

APPENDIX A

General Explanation

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DATA COLLECTION

Method of Enumeration

The census of agriculture was conducted by direct enumeration beginning in April 1990 in conjunction with the population and housing censuses. On the last page of the population and housing questionnaire was an agriculture screening section. The enumerator was required to complete an agriculture questionnaire when a "yes" answer was received to any one of the five screening questions.

Questionnaire

The questionnaire for the 1990 Census of Agriculture in the Northern Mariana Islands was prepared by the Agriculture Division, Bureau of the Census, in cooperation with the Government of the Northern Mariana Islands.

The content of the 1990 census questionnaire is similar to the 1980 questionnaire. Quantity sold and value of sales were added to the crops and livestock sections. Other additions and deletions were made based on discussions with the Government of the Northern Mariana Islands and with respect to published tables in the 1980 census.

Followup Procedures

An enumerator was instructed to visit a farm up to three times. If no one was available to complete the questionnaire, the case would then be given to the supervisor. If all attempts to obtain the information from the farm operator failed, the information might then be obtained from a neighbor or by observation of the place.

DATA PROCESSING

The processing was done in the Agriculture Division at the Bureau of the Census. Each questionnaire was edited and coded prior to being keyed and tabulated. The questionnaires were examined for accuracy, consistency, and

completeness. Errors in computations and in units of measure, inconsistencies, and misplaced entries were corrected. Incomplete reports were adjusted on the basis of related information on the same form or on questionnaires for nearby farms of similar type and size.

After all questionnaires had been reviewed, the data were keyed and subjected to a detailed item-by-item computer edit. The edit performed comprehensive checks for completeness and consistency. Inconsistencies identified by the edit were corrected by subject matter specialists and reedited. The data were then tabulated by the computer for analysis. Following necessary corrections, the data were retabulated for final publication.

MAJOR DATA CHANGES

Prior to each agriculture census, the Bureau of the Census reviews the content of the census forms to eliminate questions no longer needed, identify new items necessary to meet user needs, and to better describe the agriculture situation in the Northern Mariana Islands. Data requests are solicited from government agencies in the Northern Mariana Islands. The following changes were made to the 1990 questionnaire:

- Additions:
 - Information on landlords
 - Ornamental plants and nursery crops
 - Chicken eggs value
 - Quarts of milk
 - Quantity and value of sales in the crops and livestock sections
- Deletions:
 - Coffee

FOLLOW-ON SURVEYS, SPECIAL CENSUSES, AND RELATED PUBLICATIONS

In addition to the 1990 Census of Agriculture for American Samoa and the Commonwealth of the Northern Mariana Islands, the census of agriculture program includes the 1987 Census of Agriculture for the 50 States, Puerto Rico, Guam, the U.S. Virgin Islands, the 1988 Farm and Ranch Irrigation Survey, the 1988 Agricultural Economics and Land Ownership Survey, and the 1988 Census of Horticultural Specialties.

Additional publications of the 1987 Census of Agriculture data include the Agricultural Atlas of the United States (previously called the Graphic Summary), Coverage Evaluation, Ranking of States and Counties, Government Payments and Market Value of Agricultural Products Sold, and ZIP Code Tabulations of Selected Items.

Also, there is a 1987 Economic Censuses of Outlying Areas publication for the Commonwealth of the Northern Mariana Islands (OA87-E-7).

DEFINITIONS AND EXPLANATIONS

The following definitions and explanations provide a more detailed description of terms used in this publication than are available in the tables or on the questionnaire. For an exact wording of the questions on the 1990 questionnaire, see appendix B.

In the tables, data for land in farms, land use, fruit and nut trees, and livestock and poultry on hand represent the situation existing at the time of enumeration of each farm. The enumeration for the 1990 Census of Agriculture began in April 1990 and the 1980 census in April 1980. All other data, such as that relating to acres and production, are for the calendar years 1989 and 1979. Sales are for 1989 only.

