
APPENDICES

APPENDIX A.—PHYSICAL FEATURES AND SOILS OF THE UNITED STATES

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APPENDIX A—PHYSICAL FEATURES AND SOILS OF THE UNITED STATES.

Broad general relations exist between the physical features of the United States and the soils of its different sections. This arises from the fact that the same forces which produced the physical features of the country have largely contributed toward the formation of its soils.

In general the land area of the country may be described as consisting of mountain masses, of high plateaus, of extensive plains, and of broad valleys.

The skeleton of the United States is built up by the mountain masses. Parallel with the eastern coast line the Appalachian Mountains stretch from north central Alabama northeast to the Hudson River. From the region of the upper Great Lakes a low hilly area, constituting a remnant of mountain chains, extends for a considerable distance to the westward along the northern boundary of the United States. In the western part of the country the Rocky Mountains extend from the Canadian boundary in a southeasterly direction to the Rio Grande. Parallel with the Pacific coast the Sierra Nevada Ranges extend entirely across the country, while along the immediate coast line the Coast Ranges, under different names, constitute an elevated and frequently mountainous coastal boundary. In the south central portion of the United States the Ozark uplift and associated mountain masses constitute an elevated area in southern Missouri, northern Arkansas, and eastern Oklahoma.

Between the Coast Ranges and the Sierras are extensive inland valleys, the largest of which lies in central California, while another development of the same feature is found in the Puget Sound region in Washington and the Willamette Valley in Oregon.

Between the Sierras and the Rocky Mountains exists a great inland basin whose waters have no outlet to the sea except in the more northern and southern portions. The altitudes within this basin range from near sea level to elevations in excess of 7,000 feet. In fact this region may be said to consist of a series of basins, plateaus, and minor mountain ranges. This interior basin section is subdivided into the Northern Intermountain region or basaltic plateau, the central Great Basin region, which has no outlet to the sea, and the southern arid Southwest, bordering the lower courses of the Colorado River.

East of this region rise the high plateaus of eastern Utah and northern Arizona and New Mexico which surround the lower elevations and the foothills of the Rocky Mountains and are continuous with the High Plains, which slope from the eastern boundary of the Rocky Mountain section and gradually merging with the Residual Prairie areas of the Southwestern states and with the upper portion of the Great Mississippi Basin.

The Mississippi Basin is separable into several subdivisions. All of its more northern and northwestern portion consists of a low glaciated plateau, lying at altitudes of 1,000 to 1,500 feet above sea level. The southwestern portion is separated from the southeastern by the low elevations of the Ozark uplift, the Boston Mountains, and the Ouachita Mountains. This portion consists of low lying prairie areas which merge with the High Plains region to the west and sink below the Coastal Plains region in the south. The northeastern portion of the Mississippi Basin rises gradually until it merges with the western portion of the Appalachian Plateau, which in turn flanks the Allegheny Mountains at altitudes of 2,500 to 3,000 feet.

Between the Appalachian Mountain system and the sea lies the extensive Piedmont Plateau. This physical division slopes gently seaward from the eastern foothills of the Blue Ridge and disappears beneath the Coastal Plain at an altitude of 350 to 500 feet. The remainder of the United States consists of a seaward-sloping Coastal Plain, which joins the Residual Prairies in the extreme southwest, slopes southward from the southern boundary of the Ozark uplift and the extreme southwestern portion of the Appalachian region, and abuts against the Piedmont Plateau from east central Alabama to the vicinity of the Hudson River.

The Appalachian Mountains extend northward along the Hudson River in the form of low ridges, which are given various local names in the eastern portion of New York and in the western portion of the New England states. Similarly the Piedmont Plateau is prolonged to the northeast by the eastern and western highlands of the southern New England states. The Coastal Plain skirts the southern shore of Long Island and includes portions of the smaller islands along the Massachusetts coast.

THE ATLANTIC AND GULF COASTAL PLAIN.

The entire margin of the United States, from Cape Cod to the Rio Grande and for a long distance up the embayment of the Mississippi River, is included in the Atlantic and Gulf Coastal Plain region. This is a region of low relief which slopes gently from the higher portion of the continent to the Atlantic Ocean and the Gulf of Mexico. Nowhere does the Coastal Plain rise to an altitude in excess of 600 feet above tide level.

From the Hudson River southward to the vicinity of Norfolk, Va., the Coastal Plain rises inland by a series of ridgelike interstream areas which attain to altitudes of 75 to 250 feet above the nearby tidewater. This is a region of deeply indented estuaries and of ridged and terraced interstream land areas. Southward from Norfolk to the southern boundary of Georgia the Coastal Plain rises from tidewater with low gentle slopes which reach back nearly or quite 100 miles inland with a very gentle rise averaging not more than 2 feet to the mile through the greater portion of this section. The larger streams flow through deep-cut channels which are frequently bordered by low and narrow terraces. The upland portion of the Coastal Plain within this section consists of flat featureless interstream plains whose drainage is only partly established.

The Florida peninsula within the Coastal Plain is unique. Its foundation consists of a broad platform of limestone and coralline rock rising to a slight elevation above tidewater. In all of the southern portion the limestone rock is covered with only a thin layer of yellow or white sandy mineral matter, or in the more swampy portion with a layer of muck a few feet in thickness. The entire northern portion, along the line where the state joins Alabama and Georgia, consists of a rolling and well drained hilly section similar to the interior portions of the Coastal Plain in the South Atlantic region.

From the western boundary of Georgia the Coastal Plain sweeps westward and northward through Alabama and eastern Mississippi. Its coastward section is somewhat indented by estuaries and tidewater embayments in the region from Pensacola to Mobile Bay. Between these the higher lands approach nearly or quite to the coast. From the vicinity of Mobile Bay the plain flattens toward the west to the valley of the Mississippi at low elevations in southern Mississippi and eastern Louisiana. The interior portions of Alabama and Mississippi throughout the Coastal Plain section consist in general of roughly concentric ridges nearly parallel with the inland border of the Coastal Plain section and rising to low elevations above the intervening valleys. Across these elevations the main streams have cut their channels so that the elevations consist of choppy hills rather than of regular ridges. The Coastal Plain region extends up the Mississippi Valley to the southern boundary of Kentucky.

