

1987

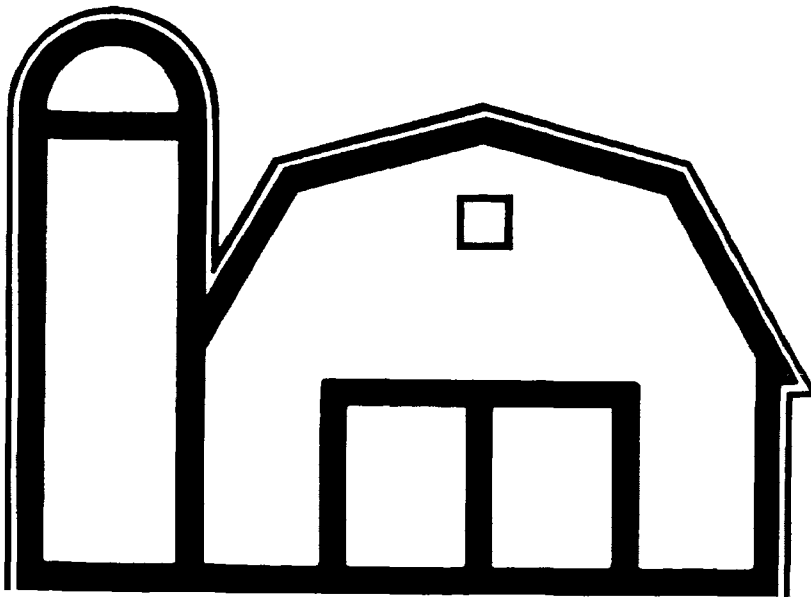
Census of Agriculture

AC87-S-1

Volume 2
SUBJECT SERIES

Part 1

Agricultural Atlas of the United States



U.S. Department of Commerce
BUREAU OF THE CENSUS

ACKNOWLEDGMENTS

This report was prepared in the Agriculture Division. Many other divisions contributed to this preparation: Economic Programming prepared the computer programs; Geography provided the computer mapping programs and the maps; and Administrative and Publications Services performed planning, design, composition, editorial review, and printing planning and procurement for publications and report forms.

Members of the Census Advisory Committee on Agriculture Statistics and representatives of both public and private organizations made significant recommendations which helped establish data content.

Members of various agencies of the U.S. Department of Agriculture provided valuable advice in the planning, publicizing, and processing phases of the census, and in helping farmers and ranchers complete the forms.

The press, farm magazines, radio and television stations, and farm organizations were most helpful in publicizing the census and encouraging cooperation of farm and ranch operators.

Special tribute is paid to the millions of farm and ranch operators who furnished the information requested. Only through their cooperation was it possible to collect and publish the data in this report.

If you have any questions concerning the statistics in this report, call:
(301) 763-8555 Division Chief
(301) 763-8561 Data Requirements and Outreach Branch

1987

Census of Agriculture

AC87-S-1

Volume 2
SUBJECT SERIES

Part 1

Agricultural Atlas of the United States

Issued June 1990



U.S. Department of Commerce
Robert A. Mosbacher, Secretary
Thomas J. Murrin, Deputy Secretary
Michael R. Darby, Under Secretary
for Economic Affairs

BUREAU OF THE CENSUS



BUREAU OF THE CENSUS
Barbara Everitt Bryant, Director
C. L. Kincannon, Deputy Director

Charles A. Waite, Associate Director for
Economic Programs
Roger H. Bugenhagen, Assistant Director for
Economic and Agriculture Censuses

Thomas L. Mesenbourg, Chief,
Economic Census Staff

AGRICULTURE DIVISION
Charles P. Pautler, Jr., Chief

Library of Congress Cataloging-in-Publication Data

Census of agriculture (1987). Volume 2. Subject series.
1987 census of agriculture. Volume 2. Subject series.
p. cm.
"AC87-S-1 < -6 >"

Contents: pt. 1. Agricultural atlas of the United States—pt.
2. Coverage evaluation—pt. 3. Ranking states and counties—pt.
4. History—pt. 5. Government payments and market value of
agricultural products sold—pt. 6. Code tabulations of selected
items.

Supt. of Docs. no.: C 3.31/12:987/v.2pt.1

1. Agriculture—Economic aspects—United States—Statistics.
2. Agriculture—Economic aspects—United States—States—Statistics.
3. Agriculture—Economic aspects—United States—Territories and
possessions—Statistics. I. United States. Bureau of the Census.
II. Title.