Farm operator—The term “operator” designates a person who operates a farm, either by doing the work himself/herself or directly supervising the work. The operator may be the owner, a member of the owner’s household, a tenant or renter, the manager, or the person in charge of an institutional farm. By definition, the number of farm operators is the same as the number of farms.

Farms or farms reporting—The term “farms” or “farms reporting” in the presentation of data denotes the number of farms reporting the item.

Land in farms—The land in farms was determined from the answers to questions 1 through 4 in section 1 of the questionnaire (see app. B). The amounts of land reported as owned and rented from others were added together, and the amount of land reported as rented to others was subtracted from that sum. The result represents “land in farms.” Although the area designated land in farms consists primarily of agricultural land, i.e.—land used for crops, pasture, or grazing—it also included areas of land not actually under cultivation nor used for pasture or grazing. For example, woodland and wasteland owned or rented from others were included as land in farms unless the report indicated it was being held for nonagricultural purposes, such as recreational or for timber.

Land owned—This includes all land held by the operator or his/her spouse under title, purchase contract, or as heir or trustee of an undivided estate at the time of enumeration. Land managed by a hired manager also was considered owned.

Land rented from others—This includes not only land that the operator rented or leased from others, but also land worked on shares for others and land used rent free.

Land rented to others—This includes all land the operator rented or leased to others and all land assigned to others on shares or rent free during the past year. For

the most part, the land rented to others represents agricultural land, but it also may include land rented for residential or other purposes. The tenant is considered to be the operator of land leased, rented, or worked on shares, even though the landlord may supervise the operations. The landlord is considered to be the operator of only that portion of the land not assigned to tenants.

Land use—Land in farms is categorized according to the way it was being used on enumeration day. The land uses described in the following paragraphs are mutually exclusive in that each acre of land is counted only once, even though it may have had more than one use during the year.

- **Cropland used for crops**—This includes all land planted in crops at the time of enumeration. Land was to be reported only once, even if two or more crops were planted on the same land. It includes field crops that were grazed when mature or almost mature; land in bearing and nonbearing fruit and nut trees or plants, or any other tree crops; land that had partial but not total crop failure; and land in home gardens.
- **Cropland not used for crops**—This includes all land that the operator considered as cropland but on which no crops were planted. It includes land used for pasture and grazing that the operator feels could have been used for crops; land with total crop failure as a result of drought, flood, insect, fire, or other causes; idle and fallow cropland; and cropland with soil improvement grass, cover crops, etc., for the purpose of improvement.
- **Pasture or grazing land**—This includes all land suitable for pasture or grazing, except land used for crops and cropland pasture whether or not used for grazing livestock. It also includes woodland being used for pasture.
- **Other land**—This includes all land that did not qualify either as cropland or pastureland. It includes land in house and building lots, lanes, roads, ditches, ponds, swamps, steep slopes, wasteland, brushland, and nonpastured woodland.

Type of holding—Agricultural operations were classified according to the response the enumerator obtained from the farm operator as to whether the farm was producing mainly for home consumption or mainly for sale.

- **Holdings producing mainly for home consumption**—This applies to holdings from which more than 50 percent of the agricultural output was consumed by the holder’s household.
- **Holdings producing mainly for sale**—This applies to holdings from which 50 percent or more of the agricultural output was for sale. These holdings were further classified by the farm operator according to their most important activity. If 50 percent or more of

the value was from one of the following, the holding was named accordingly.

- Crop holding is one which the value of sales from crops was more than 50 percent.
- Livestock and/or poultry holding is one which the value of sales from livestock and livestock products and/or poultry and poultry products was more than 50 percent.
- Mixed holding is one which the value of sales was mainly a combination of sales of crops, livestock, livestock products, and/or poultry and poultry products.
- Other holding is one which the value of sales was mainly from the sale of agricultural products not listed in the previous groups.