The Mississippi River, with its great alluvial bottoms, separates the eastern division of the Gulf Coastal Plain from the western. Along the immediate boundary of the Gulf, from the Mississippi River to the Rio Grande, the Coastal Plain consists of a low, featureless plain which throughout the greater portion of its extent is a prairie country. Inland from this section in western Louisiana, southern Arkansas, and eastern Texas the rolling features of the inland sections of the Atlantic Coastal Plain are repeated. The western and northwestern portion of the Coastal Plain, in north central Texas and southern Oklahoma, consists of the rolling calcareous prairie which has its counterpart to a limited extent in central Alabama and in northeastern Mississippi. To the southwest the Coastal Plain merges gently into the great Rio Grande embayment which constitutes an old estuarine portion of the same class of deposits.

In general the drainage of the seaward portion of the Coastal Plain, both along the Atlantic and Gulf coasts, is only partially established, and a belt of interrupted swamp fringes the entire Atlantic and Gulf coast sections from the Dismal Swamp in Virginia to the Everglades in Florida and thence westward along the shores of the Gulf of Mexico. Inland from this swampy section is a region of moderate relief and fair drainage, while the interior portion of the Coastal Plain is always elevated and well drained except along the alluvial bottoms. In many instances the higher lying portion of the Coastal Plain has been deeply cut by the streams which flow across it, so that erosion constitutes a serious problem in that region.

SOILS OF THE COASTAL PLAIN.

The soils of the Coastal Plain region are derived from unconsolidated marine deposits of gravel, sand, loam, and clay. There are some areas within the Coastal Plain region where the soils are also derived from the weathering of calcareous marls, or of partly consolidated limestones. All of these materials, with the exception of the marls and limestones, consist of sediment brought down from adjacent land areas and deposited beneath the sea. The limestone and marl areas consist of the remains of ancient sea animals, either deposited alone or with mechanical sediment like sand or clay brought in from adjacent areas.

The lower-lying and frequently poorly drained portions are marked by dark-colored, mucky surface soils, ranging from black sand through sandy loams to heavy loams and silt loams. In almost all instances these surface soils are underlaid by gray or mottled sandy loams or silty clays. In better drained areas along the coast the surface soils consist of gray sands, fine sands, or fine sandy loams underlaid by yellow silty loams or yellow clay. At higher elevations the surface soils are frequently gray, while the subsoils consist of mortarlike red sandy clay.

The soils derived from the marls are principally stiff, sticky black clays or clay loams underlaid by

drab clay which grades downward into the partly decomposed marl or limestone.

It is a characteristic of the Coastal Plain area that practically one-third of the entire region is covered by a fine sandy loam soil, while a considerable proportion is also included in the sandy loam or sand group. Except in the areas where the soils are derived from the marls and limestones, clay soils are not particularly prominent. There is thus a wide range in the soil characteristics, varying from extremely well-drained to droughty sand soils through fine sandy loam and sandy loam general-purpose soils to stiff clays.

It is estimated that the Atlantic and Gulf Coastal Plain covers approximately 365,000 square miles, or 233,000,000 acres, of territory, constituting one of the largest single grand divisions in the eastern portion of the United States.

PIEDMONT PLATEAU.

The Piedmont Plateau extends from east central Alabama to the northeast across central Georgia, western South Carolina, central North Carolina, Virginia, and Maryland, and through the eastern portion of Pennsylvania. It finally disappears as a distinct physiographic province in north central New Jersey. The highland portion of the southern and eastern New England states may, however, be considered as a continuation of this area. The latter region has been glaciated, and the resulting soils differ materially from those of the Piedmont Plateau to the south and west of the Hudson River.

The Piedmont Plateau proper has an elevation ranging from 350 to 500 feet along its eastern border, where it is overlapped by the materials of the Coastal Plain. From this region it rises gently to the northwest, attaining to altitudes of 1,100 and 1,200 feet along its western borders at the eastern foot of the Appalachian Mountain ranges. Its surface on a small scale is irregular throughout its entire extent, since the plateau has been deeply eroded by an intricate system of stream drainages constituting the headwaters of many of the principal Atlantic coast rivers. As a result of this deep erosion of an ancient plateau, any single county or small area within the Piedmont section consists of a series of rounded hills, of flat interstream plains, and of deep gorgelike valleys. The Piedmont Plateau region is one of very complete drainage.

SOILS OF THE PIEDMONT PLATEAU.

The soils of the Piedmont Plateau have been formed by the weathering of the rocks of that region. These rocks range from the crystallines, gneisses, granites, schists, and gabbros to the fine-grained partly crystalline phyllite and slate; some areas of marble are also included in the region. There is, in addition to the above, a series of soils derived from the sandstones and shales of the Triassic basins.

The soils of the Piedmont Plateau are principally sandy loams, loams, and clays. The southern portion is almost exclusively occupied by two main types. One of these consists of a gray, medium sandy loam surface soil underlaid by a stiff red, somewhat sandy clay. The other consists of a heavy red clay loam or clay surface soil of red color underlaid with similar stiff red clays. In the more northern portion of the Piedmont area the principal soils are a brown, somewhat gritty loam underlaid by a heavy yellow or reddish-yellow silty loam. The soils derived from the Triassic sandstones and shales are principally brown to reddish-brown loam or clay-loam surface soils, usually underlaid by a dark-red clay. In the areas where the soils are derived from the underlying marble the surface soil is prevalently a brown silty loam and the subsoil a yellow or reddish-yellow silty clay.

THE APPALACHIAN MOUNTAINS AND PLATEAU.

From north central Alabama to the Hudson River the Piedmont is bounded to the west by the high ridges of the Appalachian Mountains. The entire Appalachian region may be divided into three subdivisions. The eastern ranges, generally known as the Blue Ridge Mountains in their more southern portion and as South Mountains in Pennsylvania, constitute the first of the subdivisions. The Allegheny Mountains, consisting of long, nearly parallel, and level-topped ridges, which rise in a succession of mountain elevations, form the second subdivision. The plateau constitutes the third of the subdivisions of the Appalachian region. The topography and even the rock structure of the Appalachian Plateau is repeated to the west of the Mississippi River in the Ozark uplift, the Boston Mountains, and the Ouachita Mountains of southern Missouri, northern Arkansas, and eastern Oklahoma, constituting a westward extension of the same physical and soil province across the Mississippi River. The highest altitudes of the eastern United States are found in the Blue Ridge Mountain system in western North Carolina, where Mount Mitchell rises to an altitude of 6,711 feet.