HD1769.C46 1990

338.1'0973'021—dc20

89-600341

CIP

For sale by Superintendent of Documents, U.S. Government Printing
Office, Washington, DC 20402.

CONTENTS

	Page
Introduction	IX
MAPS	
Boundaries for the 1987 Census of Agriculture.....	1
FARMS	
M1 Number of Farms: 1987	2
M2P Percent Change in Number of Farms: 1982 to 1987	3
FARMS BY VALUE OF SALES	
M3 Farms With Sales of Less Than \$2,500: 1987	4
M4 Farms With Sales of \$2,500 to \$4,999: 1987	4
M5 Farms With Sales of \$5,000 to \$9,999: 1987	5
M6P Percent of Farms With Sales of Less Than \$10,000: 1987	5
M7P Percent of Farms With Sales of \$10,000 or More: 1987	6
M8 Farms With Sales of \$10,000 to \$24,999: 1987	7
M9 Farms With Sales of \$25,000 to \$49,999: 1987	7
M10 Farms With Sales of \$50,000 to \$99,999: 1987	8
M11 Farms With Sales of \$100,000 to \$249,999: 1987	8
M12 Farms With Sales of \$250,000 to \$499,999: 1987	9
M13 Farms With Sales of \$500,000 or More: 1987	9
M14P Percent of Farms With Sales of \$500,000 or More: 1987.....	10
M15P Value of Sales From Farms With Sales of \$100,000 or More as Percent of Total Value of Sales: 1987 ..	11
FARMS BY SIZE	
M16P Average Size of Farm: 1987	12
M17P Average Size of Farm With Sales of \$10,000 or More: 1987	13
M18 Farms With Less Than 50 Acres: 1987	14
M19 Change in Number of Farms With Less Than 50 Acres: 1982 to 1987	14
M20 Farms With 50 to 99 Acres: 1987	15
M21 Farms With 100 to 259 Acres: 1987	15
M22 Change in Number of Farms With 50 to 259 Acres: 1982 to 1987	16
M23 Farms With 260 to 499 Acres: 1987	16
M24 Farms With 500 to 999 Acres: 1987	17
M25 Change in Number of Farms With 260 to 999 Acres: 1982 to 1987	17
M26 Farms With 1,000 to 1,999 Acres: 1987	18
M27 Farms With 2,000 Acres or More: 1987	18
M28 Change in Number of Farms With 1,000 Acres or More: 1982 to 1987	19
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD	
M29 Market Value of Agricultural Products Sold: 1987.....	20
M30P Market Value of Agricultural Products Sold by County: 1987	21
M31P Average Value Per Farm of Agricultural Products Sold: 1987	22
M32P Average Value Per Farm of Agricultural Products Sold With Sales of \$10,000 or More: 1987.....	23
M33P Average Value of Agricultural Products Sold Per Acre of Land in Farms: 1987	24
M34P Value of Agricultural Products Sold as Percent of Value of Land and Buildings and Value of Machinery and Equipment: 1987	24
M35P Value of Agricultural Products Sold as Percent of Value of Land and Buildings and Value of Machinery and Equipment for Farms With Sales of \$10,000 or More: 1987.....	25
M36 Value of Crops Sold: 1987	26
M37P Value of Crops Sold as Percent of Agricultural Products Sold: 1987	27
M38P Average Value of Crops Sold Per Acre of Harvested Cropland: 1987	27
M39P Value of Grains Sold as Percent of Agricultural Products Sold: 1987	28

	Page
M40P Value of Cotton and Cottonseed Sold as Percent of Agricultural Products Sold: 1987	28
M41P Value of Tobacco Sold as Percent of Agricultural Products Sold: 1987	29
M42P Value of Hay, Silage, and Field Seeds Sold as Percent of Agricultural Products Sold: 1987	29
M43P Value of Vegetables, Sweet Corn, and Melons Sold as Percent of Agricultural Products Sold: 1987	30
M44P Value of Fruits, Nuts, and Berries Sold as Percent of Agricultural Products Sold: 1987	30
M45P Value of Nursery and Greenhouse Crops, Mushrooms, and Sod Sold as Percent of Agricultural Products Sold: 1987	31
M46 Value of Livestock, Poultry, and Their Products Sold: 1987	32
M47P Value of Poultry and Poultry Products Sold as Percent of Agricultural Products Sold: 1987	33
M48P Value of Dairy Products Sold as Percent of Agricultural Products Sold: 1987	33
M49P Value of Cattle and Calves Sold as Percent of Agricultural Products Sold: 1987	34
M50P Value of Hogs and Pigs Sold as Percent of Agricultural Products Sold: 1987	34
M51P Value of Sheep, Lambs, and Wool Sold as Percent of Agricultural Products Sold: 1987	35

