi	1,309 491	11,042,694 3,046,683	9,456,914 345,383	335,332	3,750 806	17,152	13,575	1,437,411 2,701,300	466,899	118,533 68,434	851,979 2,424,784	148,369
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2.15,202	555900		7,142	1,500	2,702,500	200,002	00,424	2,424,704	
Levis	391	6,713,143		6,151,219	110,085	440		380,248	24,414	30,307	325,527	71,151
Lincoln	413	3,983,054		2,019,147	15	150	75	1,963,667	636,673	59,367	1,267,627	
Madison	902	8,608,769		5,318,976	816	10,562	9,065	3,269,330	786,000	226,909	2,256,421	
Minidoka	1,067	12,262,465	8,627,217	8,602,410	13,420	907	10,480	3,635,248	881,161	94,343	2,659,744	
Nez Perce	938	9,906,768	8,414,028	7,741,611	561,412	55,905	55,100	1,403,582	248,280	133,410	1,021,892	89,158
Oneida	485	4,253,997	2,940,163	2,934,790	5,373			1,313,834	191,108	61,890	1,060,836	
Owyhee	744	8,063,225	3,736,929	3,558,972	51,032	109,095	17,830	4,326,296	714,391	33,557	3,578,348	
Payette	1,113	7,425,788		1,502,109	397,413	1,515,324	42,950	3,967,644	1,520,517	112,009	2,335,118	348
Power	397	5,910,876	4,933,473	4,933,005	50	418		977,403	198,644	27,978	750,781	
Shoshone	168	207,545	18,999	4,204	1,463	337	12,995	173,686	38,845	57,056	77,785	14,860
Teton	447	2,894,030	1,611,664	1,605,683	3,458	2,523		1,279,766	413,417	16,719	849,630	2,600
Twin Falls	2,406	32,371,545	20,828,136	20,254,205	249,772	212,039	112,120	11,543,362	2,700,727	288,371	8,554,264	47
Valley	206	1,373,013	574,561	573,152	1,000	409		786,886	56,555	19,279	711,052	11,566
Washington	776	5,821,592	2,342,826	1,956,837	253,564	111,975	20,450	3,469,641	652,288	79,981	2,737,372	9,125

¹Other than vegetables and fruits and nuts. ²Other than dairy and poultry products.

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FIGURE 52.—Facsimile of preliminary report Series AC54-2-Continued.