The long parallel ridges of the Allegheny Mountains rise to altitudes of 1,800 feet and occasionally in excess of 2,500 feet. Usually the crests of these mountain ridges are nearly level and somewhat flattened; while the eastward slope is steep and precipitous, the westward slope is more gentle or even rolling.

The Appalachian Plateau, known as the Cumberland Plateau in eastern Kentucky and eastern Tennessee, rises along its eastern margin to altitudes in excess even of those of the Allegheny Mountains. Elevations of 2,500 to 3,000 feet are not uncommon along this eastern Allegheny front. To the west the surface of the plateau declines gently from an altitude of 2,500 feet in its eastern portion until it merges into the Mississippi Plain at an altitude of approximately 1,000 feet.

West of the Mississippi River the Ozark region consists of a mountainous and rough central portion which is surrounded in southern Missouri on all sides by the elevated Ozark Plateau which slopes gently to the northeast and northwest until it merges into the Mississippi Plain. To the south of this region the folded area of the Ouachita Mountains of northern Arkansas repeat on a smaller scale the folded mountain topography of the Allegheny Mountains. It is estimated that the total area of the Appalachian Mountain and Plateau Region approximates 110,000 square miles, or 72,000,000 acres.

SOILS OF THE APPALACHIAN REGION.

The soils of the Blue Ridge section of the Appalachian Mountains and Plateau Province are chiefly derived through the weathering of crystalline rocks, although some sedimentary rocks are included within the region. These soils consist principally of loams and sandy loams, usually possessing a dark-colored surface soil formed from the accumulation of partly decayed leaf mold. In many areas, however, this surface soil is lacking, and the surface consists of yellow or brown loams and sandy loams. The prevalent subsoil, particularly in the southern part of the Blue Ridge section, consists of a reddish-yellow or red sandy clay.

The soils of the Allegheny Mountain ridges and of the greater portion of the Appalachian Plateau are derived through the weathering of sandstone and shale rocks. There is a considerable variety. Those derived from the sandstones are prevalently sandy and stony loams. Those derived from the shales with some admixture of sandstone are principally sandy loams, fine sandy loams, silt loams, and a few clay soils.

THE LIMESTONE VALLEYS AND UPLANDS OF THE APPALACHIAN REGION.

The limestone valleys and uplands are closely associated with the Appalachian Mountain and Plateau Region, but because of the different characteristics of their constituent materials comprise a separate soil province. The most extensive limestone valleys lie almost exclusively within the fold of the Appalachian Ranges. Beginning in southeastern Pennsylvania a series of nearly parallel valleys stretches southwestward between the principal ranges of the Appalachians into north central Alabama. The main trough is known as the Cumberland Valley or the Great Valley throughout a considerable portion of its extent. There are numerous smaller limestone valleys within this general region which are separated from the main valley by high mountain ridges of the Allegheny Mountains. Central Tennessee, the basin region of Tennessee, and the blue grass region of Kentucky in the north central part of the state, constitute areas of similar soil and somewhat similar topographic relief. Throughout all

of these regions the valley floors are not level, but are either gently undulating or are interrupted by the higher ridges consisting of other classes of material than limestone. The altitude of the valley floor above sea level ranges from approximately 200 feet in southeastern Pennsylvania to altitudes in excess of 1,000 feet in eastern and middle Tennessee and Kentucky.

The soils of the limestone valleys of the Appalachian region, of the basin region of Tennessee, and the blue grass region of Kentucky are formed through the partial solution of the masses of blue or gray limestone which underlie this region and through the accumulation of the less soluble materials.

These limestone valley soils are predominantly loams and silt loams, although smaller areas of clay loams and clay are associated with the dominant soils. In general the surface soils are soft brown loams or silty loams, and the subsoil consists of a yellow or reddish-yellow silty loam, which grades downward into a silty clay loam. In more southern areas the surface soil is frequently a dark reddish brown or red loam and the subsoil a deep red loam or clay loam.

The limestone uplands are known in Kentucky and Tennessee as the highland rim, and in southern Missouri and northern Arkansas as the Ozark border. These limestones are siliceous and give rise to soils differing materially from the limestone soils of the valleys. The upland limestone soils lie at elevations ranging from approximately 800 feet above sea level in western Tennessee and Kentucky to altitudes of 1,400 feet above sea level in the Ozark border. In fact they constitute a siliceous limestone subdivision of the Appalachian Plateau. The limestone uplands are usually divided by steep gorgelike valleys through which the drainage of the region is accomplished.

The soils of the limestone upland have been formed through the partial solution of siliceous and cherty limestones. In consequence, both the soils and subsoils frequently contain a considerable amount of broken fragments of flint and chert and in many instances are stony and somewhat difficult to till. There are large areas, however, of soils consisting of a gray to light-brown silty loam surface soil underlain by a yellow or slightly reddish-yellow silty clay subsoil.

The total area of the limestone valleys and uplands is estimated at 106,250 square miles, or 68,000,000 acres.

THE GLACIAL AND LOESSIAL REGION.

Within recent geologic times all of the northeastern and north central portions of the United States were covered by a continental ice sheet which overrode the various physiographic provinces of that section and modified the topographic features and the soils. Thus, in the New England states, the northern extension of the Piedmont Region was ice covered to its highest elevation. In southern New York and northern Pennsylvania, the northern por-

tion of the Appalachian Plateau was ice covered, and all of the low plateau which comprises the northern portion of the Mississippi Basin was also deeply covered. In northwestern Montana the ice invasions extended to the eastern foot slopes of the Rocky Mountains.

The glacial invasion modified the topography of the region affected to a considerable degree. In general the higher elevations were rounded. Intermediate valleys were partially or completely filled by ice-borne débris and, in the north central portion of the United States, the topography was generally leveled and smoothed until the resulting rolling plain was formed. In the mountainous section such leveling up of the country was not effected and the valleys, the hill slopes, and the mountain tops alike were covered with a thin or thick layer of glacial material.

In connection with this invasion a large amount of fine silty material was spread far to the southward along the main stream channels and this loess deposit occupies considerable areas along the banks of the Mississippi, the Missouri, and the Ohio Rivers, also covering extensive interstream areas in southwestern Nebraska and western Kansas.

SOILS OF THE GLACIAL AND LOESSIAL REGION.