FARM-RELATED INCOME

M52 Payments Received From Federal Farm Programs: 1987	36
M53P Payments Received From Federal Farm Programs by County: 1987	36
M54 Income From Machine Work, Customwork, and Other Agricultural Services: 1987	37
M55 Income From Rental of Farmland, Forest Products, and Other Sources of Farm-Related Income: 1987 ..	37

FARM PRODUCTION EXPENSES

M56 Total Production Expenses: 1987	38
M57P Total Production Expenses by County: 1987	39
M58P Average Production Expenses Per Farm by County: 1987	40
M59 Expenses for Livestock and Poultry Purchased: 1987	41
M60P Expenses for Livestock and Poultry Purchased by County: 1987	41
M61 Expenses for Feed for Livestock and Poultry: 1987	42
M62P Expenses for Feed for Livestock and Poultry by County: 1987	42
M63P Expenses for Commercially Mixed Formula Feeds as Percent of Feed Purchased for Livestock and Poultry: 1987	43
M64 Expenses for Seeds, Bulbs, Plants, and Trees: 1987	44
M65P Expenses for Seeds, Bulbs, Plants, and Trees by County: 1987	44
M66 Expenses for Commercial Fertilizer: 1987	45
M67P Expenses for Commercial Fertilizer by County: 1987	45
M68 Expenses for Agricultural Chemicals, Excluding Fertilizer: 1987	46
M69P Expenses for Agricultural Chemicals, Excluding Fertilizer, by County: 1987	46
M70 Expenses for Petroleum Products: 1987	47
M71P Expenses for Petroleum Products by County: 1987	48
M72 Expenses for Gasoline and Gasohol: 1987	49
M73P Expenses for Gasoline and Gasohol by County: 1987	49
M74 Expenses for Diesel Fuel: 1987	50
M75P Expenses for Diesel Fuel by County: 1987	50
M76 Expenses for Natural Gas, LP, Fuel Oil, Kerosene, Motor Oil, Grease, Etc.: 1987	51
M77P Expenses for Natural Gas, LP, Fuel Oil, Kerosene, Motor Oil, Grease, Etc., by County: 1987	51
M78 Expenses for Electricity: 1987	52
M79P Expenses for Electricity by County: 1987	52
M80 Expenses for Hired Farm Labor, Excluding Contract Labor: 1987	53
M81P Expenses for Hired Farm Labor, Excluding Contract Labor, by County: 1987	53
M82 Expenses for Contract Labor: 1987	54
M83P Expenses for Contract Labor by County: 1987	54
M84 Expenses for Customwork, Machine Hire, and Rental of Machinery and Equipment: 1987	55
M85P Expenses for Customwork, Machine Hire, and Rental of Machinery and Equipment, by County: 1987	55
M86 Expenses for Interest Paid for Farm Business: 1987	56
M87P Expenses for Interest Paid for Farm Business by County: 1987	57
M88P Percent of Farms With Interest Expenses Paid by County: 1987	58
M89 Expenses for Repairs and Maintenance for Upkeep of Buildings, Motor Vehicles, and Farm Equipment: 1987	59
M90P Expenses for Repairs and Maintenance for Upkeep of Buildings, Motor Vehicles, and Farm Equipment, by County: 1987	59

LAND IN FARMS AND LAND USE

M91 Land in Farms: 1987	60
M92P Land in Farms as Percent of Land Area: 1987	61
M93 Land in Farms—Change in Acreage: 1982 to 1987	62