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Sheets Sheet No									Added		 Verified.		<u> </u>	· · · ·
			Cemet	7 Table L - FARME, A						 	 	L		
Bource			i	030 data for fiers shot	a in italica are be	and on reports	for only a mag	to of fame]	 1	-	 			Secto
	Item (fro definitions and explanations, see text)		┥┑┑┤			_				 <u> </u>				
	FARMS, ACREAGE, AND VALUE													
112-11, col. L 1	1 Farms	$\left[ \begin{array}{c} 1 \\ 1 \end{array} \right] \left[ \begin{array}{c} 1 \\ 1 \end{array} \right] \left[ \begin{array}{c} 1 \\ 1 \end{array} \right]$												
C.T. 1 line L 2 C.T. 1 line S	2 1950 2 Approximate land area													
Line 9+21me 3(0,0)	4 Properties in ferms												3	1
152-11, col. 2	5 Land camed by farm operators													
152-11, col. 3 6	8 land rexted from others by form operatorsacres 1954	i [     [												
162-11, col. 4 7 162-11, col. 5 8	7 Lond in minaged farms												7	1
112-11, col. 2	Ges Land in farma													1
C.T. 1 11ce 9 10	D 1950													
Line 0+11ne 1 (0.0) 11	Average size of farm	i i i i i i											10	
C.T. 1 line 11 if N.S. line (c)*line (s) (0) 15	2 5 Value of land and build sugssverage per farm, dollars 1935												12	
C.T. 1 11no 13 14	buildingsoverage per fara, dollars 1938 4 1950												15	1
M.S. 1ine (c)+1ine (b) (0.00) 15	5 average per acre, dollars 1950												15	
C.T. 1 1150 15 16	8 1950												16	
W.S. line (a)*line 1 (0) 17	7 Proportion of forms reporting volumpercent 1954 Land in forms according to una:												17	
113-11, 201. 6 18	e Cropland hervested farms reporting 1954													
C.7. 1 line 19 19	9 1949												19	
112-11, col. 3 20	0 Acres 1854											1 1 1	20	
C. 7. 1 1100 21 21													21	
111-11, col. 7 22													22	4
C.T. 1 line 23 25 111-11, col. 8 24	1949 4 10 to 19 acresfarms reporting 1954												23	
C. T. 1 1107 25 25	1940				1							1	24 25	,
111-11, col. 9 28	1													
C.T. 1 line 27 27	7 1949												20	
111-11, col. 10 28	30 to 69 acresfarms reporting 1984													
C.T. 1 1100 29 29													20	
111-11, col. 11 30	1												30	, <b>, , ,</b> , ,
c.t. 1 line 81 31													31	
111-11, col. 12 32 C.T. 1 lime 33 35													32	
111-11, cols. 13+16+15 34	1												33	
C. 7. 1 11ge 55	5 1949												34	1
111-11, col. 16 36	5 Cropland used only for pasture farms reporting 1954												36	4
0.1. 1 line 87 87	1949													
11E-11, col. 4 58	8 acres 1954												30	
C.T. 1 line 89 39 111-11 col. 17 40	9 Cropland not harrested and not pastured												50	,
	pasturedfarms reporting 1954											1 1		4
C.T. 5 Line 41 41	acres 1964	i											41	4 1
112-11, col. 5+8 42 C.T. 1 line 42 45	1940												42	
111-11, col. 18 West coly 44	Cultivated summer failomfarms reporting 1854												45	
C. T. 1 1100 44 45	1949												"	·]
118-11, col. 8 West only 46	acres 1984											111	45	4
C.T. 1 11ne 45 47	1940								j				"	*
111-11, col. 19 West only 48														17
C. 7. 1 line 49 49	1949												1 1	
112-11, col. 6 West only 50	acres 1964													
C.T. 1 1184 \$0 51 WORE LINES	1949 Not for furlication												61	4
	Farms reporting value													
Lines e + h	Land in farms reporting valueacres 5954												(r	-
Lines f + 1 (c)													0	*
													1 1	3
162-12, col. 15 162-12, cols. 2*5-8 162-12, cols. 5*5-9 162-12, cols. 5*5-9 162-12, cols. 5*5-9 (alpha) (d) firme reports (alpha) (d)	Lass in farmaacras 1964												(	3
162-12, cols. 540-9 (1)	Value													<u>"</u>
142-12, cols. 15 142-12, cols. 2+5-8 152-12, cols. 2+5-9 152-12, cols. 3+0-9 (1)	Large farme-Parme													
162-12, cols. 2+5-8 completer (b) reports	1426 15 farms													
162-12, cols. 5+0-9 / mly (1)	Valuedollars 1954				1111									al

State_____COUNTY TABLE 1. - (2 sections) Section A

FIGURE 53.—Facsimile of work sheet or posting form County Table 1.

Commune of Agriculture: 100

1954



# APPENDIX

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# STATISTICS FOR COUNTIES

# County Table 1.--FARMS, ACREAGE, VALUE, AND FARM OPERATORS: CENSUSES OF 1954 AND 1950-Continued [Data for items shown in italics are based on reports for only a sample of farms. See text]

			 _
	Item (For definitions and explanations, see text)	)	
	FARMS, ACREACE, AND VALUE		
12	Farmsnumber	1950	
3	Approximate land areaacres	1954	
4	Proportion in farmspercent Land owned by farm operatorsacres	1954	
6	Land renied from others by farm operatorsacres	1954	
7	Land managed by farm operators	1954	
8	Land rented to others by farm operators (see text)acres	1954	
9 10	Land in farmsacres	1954	
ii	Average size of farmacres	1954	
12		1950	
13	Value of land and buildings: Average per farmdollars	1954	
14		1950	
15 16	Average per arredollars	1954 1950	
17	Proportion of farms reporting valuepercent		
	• · · · ·		
18	Land in farms according to use: Cropland harvestedfarms reporting	1954	
19		1949	
20 21	acres	1954 1949	
22 23	1 to 9 acresfarms reporting	1954 1949	
24	10 to 19 acresfarms reporting	1954	
25		1949	
26 27	20 to 29 acresfarms reporting	1954	
28	30 to 49 acresfarms reporting	1954	
29 30	50 to 99 acresfarms reporting	1949	
31	50 to 59 acresaras reporting	1949	
32	100 to 199 acresfarms reporting	1954	
33 34	200 acres and overfarms reporting	1949	
35		1949	
36	Cropland used only for pasturefarms reporting	105/	
37		1949	
38	acres	1954	
39 40	Cropland not harvested and not	1747	
	pusturedfarms reporting	1954	
41 42	. acres	1949 1954	
43		1949	
44	Woodland pasturedfarms reporting	1954	
45	-	1949	
46 47	acres	1954 1949	
48	Woodland not pasturedfarms reporting		
49.		1949	
50 51	acres	1954 1949	
52	Other pasture (not cropland and		
53	not woodland)farms reporting	1954	
54	acres	1954	
55 56	Improved (see text)farms reporting	1949	
57	acres	1954	
58	Other land (house lots, roads, wasteland, etc.)farms reporting	1954	
59		1949 1954	
60 61	acres	1954	
62 63	Cropland, totalfarms reporting	1954 1949	
64	acres	1954	
65	Land pastured, totalfarms reporting	1949	
66 67		1949	
68	acres	1954	
69 70	Woodland, totalfarms reporting	1949	
71		1949	
72	acres	1954 1949	
73			
74 75	Irrigated land in farmsfarms reporting	1954 1949	
75	acres	1954	
77		1949	
78	Cover drops turned under and land		
	planted to another crop farms reporting	1954	
79	acres	1954	
80	Cropland used for row or grain crops		
81	farmed on contourfarms reporting	1954	
91			
	FARM OPERATORS		
82	Residing on farm operated operators reporting	1954	
83			
84 85	Not residing on farm operatedoperators reporting	1954	