Crops harvested—The questionnaire contained individual inquiries for crops commonly grown and space to write in crops less frequently produced for the year 1990.

- **Field crops, melons, and vegetables**—The number of acres harvested, the total quantity of each crop harvested, the quantity sold, and value of sales during 1989 were to have been reported.

When two or more crops or two or more plantings of the same crop were harvested from the same land during the year, the acres were to be reported separately for each crop or planting.

- **Fruits and nuts**—For fruits grown on farms, information was obtained on the total trees both bearing and nonbearing, that were on the place on enumeration day. The total quantity harvested, the quantity sold, and value of sales were for 1989.
- **Nursery and ornamental plants**—Data reflect the number of square feet, acres, and value of sales for 1989.

Livestock and poultry—Data show the number on hand at the time of enumeration. All livestock and poultry on the place were counted at the time of the enumeration regardless of ownership.

Sales data were collected for all livestock, poultry, and fish sold from the place during 1989, as well as the dozens of eggs sold.

“Milk cows” were defined as cows that had been on the place on the day of enumeration and were milked at any time during 1989. All other cows were to be included in the data for “Other cattle and calves.”

Equipment—The following types of equipment on the place at the time of enumeration, regardless of ownership, were reported as long as they were in operating condition and used in the farm business.

- **Tractors**—This includes all wheel and tracklaying (crawler) tractors, garden tractors, and homemade tractors, other than motor tillers.
- **Motortrucks**—This includes pickup trucks, truck-trailer combinations, jeeps, and station wagons, if used primarily as trucks.
- **Automobiles**—This includes jeeps and station wagons used primarily as passenger cars.

Facilities—The presence or absence of electricity and/or piped running water on the place was reported.

- **Electricity**—This includes electrical power anywhere on the place including the dwelling of the operator.
- **Piped running water**—This includes water in pipelines by a pressure system or by gravity flow from natural or artificial sources. Water from a hand pump was not considered to be piped running water.

Operator characteristics—Data were obtained to classify the operators according to five characteristics.

1. **Residence of operator**—Farm operators were classified by residence according to whether or not they lived on the farms they were operating. Some of those who did not live on the farms they operated lived on farms operated by others. If all the land was rented from others or worked on shares for others, the operator was considered to live on the farm operated if the dwelling was included in the rental agreement. In such cases, the dwelling was not necessarily on the farm operated. Similarly, an operator who did not live on the land being cultivated, but who had some agricultural operations (other than a home garden) at his/her dwelling, was considered to be living on the farm operated.
2. **Year began operating present farm**—Enumerators were instructed to obtain the year an operator began to operate the farm, i.e., the first year the operator took continuous charge of the present farm or any part of it.
3. **Age of operator**—Operators were classified by age into six groups. The average age was obtained by dividing the sum of the ages of all operators reported by the number reported.
4. **Main occupation**—If the operator devoted 50 percent or more of his/her work time to agricultural activities, his/her main occupation was considered to be agriculture, otherwise his/her occupation was considered nonagricultural.
5. **Work off farm**—Only work by the operator for pay was to be reported. Days worked off the place were to include work at another farm or a nonfarm business, such as a store or repair shop; or at a

profession such as doctor, lawyer, or teacher. Exchange work or work done by the operator in exchange for comparable work done by someone else was not to be reported.

FARMS CLASSIFIED BY SPECIFIED CHARACTERISTICS

Tables 21 through 24 present detailed data for farms classified by specified characteristics—tenure of operator, size of farm, age of operator, and value of agricultural products sold.

Farms by tenure of operator—Farms were classified by tenure of operator on the basis of information reported for land owned, rented from others, or worked on shares for others. During the processing operations, each questionnaire was coded to indicate whether the farm operator was a full owner, a part owner, or a tenant. The various classifications of tenure are:

- Full owners operate only land they own.
- Part owners operate land they own plus land they rent from others.
- Tenants only operate the land they rent from others or work on shares for others.