	Page
M94 Total Cropland: 1987	63
M95 Total Cropland—Change in Acreage: 1982 to 1987	64
M96P Total Cropland as Percent of Land Area: 1987	64
M97P Total Cropland as Percent of Land in Farms: 1987	65
M98 Harvested Cropland: 1987	66
M99 Harvested Cropland—Change in Acreage: 1982 to 1987	67
M100P Harvested Cropland as Percent of Land in Farms: 1987	68
M101P Pastureland as Percent of Land in Farms: 1987	68
M102 Acres Idled Under Annual Commodity Acreage Adjustment Program: 1987	69
M103 Acres in the Conservation Reserve Program: 1987	69

IRRIGATION

M104 Irrigated Land in Farms: 1987	70
M105 Irrigated Land—Change in Acreage: 1982 to 1987	71
M106P Percent of Land in Farms Irrigated: 1987	72
M107P Percent of Harvested Cropland Irrigated: 1987	73
M108 Irrigated Pastureland and Other Land: 1987	73
M109P Irrigated Corn for Grain or Seed by County: 1987	74
M110P Irrigated Sorghum for Grain or Seed by County: 1987	74
M111P Irrigated Wheat by County: 1987	75
M112P Irrigated Soybeans for Beans by County: 1987	75
M113P Irrigated Cotton by County: 1987	76
M114P Irrigated Alfalfa Hay by County: 1987	76
M115P Irrigated Vegetables Harvested by County: 1987	77
M116P Irrigated Land in Orchards by County: 1987	77

VALUE OF LAND AND BUILDINGS

M117P Average Value of Land and Buildings Per Farm: 1987	78
M118P Average Value of Land and Buildings Per Acre of Land in Farms: 1987	78

MACHINERY AND EQUIPMENT ON PLACE

M119 Estimated Market Value of All Machinery and Equipment on Place: 1987	79
M120P Estimated Market Value of All Machinery and Equipment on Place by County: 1987	80
M121P Average Market Value of All Machinery and Equipment Per Farm: 1987	81
M122 Motortrucks, Including Pickups: 1987	82
M123 Motortrucks, Including Pickups—Change in Number: 1982 to 1987	82
M124 Wheel Tractors: 1987	83
M125 Wheel Tractors—Change in Number: 1982 to 1987	83
M126 Wheel Tractors of Less Than 40 Horsepower (PTO): 1987	84
M127 Wheel Tractors of 40 Horsepower (PTO) or More: 1987	84
M128 Grain and Bean Combines: 1987	85
M129 Pickup Balers: 1987	85
M130 Cottonpickers and Strippers: 1987	86

AGRICULTURAL CHEMICALS USED

M131 Acres on Which Commercial Fertilizer Was Used: 1987	87
M132P Acres of Cropland Fertilized, Excluding Pastureland, as Percent of Harvested Cropland: 1987	88
M133 Acres on Which Lime Was Used: 1987	88
M134P Average Tons of Lime Applied Per Acre: 1987	89
M135 Acres of Crops, Including Hay, Treated for Insect Control: 1987	89
M136 Acres of Crops Treated for Nematodes: 1987	90
M137 Acres of Crops and Orchards Treated for Disease Control: 1987	90
M138 Acres of Land Treated for Weed or Grass Control: 1987	91
M139 Acres Treated With Chemicals for Defoliation or for Growth Control of Crops or Thinning of Fruit: 1987	91

TENURE AND CHARACTERISTICS OF FARM OPERATORS

M140 Farms Operated by Full Owners: 1987	92
M141P Percent of Farms Operated by Full Owners: 1987	92
M142P Percent of Land in Farms Operated by Full Owners: 1987	93
M143 Farms Operated by Part Owners: 1987	93
M144P Percent of Farms Operated by Part Owners: 1987	94
M145P Percent of Land in Farms Operated by Part Owners: 1987	94

	Page
M146 Farms Operated by Tenants: 1987	95
M147P Percent of Farms Operated by Tenants: 1987	95
M148P Percent of Land in Farms Operated by Tenants: 1987	96
M149P Rented or Leased Land in Farms by County: 1987	96
M150P Percent of Land in Farms Rented or Leased: 1987	97
M151 Farms Operated by Blacks and Other Races: 1987	97
M152P Average Age of Farm Operators: 1987	98
M153 Farm Operators 65 Years Old and Over: 1987	99
M154P Percent of Farm Operators 65 Years Old and Over: 1987	99
M155 Farm Operators Reporting Any Off-Farm Work: 1987	100
M156P Percent of Farm Operators Working Off Their Farms 100 Days or More: 1987	101
M157P Percent of Farm Operators Not Residing on Farm Operated: 1987	102
M158 Farms Operated by Female Operator: 1987	103
M159P Percent of Farms Operated by Female Operator: 1987	103