FIGURE 54.-Facsimile of preprinted form for offset typing of County Table 1.



# APPENDIX

	EPARTMENT O			CEOP NAM	ь.					C	oui	YTV	TABUL	ATION	1 NO.	931-1 931-1						~	CARD		ART I				AGIICUIT	
GEN:	BUB OF AGRIC								ſ		LD. WITH	IN CROP			DUCTION	, AND	MOUNT	SOLD;						MACHIN BILLEIST BI	CARD OF	ATE HAL	<u>ме с.</u>			
									_	12 BY I												\$UM	W. MACH.		-	दश्रद	A			
	ACRES, TREES, ETC.	(100 BY .1]. I.B. 02 .13.	ACRES, TREES, PRODUCTION, ETC.	PRODUCTION AMOUNT SON ETC.	D, NUASE	R	UNIDER	7 A R M S	10-24	21-4	CRES,	TREES.	BTC. (F)	110 1)	1	I,000 AND OVER	AHTY	P A UNDER 25	21-40	PORTIN 80-17	G ACAI	800-999	1,000- 1,499	1,300	2,000- 2,997	C. (FIEL 3,000- 4,999	5 2) 2,000- 9,197	10,000 AND OVER	FARMS REPORTING AMOUNT SOLD	MASTERS
	(FIELD 1) (18-70)	18315ATION 37-36,4-7 Of 34-38,14	(FIELD 2) (21-25)	(FIED 3) (24-30)	PARKS	COL 18			1	<u> </u>		18-30)	1		1	·	COL 21		<u> </u>		<u> </u>		COLUMNS 3	1.159	. <u>.</u>			,	6-9 IN COL 31	Υ ΙΝ COL 17 30
	ACC. #1 TOTAL	0.1.	ACC. #3	ACC. #3		- <b>6</b>	7	•		10	11	19	10	14	14	14	17	10	19	30	. 31	22	25		- 23	16		8		
	ACC. #1	<b>a</b> 1.	ACC. #1	ACC. 273	-	-				10			12	14	14	10			.,			2	23	и	n	н	27	28	n	34
			, <u>me u</u> ,	1																									AGRICULT	
	EPARTMENT O			CROP NAM	·				с	001	YTP	TABU	ILATION	I NO.	931- 931-							C-3	ſ	MACRIN	ART 11	0.	ub		AGAILOTT	
CEN	ISUS OF AGRIC	ULTUR	E: 1954				NUM	ABER OF	£	S REPORT	D, WITH	N CROP			AND AN	OUNT	0Ш;						N () 1		DA DA	111 NAM	5			
בסטאזי		CEO7 87		FARMS	REPORTING	PRODUCTIO	H, AMOUNT	SOID. ET		] 12 BY 18 3)	RIGATED	PARMS ON			ATION		C 8 -	0 7 60	DECH	e C K	ļ		м. маск.	<u> </u>	1	<u>ck co</u>	UNTS			
	AMOUNT SOLD (HELD 4)	-12- 7.8.02 -12- 1281647108	ANY UNDE	23-49 50-	100-479	800.999	1,000- 1,499	1,300- 1,999	2,000 2,999	3,000- 4,997	8,000- 9,999	10,000 AHO OV11	нона	WHOLLY	PARTLY	HO C. H.	1.17	100-	200- 299	300- 399	1, 11 ETC.	2, 12 ETC.	3, 13 ETC	4 14 81C.	3, 13 erc.	6, 16 ETC.	7, 17 17C.	8, 18 ETC (8.1N	9, 19 11C. (9 IN COL 71	10, 20 11C. (8 IN COL 7)
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	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1		Mail     NUMINI       NUMINI     (17.17)       2     3       3     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       1     3       3     3       3     3       3     3       3     3       3     3       3     3       3     3       3     3       3     3       3     3       3     3       3     3       3     3       3	а <u>и и и и и и и и и и и и и и и и и и и</u>	NUMPE 00-33) 9 	Image: Construction     Image: Construction       Image: Constretion     Image: Construction	10.020 70 (000) (000) (000) (04.29) 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	II 1000	PULPOC PULPOC POC POC POC POC POC POC POC	200 Cut cours (00.37)		VALUE 0 UALUE 0 UALUE 0 UALUE 0 UALUE 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AND PLAN		LX BYIC. TY AAPLE DODUCTS TY AAPLE DODUCTS TY TY LX CARD - D ACRE TY ACRE S S S S					0A110+ (6-0) 14 14 7 00 22 7 00 20 7 00 7 0				19 000, 19 19 19 19 19 19 19 19 19 19 19 19 19 1		20 20 7.1.624 20 20 20 20 20 20 20 20 20 20 20 20 20	2 0 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	07 SALE		