Farms by size—Farms were classified by size on the basis of the total land area determined for each farm. According to the census definition, a farm is essentially an operating unit, not an ownership tract. All land operated or managed by one person or partnership represents one farm. In the case of tenants, the land assigned to each tenant is considered a separate farm even though the landlord may consider his/her entire land holding to be one unit rather than several separate units.

Farms by age of operator—Farms were classified by age of operator on the basis of information reported to the enumerator that was entered on the report form. The operator's age was classified into one of the age groups found in table 23.

Farms by value of agricultural products sold—Farms were classified on the basis of the total value of agricultural products sold. The total was obtained by adding the reported values of all products sold from the farm. The value of vegetables, field crops, fruits and nuts, nursery and ornamental plants, livestock, poultry, fish, and eggs was obtained from the operator at the time of enumeration. These values were classified into one of the groups found in table 24.

CENSUS NONSAMPLING ERROR

All data originated from a complete enumeration and, therefore, are not subject to sampling variability. However, the data are subject to nonsampling errors. Nonsampling errors can be attributed to many sources:

- Inability to identify all cases in the actual universe.
- Inability or unwillingness on the part of respondents to provide correct information.
- Definition and classification difficulties.
- Differences in the interpretation of questions.
- Errors in recording or coding the data obtained.
- Other errors of collection, response, coverage, and estimation for missing or misreported data.

The accuracy of these tabulated data is determined by the joint effects of the various nonsampling errors. No direct measures of these effects have been obtained; however, precautionary steps were taken in all phases of data collection, processing, and tabulation of the data in an effort to minimize the effects of nonsampling errors.

APPENDIX B. Report Form

OMB No. 0607-0667: Approval Expires 09/30/90

<p>NOTICE — Response to this inquiry is required by law (title 13, U.S. Code). By the same law YOUR REPORT TO THE CENSUS BUREAU IS CONFIDENTIAL. It may be seen only by persons who have sworn to uphold the confidentiality of the census and may be used only for statistical purposes. Your report CANNOT be used for purposes of taxation, investigation, or regulation.</p> <p>FORM 90-A1(NM) U.S. DEPARTMENT OF COMMERCE (10-4-89) BUREAU OF THE CENSUS</p> <h2 style="text-align: center;">1990 CENSUS OF AGRICULTURE</h2> <h3 style="text-align: center;">NORTHERN MARIANA ISLANDS</h3>	<p>Part A — QUESTIONNAIRE IDENTIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="2">Island number</th> <th colspan="3">FARM SERIAL NUMBER</th> <th rowspan="2">CENSUS USE ONLY</th> </tr> <tr> <th>ARA</th> <th>Block</th> <th>Map Spot</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> <p>Name of island _____</p> <p>Municipality _____</p> <p>Part B — OPERATOR'S NAME AND PHYSICAL LOCATION</p> <p>Full name (First name, middle initial, last name) _____</p> <p>Physical Location (Describe) _____</p>	Island number	FARM SERIAL NUMBER			CENSUS USE ONLY	ARA	Block	Map Spot					
Island number	FARM SERIAL NUMBER			CENSUS USE ONLY										
	ARA	Block	Map Spot											
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035	036	037	038	039										

READ TO RESPONDENT — We estimate that it will take from 10 to 20 minutes to complete this report, with 15 minutes being the average time. If you have any comments regarding these estimates or any other aspect of the census, refer to the information on Form D-31.

INSTRUCTIONS

Reporting land in section 1

This section is for recording information on all agricultural land the operator is associated with and for reporting the names of all landlords.

Question 1 — Acres owned — Report all land owned whether held under title, purchase contract or mortgage, or as heir or trustee of an undivided estate, by you and/or your spouse, or by the partnership, corporation, or organization for which you are reporting.

Question 2 — Acres rented or leased FROM OTHERS — Report all land rented, even though the landlord may have supplied equipment, fertilizer, or other materials and/or some supervision of the work.