The soils of this glaciated region are as extremely varied as is the topography.

In the New England states the upland portion consists of the deeply trenched plateaus above which mountain systems rise in the more western part. A considerable amount of glacial outwash has formed the lower-lying plains which occupy southeastern Massachusetts, southern Rhode Island, and the main portion of the Connecticut Valley from the Vermont line southward. The Adirondack uplift in northern New York was similarly glaciated and the mountain peaks and intervening valleys of this region are covered to a varying degree with glacial débris.

The soils of the glaciated uplands of New England and of eastern New York consist principally of stony loams and stony sandy loams derived from the glacial till. In general the surface soils are gray or brown, while the subsoils are prevalently gray, yellow, or drab. The glacial outwash soils of the valleys are prevalently gravelly or sandy loams. The surface soil in these instances is either yellow in color or brown in case a larger amount of organic matter has been incorporated.

The northern extension of the Appalachian Plateau which comprises a large portion of southern New York, northern Pennsylvania, and northeastern Ohio was also glaciated. In this region the topography was smoothed and the deeper valleys were filled with glacial outwash material. As a result, all of the upland portion of this region consists of rounded and rolling plateaus interspersed by broad winding valleys. The topography was sufficiently smoothed by glaciation so

that a large proportion of the land surface has at some time or other been occupied for agricultural purposes.

The soils of the glaciated plateau region consist principally of glacial material brought in from other sources and mingled with materials derived from the underlying sandstones and shales. The prevalent soils are somewhat stony or shale-filled loams and silty loams, although minor areas of gravelly loams and of clay soils exist, and within this region also the deeper valleys are frequently partially filled with glacial outwash materials where brown gravelly loam and brown loam soils support general farm crops.

Throughout practically all of the upper Mississippi Basin the glaciation was repeated at various intervals. Preexisting valleys were filled and irregularities of topography were largely obscured. It is only in the ancient mountain region of the upper lakes that any high ridges or hills still remain. A constant feature of all this glaciated portion of the United States consists of the low rolling ridges or lines of hills formed by the glacial moraines. These consist of accumulations of ground-up rock material ranging in size from the finest clay to boulders of many tons in weight, all of which materials were piled together indiscriminately in the form of irregular ridges. These may be numerous and intricately merged one into another as in some portions of Michigan, Wisconsin, and Minnesota, or they may simply consist of low swells of somewhat concentric arrangement as in portions of Indiana, Illinois, and Iowa.

The drainage of this general region is accomplished by the deep-cut channels of the major streams into which many minor streams flow from the upland portion of the country. There are, however, extensive interstream areas where the drainage is not yet well established, and, particularly in the morainal portion of the glaciated region, there remain numerous depressions which are occupied by lakes, ponds, and swamps.

The glacial and loessial region of the United States constitutes one of the most extensive divisions and is certainly the most important agricultural region of the United States.

The soils of the glacial and loessial region of the upper Mississippi Basin are derived from an extremely heterogeneous mass of glacial débris. In the more northern portions along the upper Great Lakes the material is prevalently sandy and gravelly with smaller areas of stony loam. The soils in this region are usually of a yellow or gray color, and consist of sands, fine sands, and sandy loams. Many areas of gravelly and stony soil also exist. This area is only partially occupied for agricultural purposes and to a considerable extent consists of cut over forest lands. There are also many swampy areas included within this territory.

South of this region and covering the larger part of eastern South Dakota, eastern North Dakota, southern Minnesota, and northern Iowa, and practically all of the territory south of the lower Great Lakes, there is

an undulating to rolling upland country where the soils are derived almost entirely from the glacial débris. In the more western portion the surface soils consist principally of dark-brown to black loams underlaid by brown, gray, or drab gravelly and stony loam subsoils. Drainage is excellent and the general farm crops suited to the climatic conditions are produced. In northern Indiana, southern Michigan, and western Ohio the principal glacial upland soil is a brown loam or heavy clay loam underlaid by a gray or drab clay loam subsoil.

The soils of the great corn belt region extending from Indiana westward to Nebraska and Kansas are principally derived from a thick covering of soft silty material known as the loess. It is probable that the loess has chiefly been brought to its present position through wind action, although the material itself is undoubtedly of glacial origin. It covers the banks of the main streams to a considerable depth and thins out over the rolling, upland, interstream areas. From this material a number of important soils have been derived, the most extensive of which is a dark-brown to black silty loam soil underlaid by a yellow, gray, or drab stiff silty loam subsoil. This constitutes the dominant brown or black prairie corn soil of the Central states. Associated with it, and particularly in the timbered areas along the streams, is a yellow to yellowish brown silty loam surface soil underlaid by a yellow silty subsoil, also derived from the loess.

In southern Illinois and over a considerable proportion of northern Missouri and southern Iowa a thin deposit of loess has been made over the underlying glacial materials. The soil in southern Illinois is principally a gray silty loam underlaid by a stiff gray silty clay. In northern Missouri and southern Iowa the surface soil is prevalently a dark-brown silty loam which is underlaid by a stiff plastic silty clay.

Practically one-half of the entire glacial and loessial region is occupied by the silt loam soils, while nearly three-fourths of the entire area has a narrow range in texture, grading from loam through silty-loam to clay-loam soils. It is a region of few soil types, but each type is of great geographical extent. The total land area of this region is estimated at 710,000 square miles, or 455,000,000 acres.

GLACIAL LAKE AND TERRACE PROVINCE.

Closely associated with the glaciation of the North Central states was the deposition of extensive areas of water-worked material brought down from the glaciated uplands and deposited beneath the waters of temporary glacial lakes. These deposits are most numerous along the margins of the lower Great Lakes as they exist at present.

The soils of this region range from sands and gravelly sands to stiff clay soils. Sandy loams, loams, and clays predominate, but all of the other grades of texture are well represented.

In the lower Lake regions there are two prevalent groups of soils within the Glacial Lake and Terrace

Province. The lower lying soils which occupy shallow depressions within the areas of the ancient glacial lakes are prevalently black mucky loams at the surface underlaid by gray or mottled loams, sandy loams, and clay loam subsoils. These soils owe their origin to the mingling of a large amount of decayed vegetable matter with the sediments of the glacial lakes.