### APPENDIX



1954 Census of Agriculture		COUNTY TABULATION No. 115-11								140KCLTUX2	
State								Rertin O No.	Board Data N	s/700 b	
County			NUMBER OF FARMS BY CLASS, BY TYPE, WITHIN SAMPLE AND SPECIFIED FARMS					Tab. Mach.	cs	Cheeled d.	
	LINE No.	TOTAL NUMBER	NUNDER OF SAMPLE FAIMS BY CLASS OF FAIM								
GROUP INDICATION		OF SAMPLE FARMS	Commercial (2) Farms	(3)	11 (4)	11I (5)	IV (6)	(7) V	(8) VI	Other Farms (9)	Part-Time (10)
											· · · · · · · · · · · · · · · · · · ·
*****		No or Suver Fire	ABY CLASS OF FARM	A and a contraction				<i>•</i>			·
								1 1			
••••	3	Residential (11)	Abnormal (12)	Field Crop Farms Other Than Verstable and (13) Froit-Nut	Cash Grain (14)	Cotton (15)	Other Field Cropa	Vegetable	Fruit and Nut (18)	(19) Dairy	Poultry (20)
	4					addine in a second of the second					
	5			UNBER OF SAMPLE F.	Bu Trunt an P.						
	ð	Liventock Excl.	1		Gapatel	General Crop and					
	6	Dairy and (21) Poultry	General Farms (22)	General Crop (23)	(24) Livestock	(25) Livestock	Miscellancous (28)	(27)	(28)	(29)	(30)
	7										
	8										
		TOTAL NUMBER					COPIED FARMS BY C	LABS OF FARM	;		
	10	(31) FARMS	Commerciai (32) Farms	(33) I	(34)	(35)	(36) IV	(37) V	(38) VI	Other Farms (39)	Part-Time
******	10.									1-12	
	. 11	11 No. OF Specify ED FARME BY CLASS OF FARM NUMPER OF SAME BY TYPE OF FARM						· · · · · · · · · · · · · · · · · · ·			
	12 Field Crop Farma I							<u>г                                    </u>			
	13	Residential	Abnormal	Other Than Vege- table and Fruit-	Cash Grain	Cotton	Other Field Crops	Vegetable	Fruit and Nut	Dairy	Poultry
		(41)	(42)	(43) Nut	(44)	(45)	(40)	(47)	(48)	(40)	(50)
8	. 14		1								
	. 15	1	No	NDER OF SPECIFIED F	ARMS BY TYPE OF FA	RM				TOTAL NUMBER	TOTAL FARMS
		Livestock Excl. Dairy and (51) Poultry	General Farms (52)	General Crop (53)	General Livestock (54)	General Crop and (55) Livestock	Miscellaneous (56)	(67)	(58)	OF SAMPLE PARMS (58)	SAMPLE AND Specified (60)
:											