Question 3 — Acres rented TO OTHERS — Include land rented to others for cash or a share of the crops or livestock or rent-free.

Question 4 — Total acres in this place — The entry is the sum of the acres owned, plus acres rented FROM OTHERS, minus the acres rented TO OTHERS. This entry represents all tracts of land regardless of where located in the Northern Mariana Islands that is operated by the person in charge.

SECTION 1 LAND IN AGRICULTURE

001

	None		Acres		Tenths
1. How many acres do you own?	<input type="checkbox"/>	040			/10
2. How many acres do you rent FROM OTHERS? (Include land used rent-free)	<input type="checkbox"/>	042			/10
3. How many acres do you rent TO OTHERS? (Include land for which no rent is received)	<input type="checkbox"/>	044			/10
4. TOTAL ACRES IN THIS PLACE — Add acres owned (question 1) and acres rented (question 2), then SUBTRACT acres rented TO OTHERS (question 3), and enter the result in this space. →		045			/10

Name of landlord	Acres	Tenths
		/10
		/10
		/10

5. If you rented land FROM OTHERS, (question 2) enter the following information for each landlord.

6. How many separate TRACTS or PIECES of land or plantations are represented in the "Total acres in this place?" 046 _____ Number of pieces

7. Is this holding producing mainly for home consumption or sale? (Mark (X) one) 047

1 Home consumption — GO to question 9

2 Sale — ASK question 8

8. If producing mainly for sale, which of the following is it? (Mark (X) one) 048

1 Crop holding

2 Livestock and/or poultry holding

3 Mixed holding

4 Other

9. What percent of the farm operation is financed by each of the following sources?

	None		Percent
a. Operator	<input type="checkbox"/>	049	%
b. Private	<input type="checkbox"/>	050	%
c. Commercial	<input type="checkbox"/>	051	%
d. Government	<input type="checkbox"/>	052	%
e. Other — Specify _____	<input type="checkbox"/>	053	%

SECTION 2 FIELD CROPS, MELONS, AND VEGETABLES

Did you harvest any **FIELD CROPS, MELONS, or VEGETABLES** in 1989 — such as yams, sweetpotatoes, taro, etc.?

- 002 1 Yes — Complete this section
 2 No — GO to section 3

- None
- 1. Cassava
 - 2. Chinese cabbage
 - 3. Corn
 - 4. Cucumbers
 - 5. Eggplant
 - 6. Melons (exclude watermelons)
 - 7. Sweetpotatoes
 - 8. Taro
 - 9. Watermelons
 - 10. Yams
 - 11. Other field crops and vegetables — Specify

How many acres were harvested in 1989? (a)		How many pounds were harvested in 1989? (b)	How many pounds were sold in 1989? (c)	What was the value of sales in 1989? (Dollars) (d)
Acres	Tenths			
060	/10	061	062	063
				\$
064	/10	065	066	067
				\$
068	/10	069	070	071
				\$
072	/10	073	074	075
				\$
076	/10	077	078	079
				\$
080	/10	081	082	083
				\$
084	/10	085	086	087
				\$
088	/10	089	090	091
				\$
092	/10	093	094	095
				\$
096	/10	097	098	099
				\$
100	/10	101	102	103
				\$

SECTION 3 FRUITS AND NUTS

Do you have any **FRUIT and NUT trees or plants** on this place — such as coconuts, bananas, mangoes, etc.? (Quantity harvested in 1989 and number of trees and plants on enumeration day.)