The other predominant soils consist of brown surface soils ranging in texture from gravelly sands and sandy soil to stiff silty loams and clays. These soils are usually brown, yellow, or mottled loams, silt loams, and clays. These soils comprise the higher lying ridges and ancient shore lines, the marginal deltas and the general deposits of the finer grained loam, silt loam, and clay materials over the higher lying portion of the lake beds and are well drained under natural conditions.

Another extensive area of glacial lake soils lies within the basin of the Red River of the North. The soils of this region around the margin of the basin consist of sandy loams and gravelly loams occupied for the production of general farm crops. The soil of the lower lying interior portion of the Red River Valley is prevalently a dark-brown to jet-black heavy clay loam underlaid by a drab clay.

THE WESTERN RESIDUAL PRAIRIE REGION.

This region comprises the nonglaciated part of the prairie plains, bounded on the north by the Missouri River and thence stretching southwestward through eastern Kansas, central Oklahoma, and central Texas to the Rio Grande. On its eastern margin it is bounded by the Ozark uplift and the Coastal Plain deposits of the western Gulf region. To the west it rises gently and merges with the area of the High Plains at an altitude of approximately 2,500 feet. The surface of the Residual Prairie area is throughout gently rolling, with occasional ridges and low mountain elevations, particularly in south central and southwestern Oklahoma.

SOILS OF THE RESIDUAL PRAIRIE REGION.

The soils of the Residual Prairie region are derived through the weathering of sandstones, shale, and limestone rock. They consist principally of fine sandy and silty loams in the more western portion of the prairie region and of heavy silty loams and silty clay loams in the eastern and northeastern portion. They vary in coloration from the deep brown or reddish-brown limestone soils of eastern Kansas to the red, fine sandy and silty loams derived from the Red Beds of western Oklahoma and north central Texas.

THE HIGH PLAIN PLATEAUS AND MOUNTAIN VALLEYS.

From approximately the line of the one hundredth meridian westward to the foothills of the Rocky Mountains the High Plains slope gradually upward until they merge into the lower ranges of the mountain

foothills. This territory extends in a broad belt from the Canadian boundary line to the Rio Grande. It rises rapidly from an altitude of approximately 2,500 feet on the eastern border to altitudes of 7,000 feet where the plain is wrapped around the flanks of the mountain masses.

The High Plains, to the east of the Rocky Mountains, merge into the elevated plateaus of central and southwestern Wyoming and western Colorado, eastern Utah, and extreme northeastern Arizona and northern New Mexico. The entire area constitutes the elevated platform above which the Rocky Mountains rise in extensive masses.

SOILS OF THE HIGH PLAINS REGION.

Upon the plateau portion, gravelly and sandy loam soils prevail at the higher altitudes, while upon the slopes of the High Plains, eastward to the central valley, extensive areas of sandy loam, silty loam, and even of clay soils are interspersed by areas of wind-blown sand and of gravelly loam.

THE WESTERN MOUNTAIN REGIONS.

A large extent of the country in the western two-fifths of the United States consists of high mountain masses, ranges, and peaks. These comprise the ranges which are collectively known as the Rocky Mountains, the Sierra Nevadas, and the Coast Ranges, together with a large number of less extensive secondary ranges lying principally between the Sierra Nevadas and the Rocky Mountains.

Throughout these regions the altitudes range from 5,000 or 6,000 feet above sea level to extreme altitudes of over 14,000 feet. Within the numerous small valleys, where water can be brought from the adjacent mountain slopes, many small irrigated areas sustain an intensive agriculture upon a wide variety of soils.

SOILS OF THE WESTERN MOUNTAIN REGION.

The soils are principally gravelly and sandy loams, formed from the detritus washed down from the mountain slopes and deposited along the stream valleys or in small temporary lake basins.

THE NORTHWESTERN INTERMOUNTAIN REGION.

Between the main masses of the Rocky Mountains to the east and of the Cascade Ranges to the west there is an extensive and varied interior plateau country occupying southern and western Idaho and the eastern portion of Oregon and Washington, which is designated as the Northwestern Intermountain region.

The surface features of this region are extremely varied. In southern Idaho there are extensive lava-covered plains which lie at altitudes ranging from 2,000 to 5,000 feet above sea level. In eastern Washington and northeastern Oregon the lava fields are also found as a high plateau at approximately

the same altitude, while above this elevation extensive mountain masses rise. Within this region also there have been formed deposits of volcanic ash which cover the rolling surface of the region at the lower elevations and have been blown by the wind across the lower undulations of the high plateau regions. There are also at the lowest elevations the remains of many ancient lakes, whose beds are now exposed and constitute a portion of the agricultural land of the region. In part, these ancient lakes have been filled with volcanic ash and in part they have been filled by the detritus brought down by mountain and plateau streams from the higher levels.

SOILS OF THE NORTHWESTERN INTERMOUNTAIN REGION.

There is a wide variation in the characteristics of the soils of this region. In part, they consist of dark-colored silty and very fine sandy loams formed from the weathering of the lava caps of the plateau region. In part the soils are loams consisting of wind-blown material frequently made up to a considerable degree of volcanic ash. At the lower elevations, particularly within the ancient lake beds, the volcanic ash is also found mingled to a greater or less degree with the broken rock fragments carried in from higher altitudes.

GREAT BASIN REGION.

The Great Basin region lies between the Rocky Mountains and the Sierra Nevadas. It stretches southward from the Intermountain region in southern Oregon and Idaho until it merges with the extremely arid southwestern portion of the United States along the lower course of the Colorado River.

The physical features of the Great Basin region are extremely varied. To the east it is bounded by high mountain ranges or plateau escarpments; to the north it merges into the lava-capped plateaus of the Intermountain region; to the west it is bounded sharply by the eastern foothills of the Sierra Nevada Mountains; to the south it merges gradually into the arid plateaus along the lower Colorado River. Within the Great Basin region there are numerous high mountain ranges which have a general north and south trend and which rise from altitudes of 1,500 feet to 4,000 feet above the general level of the interior basin. Between these mountain ranges there are broad valleys, extensive desert sinks, and broad desert plains which at one time formed the bottoms of lakes.

Practically all of the scanty rainfall of the area flows through intermittent streams into the remnants of ancient lakes. These possess no outlet and the water level is maintained fairly constant through evaporation from the surface. In consequence of scanty precipitation agriculture is only possible where mountain streams descend upon the more level sedimentary and colluvial deposits of the valley areas, making irrigation possible.