State	,									
GROUP INDIGATION LINES OF ATMS TELEFUNDAY: ELECTRICITY TELEVISION RUNNING WATER PREEER PIO BROODER FEED GAMMED RUNNING WATER VES (1) (2) (2) (3) (4) (6) (7) (8)	Milking Maohine Yes (9)	GRAIN COMBINE YES (10)								
		, <b>1</b>								
2 COEN PIOKERS PIOK-UP BALERA FORADE FORADE TAKES, MOTOR ANY, Other Than Wheel Garden	Grawler	AUTOMOBILES								
J     (11)     (12)     (13)     (14)     (16)     (16)     (17)     (18)	(19)	(20)								
Work Power										
O     O     I animal only     2 or more animals     Animals and tractor wheel or     Timotor Only. Whoel or     Any Work     Taispaces     Elsectuorr       7     None     1 animal only     2 or more animals     Animals and tractor wheel or     Timotor Only. Whoel or     Any Work     Taispaces     Elsectuorr       7     (21)     (22)     (23)     (24) crawford     (25) Opwint     (20)     (23)	TELEVISION No (29)	RUNNING WATER Ng (30)								
8 (21) (22) (23) (24) (25) (26) (20) (20)										
	DEET (AGENA OWNED)									
10     FREMETR     Pto BROODER     FEED ORIMORR     Machine Machine No     Machine No       11     (21)     (32)     (33)     (34)     (35)     (36)     (37)     (38)	(39)	MASTERS								
12 DATE OF ENGUERATION		· · · · · · · · · · · · · · · · · · ·								
AGRES RENTED AGRES RENTED CASE RENT										
14 FEOM FEOM (48) 17-23	(49) 24-31	(50)								
15 <u>(41)</u> <u>(42)</u> <u>(43)</u> <u>(44)</u> <u>(45)</u> <u>(46)</u> <u>(47)</u> <u>(47)</u> <u>(48)</u> <u>(48)</u>	((0)									
Date of Enumeration	Durat of Editoria									
Novambaa Daoambaa										
(51) 1-6 (52) 7-13 (53) 14-20 (54) 21-27 (55) 23-30 (56) 1-4 (57) 5-11 (58) 12-18	(59) 19-25	(60) 25-81								

1954 Cenerus of Agriculture     COUNTY TABULATION No. 178-11       State     GRMS REPORTING OPERATOR PAMILY AND HIRED WORKERS, FARMS REPORTING OPERATOR, FAMILY AND HIRED WORKERS, FARMS LEPENDITURES, OFF FARM WORK BY OPERATOR     Machine Family Resonance     Machine Family Resonandee     Machine Family Resonandee	1
State     Sample     FARMS REPORTING OFERATOR, FAMILY AND HIRED WORKEDS, FARM EXPENDITURES, OFF FARM WORK BY OFERATOR     June 0     NS.     No.     OF FARMS     Workerso     No.     Of Farme     No.     Of More Hours     154 Hours     No.     Of More Hours     154 Hours     No.     Of More Hours     154 Hours     (0)       11     11     Resolution     100 Hours     100 Farme     No.     No.     No.     No.     104 Hours     154 Hours     154 Hours     154 Hours     154 Hours     100 Hours     104 Hours     104 Hours     104 Hours     104 Hours     104 Hours     104 Hours </th <th>UNPAID FAMILT (10)</th>	UNPAID FAMILT (10)
County     County     Openation     Openation     Ant Labor     Ant Faulty Labor     Openation     <	UNPAID FAMILT (10)
GBOOF INDICATION     Line     Total Noumes     Income Excessor     Opplation     Opplation     Constraints     Constraints     Income Ison     Income Ison     Income Ison     Income Ison     Constraints     Income Ison     Constraints     Income Ison     Result     Income Ison     IncomeI	FAMILT (10)
Income     Income     Bradouse     Bradouse     Frame Repentive Expression     Expression       2     Hingo     Working To     Working To     Vorking To     Frame Repentive Expression     Expression     Expression       3     (11)     Date     (13)     (14)     (15)     (15)     (16)     (17)     (18)     (19)	1
2     HINKO WORKENA WORKENA (1)     WORKENA WORKENA (1)     O WORKENA (1)     O WORKENA (1)     Montensa (1)     Labor (1)     Labor (10)     Labor (10) <td>1</td>	1
	200-499 (20)
Parameters and Hugen Lunce Parameters Exception Exception Exception Exception	
	MANTERS (SO)
	-
Ore FARM WORK BY OPERATOR	
	200 + Days
0     Monthly     Weekly     Daily     Hourly     Piecework     None     1-49 Days     80-99 Days     100-199 Days       10     (31)     (32)     (33)     (34)     (35)     (36)     (37)     (35)     (39)	(10)
	<b></b> _
11 PANILY AND/OR HITERD WORKERS HILERO LABOR AND OFFERATOR NO LABOR	
12 (51) (52) (53) (54) (55) (57) (58) (59)	(60)
	UNPAID PANILY
	- ONLT-NO OFERATOR OR
No Report For Hinds HOAKRES No FAMILY On	BIRRD WORKERS
15 Yes No Yes No Yes No Yes No Yes No KING WORKED NO FAMILY OS NOF	(50)
15     Yes     No     No     Yes     No     No <td>(50)</td>	(50)
15 Yes No Yes No Yes No Yes No Yes No KING WORKED NO FAMILY OS NOF	(60)