OCCUPATION OF OPERATOR

M160 Farm Operators Reporting Principal Occupation as Farming: 1987	104
M161P Percent of Farm Operators Reporting Principal Occupation as Farming: 1987	104
M162P Percent of Farm Operators With Sales of \$10,000 or More Reporting Principal Occupation as Farming: 1987	105
M163P Percent of Farm Operators Reporting Principal Occupation as Other Than Farming: 1987	105

FARMS BY TYPE OF ORGANIZATION

M164 Farms Operated by Individual or Family: 1987	106
M165P Percent of Land in Farms Operated by Individual or Family: 1987	107
M166 Farms Operated by Partnership: 1987	108
M167P Percent of Land in Farms Operated by Partnership: 1987	108
M168 Farms Operated by Corporation: 1987	109
M169P Percent of Land in Farms Operated by Corporation: 1987	109

LIVESTOCK AND POULTRY

M170 Cattle and Calves—Inventory: 1987	110
M171 Cattle and Calves—Change in Inventory: 1982 to 1987	111
M172P Cattle and Calves—Inventory by County: 1987	112
M173 Farms With 200 or More Cattle and Calves—Inventory: 1987	113
M174 Cows and Heifers That Had Calved—Inventory: 1987	113
M175P Cows and Heifers That Had Calved—Inventory as Percent of Cattle and Calves: 1987	114
M176 Milk Cows—Inventory: 1987	115
M177 Milk Cows—Change in Inventory: 1982 to 1987	115
M178P Milk Cows—Inventory by County: 1987	116
M179 Farms With 100 or More Milk Cows—Inventory: 1987	117
M180P Milk Cows as Percent of Cows and Heifers That Had Calved: 1987	117
M181 Beef Cows—Inventory: 1987	118
M182 Beef Cows—Change in Inventory: 1982 to 1987	118
M183P Heifers, Heifer Calves, Steers, Steer Calves, Bulls, and Bull Calves as Percent of Cattle and Calves: 1987	119
M184 Cattle and Calves Sold: 1987	120
M185 Cattle Fattened on Grain and Concentrates and Sold: 1987	121
M186 Fattened Cattle Sold—Change in Number: 1982 to 1987	121
M187P Fattened Cattle Sold by County: 1987	122
M188P Fattened Cattle Sold as Percent of Cattle and Calves Sold: 1987	123
M189 Farms With 500 or More Fattened Cattle Sold: 1987	123
M190 Hogs and Pigs—Inventory: 1987	124
M191 Hogs and Pigs—Change in Inventory: 1982 to 1987	125
M192 Farms With 200 or More Hogs and Pigs—Inventory: 1987	125
M193 Hogs and Pigs Used or to Be Used for Breeding—Inventory: 1987	126
M194 Hogs and Pigs Used or to Be Used for Breeding—Change in Inventory: 1982 to 1987	127
M195 Litters of Pigs Farrowed Between December 1, 1986, and November 30, 1987	127
M196 Hogs and Pigs Sold: 1987	128
M197P Hogs and Pigs Sold by County: 1987	129
M198 Feeder Pigs Sold: 1987	129
M199P Feeder Pigs Sold as Percent of Hogs and Pigs Sold: 1987	130
M200 Hogs and Pigs Sold Other Than Feeder Pigs: 1987	130
M201 Sheep and Lambs—Inventory: 1987	131

	Page
M202 Sheep and Lambs—Change in Inventory: 1982 to 1987	132
M203 Ewes 1 Year Old or Older—Inventory: 1987	132
M204 Sheep and Lambs Sold: 1987	133
M205 Milk Goats—Inventory: 1987	133
M206 Angora Goats—Inventory: 1987	134
M207 Horses and Ponies—Inventory: 1987	134
M208 Chickens 3 Months Old or Older—Inventory: 1987	135
M209 Chickens 3 Months Old or Older—Change in Inventory: 1982 to 1987	136
M210P Chickens 3 Months Old or Older—Inventory by County: 1987	137
M211 Broilers and Other Meat-Type Chickens Sold: 1987	138
M212 Broilers and Other Meat-Type Chickens Sold—Change in Number: 1982 to 1987	138
M213P Broilers and Other Meat-Type Chickens Sold by County: 1987	139
M214 Turkeys Sold: 1987	140
M215 Turkeys Sold—Change in Number: 1982 to 1987	140
M216P Value of Fish and Other Aquaculture Products Sold: 1987	141