SOILS OF THE GREAT BASIN REGION.

The soils of the Great Basin region also are extremely varied. Upon all of the higher mountain slopes and upon the flanks the soils are of residual origin from the underlying rock. The soils of the desert sinks and basins range from stony and gravelly loams, fine sandy loams, and heavy clay. Those of the colluvial and alluvial slopes are frequently gravelly, porous, and sandy.

THE ARID SOUTHWEST.

This region comprises the extreme southern portion of Nevada, the southeastern interior region of California, and southwestern Arizona and New Mexico. It is a region of scanty rainfall and is distinguished principally from the Great Basin region through the fact that there is outflow from this section to the Colorado River and its tributaries.

Within this region the altitudes range from less than 500 feet above sea level along the Colorado River to elevations of many thousand feet in the included mountain ranges. In general the lower altitudes within the arid Southwest consist of broad desert plains lying between the more elevated mesas or tablelands and between the mountain ranges. These sandy, gravelly, treeless plains are marked by occasional basin-like depressions which are sometimes occupied by desert lakes possessing no outlet. Above these plains low rounded hills and mesas rise and isolated elongated mountain ridges cut through the region with a general northwest and southeast trend. The soils are prevailing sands or sandy loams, although in the desert basins heavy clay soils also are found.

THE PACIFIC COAST REGION.

The Pacific coast region consists of a large number of small valleys enfolded within the masses of the Coast Ranges and of the great interior valley of Cali-

fornia which lies between them and the Sierra Nevadas. In this same region also is included the valley of the Willamette River and the Puget Sound Basin of western Oregon and Washington.

SOILS OF THE PACIFIC COAST REGION.

The soils of these numerous valleys are extremely varied, ranging from the gravelly and sandy soils brought down by torrential mountain streams and deposited along the margins of the valleys, to loams, heavy loams, clay, and the peculiar "adobe" soils of certain portions of the Pacific coast. The majority of the soils are either of colluvial, alluvial, or marine deposition, although many smaller areas of residual soils are to be encountered, particularly upon the coastal benches bordering the Pacific Ocean and within the southern portion of the Puget Sound region and the northern part of the Willamette Valley.

THE RIVER FLOOD PLAINS.

Throughout the eastern and central portions of the United States, all of the larger rivers are bordered by alluvial flood plains through some or all of their courses. The alluvial flood plains of the Mississippi and of its principal tributaries are of sufficient extent so that they may be indicated upon a map.

These soils vary considerably from one portion of the country to another. They usually partake to a remarkable degree of the characteristics of adjacent upland or of uplands along the headwaters of the streams upon which they border. In general the soils of the alluvial flood plains are fine sandy or silty loams or else dense compact clays. They are usually marked by low elevation above the stream, although there is a wide variation in their altitude above the sea level. Usually also they are naturally poorly drained and frequently require protection from overflow before they may be occupied agriculturally.

APPENDIX B—AGRICULTURAL SCHEDULES: 1850 TO 1910.

The census of 1850 was the first for which a special agricultural schedule was provided. The progress in the collection of agricultural statistics since that year may be best indicated by a brief review of the changes in the schedules from census to census.

There was very little difference in the schedules of 1850, 1860, and 1870. All seem to have been prepared in conformity with the provisions of the census act of 1850, which were not materially changed in the three decades following.

The schedules for 1850 were 13 by 17½ inches in size and permitted the enumeration of 41 farms on one sheet. There was a total of 46 questions. The schedule for the census of 1860 carried 48 questions.

In a few particulars the schedule of 1870 differed from those of 1850 and 1860. Additional facts were called for regarding the acreage and cash value of farms, amount spent for labor, production of wheat, quantity of milk sold, and total value of farm products. The questions relative to the preparation of hemp were abandoned. The total number of questions was increased to 52.

The census act of 1879 provided for a more elaborate collection of statistics, and a new schedule for agriculture was adopted, which contained 100 questions. Although the sheets were of blanket form, but 20 farms could be entered, 10 on each page. The most important additions to this schedule were the questions on land tenure and those relating to the areas of the various crops. Inquiries for rice, cotton, and sugar cane were printed on the schedules for the Southern states only.

The schedule for 1890 was even more extensive. In form it was similar to that of 1880, but it allowed the entries of only 10 farms on each schedule. It was folded in the center, thus making 4 pages carrying 256 questions.

At the census of 1900 the individual schedule was used for the first time. It was of convenient form and had the advantage of showing the information for each farm on one compact sheet. It carried a total of 306 questions.

In addition to the general instructions in pamphlet form, explanations were made on the schedule itself, and minute directions for making the entries were

given to enumerators in a circular containing illustrative examples much like those shown for 1910 and printed in this volume.

To provide for securing the number of live stock on ranges, and other important information relating thereto, a special schedule was prepared for the census of 1900. It was of the same size as the general schedule for agriculture, and while the questions pertaining to live stock were the same, those concerning subjects other than live stock were formulated to apply specially to the conditions peculiar to ranges or ranches, and consequently differed in numerous instances from the queries to be found in the farm schedule.

In addition to the two schedules above noted a special form for the enumeration of live stock not on farms or ranges was placed in the hands of all enumerators. The classification of animals was uniform with that in the other schedules.

At the census of 1910 the individual schedule was used, as in 1900. It contained in all 560 questions, a material increase over 1900 (70 per cent).

In addition to the explanations on the schedule itself, general instructions containing illustrative examples were published in pamphlet form. There was no separate schedule for live stock on ranges in 1910, live stock on farms and ranges being reported on the regular schedule.

In addition to the above schedule a special form for the enumeration of live stock not on farms and ranges was used. The classification of animals was uniform with that in the regular agricultural schedule.

A special schedule was also issued for securing reports for plantations, one for florists' establishments, and one for nurseries. A number of supplemental schedules were used for special investigations, copies of which are shown in connection with the resulting reports on these investigations.

The following pages contain copies of the instructions to enumerators and of the various schedules used at the censuses of 1900 and 1910. The schedules and instructions for earlier censuses were printed in full at the end of the first volume of the report on agriculture for the Twelfth Census (Volume V of the Reports).

THE TWELFTH CENSUS: 1900.

I.—INSTRUCTIONS FOR GENERAL AGRICULTURAL SCHEDULE AND SCHEDULE FOR LIVE STOCK NOT ON FARMS AND RANGES.