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### APPENDIX



MAN-HOURS AND COSTS FOR OTHER THAN PERSONAL SERVICES PER 100,000 FARMS BY MAJOR FUNCTIONS: 1954 CENSUS OF AGRICULTURE

Item	Man- hours per 100,000 farms	Costs for other than personal services per 100,000 farms	Item	Man- hours per 100,000 farms	Costs for other than personal services per 100,000 farms
Total	206, 123	113, 418	Oentral office processing—Continued County tabulations:		
Preparation of questionnaires and instructions Printing of questionnaires and instructions		5, 617	Supervisory work. Technical work.	1,010	
Preparing enumerator and crew leader maps		0,017	Clerical work	9.021	
Packing and distribution of materials for enumeration	440	564	Rental of equipment		2, 235
Preparing special lists such as of large farms, farms in urban			Other Economic Area tabulations:		3, 135
areas, etc	557 1,127	507		696	
Recruiting supervisors, etc. for Agriculture Field Offices	287	334	Technical work	648	1
General administration and control of crew leaders and enu- merators-Agriculture Field Offices:	1		Rental of equipment		1,858
Supervisory work	2,942		O the		1,110
Clerical work	2,367		Preparation and printing of -		1
Travel		2, 907 973	Preliminary releases: Supervisory work	226	
Rental of space Communications and other expenses		2, 191	Technical work		
Communications and other expenses			Clerical work	1,797	
Training of crew leaders.	2, 258	1, 571	Printing Volume I (Statistics by Counties, and State Economic		1, 381
Training of enumerators.	8, 908 16, 187	2, 048 427	Areas):		
Supervision of enumerators		9, 494	Supervisory work	809	
	miles)	, , , , , , , , , , , , , , , , , , , ,	Technical work	. 100	
Enumeration	82,669 (379,239	230 26, 547	Clerical work Printing	8, 142	4, 280
Travel	(379, 239 miles)	20, 047	Volume II (Statistics by Subject for Divisions and States):		
			Supervisory work	152	
General field direction and control Regional Field Offices:			Technical work Clerical work	109	
Supervisory work	844		Printing	1,004	. 89
Supervisory work Technical work Checking enumerators' work and preparing payrolls	2, 885		Special reports:		
Other clerical work Travel	. 640		Supervisory work Technical work	1 684	
Travel	(9, 935 miles)	695	Clerical work		
Communications		1, 191	Printing		2, 62
Other (space, etc.)		1, 051	Other Evaluation program	1, 849	. 1, 90
			Evaluation program	1,010	
Central office processing: Receiving, arranging by Minor Civil Division and mis-			General administration and miscellaneous services:		
cellaneous checking	2, 594		Overall direction	244	18
Editing and coding: Supervisory work	1 159		Procurement of supplies and services.		2,68
Technical work			Transportation	1	2,79
Clerical work	9, 434		Budgeting	- 118	68
			BudgetingAccounting and payrolling Accounting and payrolling Purchase and repair of general use equipment	1, 793	3, 27
Punching and verifying tabulating cards: Supervisory work	592		Telephone and communications for central offices		5, 58
Other clerical work					
Other clerical work Rental of equipment		2, 136	Rental of space for central office processing	200	- 3,05
Tabulating cards		2 A19	Maintenance of general central office files	727	
		1	General administration of central office processing except		1 10
Selection of cards with probable errors, checking and cor		1	tabulation General administration for tabulation	2, 224	
recting cards prior to tabulation:			Miscellaneous administration for tabulation		5,58
Supervisory work Technical work	- 177		Social security and other taxes		. 3, 32
(liquinal work)	4.621		Other	1,919	2,40
Rental of equipment		479			
Other		-1 4/3		1	1

FIGURE 56.-Table of Costs.