CROPS HARVESTED

M217 Corn for Grain or Seed: 1987	142
M218 Corn for Grain or Seed—Change in Acreage: 1982 to 1987	143
M219P Corn for Grain or Seed by County: 1987	143
M220P Acres of Corn for Grain or Seed as Percent of Harvested Cropland: 1987	144
M221 Corn for Silage or Green Chop: 1987	145
M222 Sorghum for Grain or Seed: 1987	146
M223 Sorghum for Grain or Seed—Change in Acreage: 1982 to 1987	147
M224P Sorghum for Grain or Seed by County: 1987	147
M225P Acres of Sorghum for Grain or Seed as Percent of Harvested Cropland: 1987	148
M226 Wheat for Grain: 1987	149
M227 Wheat for Grain—Change in Acreage: 1982 to 1987	150
M228P Wheat for Grain by County: 1987	150
M229P Acres of Wheat for Grain as Percent of Harvested Cropland: 1987	151
M230 Oats for Grain: 1987	152
M231 Oats for Grain—Change in Acreage: 1982 to 1987	152
M232 Barley for Grain: 1987	153
M233 Barley for Grain—Change in Acreage: 1982 to 1987	153
M234 Rye for Grain: 1987	154
M235 Rice: 1987	154
M236 Soybeans for Beans: 1987	155
M237 Soybeans for Beans—Change in Acreage: 1982 to 1987	156
M238P Soybeans for Beans by County: 1987	156
M239P Acres of Soybeans for Beans as Percent of Harvested Cropland: 1987	157
M240 Peanuts for Nuts: 1987	157
M241 Dry Edible Beans, Excluding Dry Limas: 1987	158
M242 Dry Edible Peas: 1987	158
M243 Cotton: 1987	159
M244 Cotton—Change in Acreage: 1982 to 1987	160
M245P Cotton by County: 1987	160
M246P Acres of Cotton as Percent of Harvested Cropland: 1987	161
M247 Sunflower Seed: 1987	161
M248 Sugar Beets for Sugar: 1987	162
M249 Sugarcane for Sugar: 1987	162
M250 Irish Potatoes: 1987	163
M251 Irish Potatoes—Change in Acreage: 1982 to 1987	163
M252 Tobacco: 1987	164
M253 Tobacco—Change in Acreage: 1982 to 1987	165
M254 Land From Which Hay Was Harvested: 1987	166
M255P Land From Which Hay Was Harvested by County: 1987	167
M256 Land From Which Hay Was Harvested—Change in Acreage: 1982 to 1987	168
M257P Land From Which Hay Was Harvested as Percent of Harvested Cropland: 1987	168
M258 Alfalfa Hay Harvested: 1987	169
M259 Alfalfa Hay Harvested—Change in Acreage: 1982 to 1987	169
M260 Tame Hay Harvested, Other Than Alfalfa, Small Grain, and Wild Hay: 1987	170
M261 Small Grain Hay Harvested: 1987	170
M262 Wild Hay Harvested: 1987	171
M263 Grass Silage, Haylage, and Green Chop Hay Harvested: 1987	171

	Page
M264 Alfalfa Seed: 1987	172
M265 Red Clover Seed: 1987	172
M266 Fescue Seed: 1987	173
M267 Ryegrass Seed: 1987	173

VEGETABLES

M268 Vegetables Harvested for Sale: 1987	174
M269P Vegetables Harvested for Sale by County: 1987	175
M270 Asparagus Harvested for Sale: 1987	176
M271 Broccoli Harvested for Sale: 1987	176
M272 Cantaloups Harvested for Sale: 1987	177
M273 Cucumbers and Pickles Harvested for Sale: 1987	177
M274 Green Peas, Excluding Green Cowpeas, Harvested for Sale: 1987	178
M275 Head Cabbage Harvested for Sale: 1987	178
M276 Lettuce and Romaine Harvested for Sale: 1987	179
M277 Dry Onions Harvested for Sale: 1987	179
M278 Snap Beans Harvested for Sale: 1987	180
M279 Sweet Corn Harvested for Sale: 1987	180
M280 Tomatoes Harvested for Sale: 1987	181
M281 Watermelons Harvested for Sale: 1987	181