[NOTE.—These instructions were not on the schedules themselves but in a separate pamphlet.]

[7-573]

INSTRUCTIONS TO ENUMERATORS.

FOR FILLING SCHEDULE NO. 2.—AGRICULTURE.

Instructions printed on farm schedules.—The greater share of instructions for obtaining a correct report of the agricultural resources and products of each district, and for filling the agricultural schedule, is printed on that schedule, to which your attention is specifically directed. Attention is also called to the following additional instructions:

General.—The schedule adopted for securing the data relating to farms, ranches, plantations, market and fruit gardens, florists' establishments, etc., is what is known as a single schedule; that is, a separate schedule for each farm, garden, etc. In filling the spaces at the top of page 1 of the schedule, follow substantially the instructions for filling the spaces after similar questions on Schedule No. 1, relating to population.

Number of farm in order of visitation.—The object of this question is to ascertain the number of farms in each district, and also to secure a means for comparing the answers concerning ownership of farm homes (Inquiries 25 to 28 on Schedule No. 1) with the corresponding answers concerning farm tenure (Inquiry 4 on Schedule No. 2).

Questions to be answered for every farm.—Properly-filled schedules will always have answers written after Inquiries 1, 2, 3, 4, 6, 8, 11, 12, 13, and 14. Farms managed by any person not an owner should have, in addition to those mentioned, an answer to Inquiries 5 and 10. Nearly all farms require answers to most of the inquiries not here specifically mentioned, with numbers less than 17. You are therefore instructed to use great care in securing correct answers to all these questions, as well as to make each schedule a true exhibit of the products and live stock of the farm for which it is returned. The number and value of all kinds of animals kept on the farm are to be reported, and also the acres, quantities produced, and value of all crops raised.

Total number of acres in farm.—In asking a farmer for the total number of acres in his farm and the value of the same, tell him that you desire the acres and value of *all* the land used by him in connection with his farm for pastures, meadows, wood lots, and other agricultural purposes, but no land which is owned by him and *cultivated by another person as tenant*.

Special inquiries concerning farm lands.—In farming communities, villages, and small cities you should inquire of every family which you visit whether any member of such family cultivates, or directs the cultivation of a farm, or makes use of farm land in that or any other enumeration district. In connection with the answers received to such inquiries notice the definition on the schedules of "What constitutes a farm" and "Separate tracts of land" and the instructions on this sheet found under the three topics which follow this.

Farms located in two or more enumeration districts.—In all sections of the country many farms are to be found with lands lying in two or more enumeration districts. When the occupant or manager of such a farm resides upon the same or any part of it, the whole farm should be reported in the enumeration district in which the occupant or manager has his habitation. The enumerator of that district should include upon the regular farm schedule a report of all the lands connected with such farm, wherever they may be located, together with an exhibit of all its live stock, products, etc. The enumerator of the district which contains a portion of the land belonging to such farm, but not including the habitation of its occupant or manager, is not to make any report of such land or of the live stock or products of the same.

Tracts of farm land with no farmers residing upon them.—In most sections of the country there are tracts of land used for agricultural purposes which are not generally known as farms, and have no owners, tenants, managers, or hired men residing upon them. Such tracts of land are generally used as meadows or pastures, for market gardens, or other agricultural purposes, by individuals who board in the families of neighbors, or who reside in houses or other buildings in some village or city. All such tracts of land should be included in your report, and in that connection the following instructions should be observed:

If the individual who cultivates or operates a tract of farm land on which he does not reside makes the cultivation or operation of such land his *chief* occupation or business, and he owns or rents a house in which his family resides, that house and the land on which it is located are to be considered a part of his farm, and must be reported on the farm schedule with the land which he cultivates or operates. In all such cases you should take especial care to secure correct answers to Inquiries 4, 6, 9, 10, and 12, and a correct exhibit of the crops, products, live stock, etc. If, however, a farm or tract of farm land, such as has been described in this and the preceding two paragraphs, is operated by an individual who devotes the greater portion of his time to some occupation other than that of a farmer, gardener, florist, or the like, and the land operated by such individual is cultivated mainly by the labor of others, or if such individual boards in the family of another, the *house in which he resides or boards is not to be considered a part of the farm reported*.

Farms situated in one district but operated by individuals residing in another.—When you find in your district a tract of farm land, such as has been described in the last paragraph, and the person operating or cultivating it resides in another enumeration district, you should ascertain the name and post-office address of such person, and enter them upon a regular farm schedule. You should also enter upon the schedule all the necessary facts concerning such tract of land, including the house in which resides the farmer operating it, ascertaining such facts from the sources which you deem the most reliable, and then upon the first page of the schedule in *large letters* write the word "nonresident."

If, as a result of the inquiries you make in accordance with the instructions given under "Special inquiries concerning farm lands," you find an individual residing in your district who conducts or operates a farm or tract of farm land situated in *another district and not cared for by a tenant, resident manager, or hired man*, you should fill a farm schedule in full, giving the name of the town in which the farm is located, and writing across the face of the schedule in *large letters* the word "nonresident."

Changes in size of farms.—When you find an individual cultivating a tract of farm land which in 1899 was cultivated by two or more persons, thus constituting in that year two or more farms, report only *one* farm. Vice versa, when you find two or more individuals cultivating land which in 1899 was under the management or control of a single person, report *as many farms as you find distinct owners, tenants, or managers*. *In all cases the ownership or management of a farm or farms should be reported as it exists June 1, 1900*. In filling the schedule follow substantially the instructions given under "Change of owners or tenants."

Institutions.—Where a public institution, as an almshouse, insane asylum, etc., carries on a farm or a large vegetable or fruit garden, a farm schedule should be returned for the same. The name of

the manager or person in charge of the farm work should be given in answer to Inquiry 1, and the name of the institution should be reported in answer to Inquiry 5. If the institution leases any land for the purpose of raising crops or keeping farm animals, such land must be included in the acreage and value of the farm as reported on the schedule, and its acreage reported separately after Inquiry 10. The crops and domestic animals reported for such institutional farm must include the crops and animals on both the owned and leased lands.