- 003 1 Yes — Complete this section
 2 No — GO to question 16

- None
- 1. Avocados
 - 2. Bananas
 - 3. Betelnuts
 - 4. Breadfruits
 - 5. Coconuts
 - 6. Green oranges
 - 7. Guavas
 - 8. Lemons
 - 9. Limes
 - 10. Mangoes
 - 11. Papayas
 - 12. Pineapples
 - 13. Starfruits
 - 14. Tangerines
 - 15. Other fruits, nuts, and tree crops (coffee, grapefruit, sweetsops, etc.) — Specify

How many trees or plants are on this place? (a)	What quantity was harvested in 1989? (b)	What quantity was sold in 1989? (c)	What was the value of sales in 1989? (Dollars) (d)
120	121	122	123
		Pounds	\$
124	125	126	127
	Clusters	Pounds	\$
128	129	130	131
		Pounds	\$
132	133	134	135
		Pounds	\$
138	137	138	139
		Pounds	\$
140	141	142	143
		Pounds	\$
144	145	146	147
		Pounds	\$
148	149	150	151
		Pounds	\$
152	153	154	155
		Pounds	\$
156	157	158	159
		Pounds	\$
160	161	162	163
		Pounds	\$
164	165	166	167
		Fruits	\$
168	169	170	171
		Pounds	\$
172	173	174	175
		Pounds	\$
176	177	178	179
		Pounds	\$

16. How many square feet under cover and/or acres did you have planted in **ORNAMENTAL PLANTS** or in any other **NURSERY CROPS**?

Square feet under cover	Acres	Tenths	What was the value of sales in 1989? (Dollars)
197	198	199	
		/10	\$

SECTION 4 LAND USE

004

Of the total acres in this place (section 1, question 4) —

- 1. How many acres are in crops?
- 2. How many acres are in other cropland (cropland pasture, crop failure, idle cropland, and cropland used for soil improvement)?
- 3. How many acres are in other pasture or grazing land? (Include woodland pasture. Do not include cropland pasture.)
- 4. How many acres are in other land? (Include houselots, roads, woodland not pastured, wasteland, etc.)
- 5. TOTAL LAND (Add entries in questions 1 through 4. Total should be equal to entry in section 1, question 4.)

None	Acres	Tenths
	201	
		/10
	202	
		/10
	203	
		/10
	204	
		/10
	205	
		/10

SECTION 5 LIVESTOCK AND POULTRY

005

How many of the following livestock and/or poultry are on this place today or were sold from this place in 1989?

- 1. Total cattle and calves of all ages (Total of "a" and "b" below)
- Of this total, how many are —
- a. Milk cows
- b. All other cattle and calves
- 2. Hogs and pigs of all ages
- 3. Goats and kids of all ages
- 4. Horses, mules, and colts of all ages
- 5. Other livestock — Specify
- 6. Chickens
- 7. Other poultry (ducks, pigeons, guineas, geese, turkeys, etc.) — Specify

None	How many are on this place today? (a)	How many were sold in 1989? (b)	What was the value of sales in 1989? (Dollars) (c)
	254	255	256
			\$
	257	258	259
			\$
	260	261	262
			\$
	263	264	265
			\$
	266	267	268
			\$
	269	270	271
			\$
	272	273	274
			\$
	275	276	277
			\$
	278	279	280
			\$

- 8. How many dozens of chicken eggs were sold during 1989?
- 9. How many quarts of milk were sold during 1989?

None	What was the quantity sold in 1989? (a)	What was the value of sales in 1989? (Dollars) (b)
	301	302
	Dozens	\$
	303	304
	Quarts	\$

SECTION 6 FISHERY

006

- 1. How many pounds of fish were caught on this place in 1989?

None	Total pounds caught (a)	Total pounds sold (b)	Value of sales (Dollars) (c)
	305	306	307

SECTION 7 SELECTED EQUIPMENT AND SPECIFIED FACILITIES USED ON THIS PLACE

007

1. How many of the following are on this place? (Include all specified equipment on this place today, regardless of ownership, provided it is in operating condition.)

- a. Tractors of all kinds
- b. Motortrucks
- c. Automobiles

None	Number
	315
	316
	317

- 2. Do you have the following on this place?
- a. Electricity Yes No
- b. Piped running water Yes No