FRUITS, NUTS, AND BERRIES

M282 Strawberries Harvested for Sale: 1987	182
M283 Tame Blueberries Harvested for Sale: 1987	183
M284 Land in Orchards: 1987	184
M285P Land in Orchards by County: 1987	185
M286 Acres of Apples: 1987	186
M287 Acres of Avocados: 1987	186
M288 Acres of Peaches: 1987	187
M289 Acres of Pears: 1987	187
M290 Acres of Cherries: 1987	188
M291 Acres of Plums and Prunes: 1987	188
M292 Acres of Grapes: 1987	189
M293 Acres of Oranges: 1987	190
M294 Acres of Grapefruit: 1987	190
M295 Acres of Lemons: 1987	191
M296 Acres of English Walnuts: 1987	192
M297 Acres of Almonds: 1987	192
M298 Acres of Pecans: 1987	193

NURSERY AND GREENHOUSE CROPS

M299 Farms With Nursery and Greenhouse Crops, Mushrooms, and Sod for Sale: 1987	194
M300 Farms With Nursery and Greenhouse Crops, Mushrooms, and Sod With Value of Sales of \$2,000 or More: 1987	195
M301P Value of Nursery and Greenhouse Crops, Mushrooms, and Sod Grown for Sale: 1987	196
M302P Value of Bedding Plants Grown for Sale: 1987	197
M303P Value of Cut Flowers and Cut Florist Greens Grown for Sale: 1987	197
M304P Value of Foliage Plants Grown for Sale: 1987	198
M305P Value of Potted Flowering Plants Grown for Sale: 1987	198
M306P Value of Nursery Crops Grown for Sale: 1987	199

APPENDIX

Explanation of Terms (includes Summary of Mapped Data)	A-1
Publication Program	Last page

INTRODUCTION

	Page
SUMMARY OF MAPPED DATA	IX
AUTHORITY AND AREA COVERED.....	IX
HISTORY	IX
SOURCES OF INFORMATION	IX
FARM DEFINITION	IX
HOW THE MAPS WERE MADE	IX

SUMMARY OF MAPPED DATA

The maps in this report show data only for 1987, except for those showing increase or decrease. The 1987 totals along with the comparable 1982 totals for each item mapped are shown in the appendix on page A-5.

Data on acreages and inventories for 1987 and 1982 are generally comparable. Dollar figures shown for expenses and agricultural product sales have not been adjusted for changes in price levels between census years.

AUTHORITY AND AREA COVERED

The census of agriculture is required by law under Title 13, United States Code, sections 142(a) and 191, which directs that a census be taken in 1979, 1983, and in every fifth year after 1983 covering the prior year. The 1987 census includes each State, Puerto Rico, Guam, and the Virgin Islands of the United States. A census of agriculture will be conducted in American Samoa and the Commonwealth of the Northern Mariana Islands in conjunction with the 1990 Census of Population and Housing.

HISTORY

The 1987 Census of Agriculture is the 23d census taken by the U.S. Department of Commerce, Bureau of the Census. The first agriculture census was taken in 1840 as part of the sixth decennial census of population. From 1840 to 1950, an agriculture census was taken as part of the decennial census. A separate mid-decade census of agriculture was conducted in 1925, 1935, and 1945. From 1954 to 1974, a census of agriculture was taken for the years ending in 4 and 9. In 1976, Congress authorized the census of agriculture to be taken for 1978 and 1982 to adjust the data reference year so that it coincided with the economic censuses covering manufacturing, mining, construction, retail trade, wholesale trade, service industries, and selected transportation activities. This adjustment in timing established the agriculture census on a 5-year cycle collecting data for years ending in 2 and 7.

SOURCES OF INFORMATION

The data used in preparing the charts and maps shown were obtained from the 1987 Census of Agriculture. Detailed statistics for States and counties may be found in Volume 1, Geographic Area Series, of the 1987 census publications.

The 1987 Census of Agriculture was conducted primarily by mail for maximum economy. Appendix A of Volume 1, Geographic Area Series, provides a more detailed description of how the 1987 census was taken.

For a detailed description of coverage and data limitations, see volume 2, Part 2, Coverage Evaluation.

Detailed discussions of the census report forms, the use of sampling, and estimates of sampling error are included in appendix C, volume 1.

FARM DEFINITION

Since 1850, when minimum criteria defining a farm for census purposes first were established, the farm definition has been changed nine times. The current definition, first used for the 1974 census, is any place from which \$1,000 or more of agricultural products were produced and sold or normally would have been sold during the census year. The farm definition used for the outlying areas vary according to area. The report for each area includes a discussion of the farm definition.

HOW THE MAPS WERE MADE

Computer graphics techniques and technology were used in the production of the maps for this report and similar reports for the data from the 1974, 1978, and 1982 Censuses of Agriculture. The mapping system developed for the *1987 Agricultural Atlas of the United States* was built for use with a new, higher quality output device. The current maps were generated on the U.S. Geological Survey's Scitex Response 200/250 system. The Scitex is a raster or pixel oriented device unlike the vector type computer output on microfilm device used for previous agriculture atlas work.

The multicolored choropleth maps and the dot maps are the products of an automated statistical mapping system developed by the Geography Division of the U.S. Bureau of the Census. The mapping system includes agricultural data files, cartographic coordinate files, statistical mapping software, and software to transform the mapping output into a format compatible with the Scitex raster device.

Computer tapes were generated from the system to produce negative artwork on the Scitex that could be processed and sent to a printer for final publication. The negatives were produced at publication scale. This reduces the cost in both labor and materials.

The mapping system required several computer files as input. The Census Bureau's Agriculture Division provided data for the maps from tabulations of the 1987 Census of Agriculture. The data file contained data for each county and county equivalent in the United States and its associated Federal Information Processing Standards (FIPS) code. Files containing the vector format geographic coordinates of the boundaries of each county came from the Census Bureau's county boundary file and the coastline file from the U.S. Geological Survey's 1:2,000,000 digital data file provided by the Nuclear Regulatory Commission's Oak Ridge National Laboratories. The coordinates for each county were also identified by FIPS codes, allowing a 1-to-1 correspondence between the data and the geographic area to which they belong.

The mapping software performed statistical calculations, such as classing the data into categories or dot values, and determined the symbols used to represent the data for each county. Text for map titles, legends, and notes were scaled, positioned, and centered by the mapping software. In addition, the software transformed the vector-oriented map into a raster-oriented map that could be placed on magnetic tape in a format acceptable to the output device. Separate software modules were necessary to create the choropleth and the dot maps.

Choropleth Maps

A choropleth map uses a sequence of colors or shades to show the density of a phenomenon within the boundary of a geographic area. Most often, the data have been grouped into classes. To create each choropleth map, the mapping software classed the data and prepared one

negative overlay for each data class per map. An additional overlay was prepared that contained the text, the outline of the United States, and map neatline. The overlays for the classed county data were created by matching the FIPS codes of the data values with the coordinates of the appropriate county boundaries. A "scan-line" technique, in which overlapping horizontal lines fill the area within the borders of the county, was used to generate an "open-window" negative for each overlay. The open-window negatives were screened and composited into four negatives corresponding to the red, yellow, blue, and black inks used by the printer in the final publication.

Dot Distribution Maps

A dot map uses a dot to represent the number of a phenomenon found within the boundaries of a geographic area. In addition, the cartographer usually attempts to show the pattern of distribution within the area by placing the dots where the phenomenon is most likely to occur. Two types of dot maps appear in this report: a traditional type of dot map and an increase/decrease (two color) dot map.

Several different procedures and techniques were used to place the dots on the dot distribution maps: a land-use filter, weighting factors and scanlines. The land-use filter was prepared from the land-use map that was published by the U.S. Geographical Survey in *The National Atlas of the United States of America*. Fifteen land-use map overlays were scanned, combined, and scaled. Weighting factors were assigned to each land-use for each map. The land-use filter was turned into scan-lines. The mapping software matched the data to the appropriate county and placed dots within the scan-lines of the land-use filter with the highest weighting factors for that phenomenon. One negative overlay (black) was created for each traditional dot map and provided to the printer; the increase-decrease dot maps required two negative overlays (black and red).