Tenure.—Your attention is especially directed to the instructions on page 1 of the schedule relating to "Tenure." In addition, it should be observed that a person who works on a farm for a definite compensation in money or for a fixed quantity of produce, can not properly be called either a "cash tenant" or "tenant on shares." He is either a hired servant, manager, or overseer. The person, however, who operates a farm and pays its owner a fixed quantity of produce or money, or a share of all that is raised, is a *tenant*, even though he is subject to some direction and control by the owner of the land, as is frequently the case in the Southern states.

The farm worker is to be classed as a hired laborer or manager if his income is guaranteed by the owner or tenant of the land and he assumes no risks of crop failure or other contingencies. He becomes a tenant when he, rather than the owner, assumes the risks attending the operation of the land.

Farms or ranches with live stock on the range.—In most of the states west of the Mississippi River are farms or ranches with domestic animals which, during a portion or the whole of the year, feed upon the unfenced or fenced public domain. Such animals are usually spoken of as range cattle, horses, or sheep. When a farm or ranch is found which utilizes the public domain or range in this manner, the schedule for the same should have the word "RANGE" written in large letters across its face. That schedule should give for this farm or ranch its area in acres, its value, acreage, quantities, and values of the field crops or product, the same as for any other farm. In reporting the live stock of such a farm or ranch, give the total number of animals connected with the same, including those fed upon the range and cared for in connection with the farm or ranch reported. If a ranch makes use of land belonging to a state or the National Government, or to a railroad or other corporation, and it has leased such land and pays a rental therefor, the acreage of such leased land should be included in the acreage reported for the farm or ranch, and in the reported value of the farm should be included an estimate of the value of such leased lands. When a range is operated with cattle on the public domain, and the owner of the animals does not own or lease any land which is used in connection with the care of such animals, a schedule is to be filled for such range the same as for an ordinary farm, omitting the acreage and value of lands.

Where a ranch and the range live stock belonging to the same are owned by a nonresident proprietor, and such ranch and animals are under the care of a foreman or superintendent, answer Inquiry 1 of the schedule by giving the name of such foreman or superintendent, and after Inquiry 5 give the name and post-office address of the person, firm, or corporation owning the cattle. Answer Inquiry 4 by writing under it the word "manager." When the range animals belonging to a given individual, firm, or corporation are so numerous that they are under the care of two or more independent superintendents or foremen, return as many schedules as there are separate superintendents or foremen, and on each schedule report the land, animals, etc., under the care of its individual superintendent or foreman.

Live animals sold.—When cattle and sheep have been purchased and kept on a farm for the purpose of fattening them for beef and mutton, and then sold, the answer to be given to question 40 on the schedule is to be obtained in the following manner: To the amount received by the farm proprietor from the sale, in 1899, of live animals *raised* on the farm should be added the amount received from the sale of animals *purchased* and fattened, deducting from the sum the amount paid for the purchased animals before fattening.

Must or unfermented grape juice, when produced on a farm, should be reported as wine.

Units of weight and measure.—When any grain, vegetable, fruit, nut, or other farm product is usually sold by a different measure or weight than the one stated on the schedule under "Products," opposite its name have the grower give quantities in the units stated, *when possible*; otherwise erase the abbreviation, "Bu.," "Tons," "Cwts.," "Lbs.," "No.," as the case may be, and insert the proper designation before filling the schedule.

Crosses on schedule.—In some of the spaces on the schedule are printed crosses (X). Where they occur no entry is to be made.

Distinction between farm products and factory products.—Butter, cheese, cider, wine, sugar, molasses, dried fruits, olive oil, and similar products *made on the farm* are considered farm products and are to be reported on the farm schedule; but the same products made in factories, creameries, wineries, or similar establishments, *not forming a part of the farm*, are to be considered for census purposes as factory products, and must be reported on the schedule for manufactures, and not on the agricultural schedule. In the same way, cotton ginned on the farm must be reported on schedule No. 2, while that ginned in a ginney not operated as a part of or belonging to a farm must be reported on the schedule for manufactures.

Weight of cotton.—In answering that portion of question 21 relating to cotton, the weight of the cotton reported should be that of the cotton after it has been ginned. If the farmer has sold his cotton in the seed, an estimate of either the weight of the lint or the weight of the cotton in the seed may be given. In the latter case the words "Weight of cotton reported includes the seed" should be written on the margin of the schedule. In reporting, in Inquiry 21, the number of bales of cotton raised, state the number of that size of bales in which the cotton was packed for shipment, and give in answer to Inquiry 24 the average weight of such bales. The latter answer will show whether the cotton was packed in the old standard square bale, or in the round bale.

Sugar, sorghum, etc.—When a plantation or farm raising sugar cane is operated by a tenant who sells his cane to the individual, firm, or corporation from which he leases his land, the amount reported on the schedule as receipts from the sale of cane should be the market value of such cane, and *not such value less* the rental which the tenant has agreed to pay for the use of his land. Where a farmer raises either sugar cane or sorghum cane, and has the same crushed and its juice reduced to sirup by a neighbor, the schedule for his farm should exhibit the acreage of the cane grown, its weight in tons, the gallons of sirup obtained from the same, and its value. No deduction from the quantity or value of the sirup should be made for the expense of converting the cane into sirup.

Wool, mohair, and goat hair.—If you find a farm or ranch keeping sheep or goats, and such sheep or goats have not been shorn in the spring of 1900 at the time of your visit, secure from those operating the farm or ranch the best possible estimate of the number of fleeces that will be shorn, their weight and value, and report the same on the schedule.

Value of cornstalks, straw, etc.—In stating the value of the various products of the farm to be reported on pages 2 and 3 of the schedule, account should be taken of the value to the farmers of the cornstalks, straw, the seed of the cotton, and other similar by-products obtained by the farmer incidental to the production of his crops and other products. (See instructions for "Values," on page 1 of the schedule.)

Peas cut for hay.—Where peas are grown and cut for hay, report the acreage and the total product under Inquiry 20, opposite "Grains Cut Green for Hay."

The product of market gardens, truck farms, and orchards.—In the neighborhood of cities and in some rural sections the raising of vegetables and other garden products in recent years has become a great industry. You are directed to obtain the fullest practicable reports concerning all these products. On the schedule should be reported under Inquiry 21, the acreage, quantities, and values of potatoes, sweet potatoes, and peanuts; and under Inquiries 26, 27, and

30, the same information concerning all other similar garden products raised, including small fruits. In Inquiry 26 are printed the names of seven vegetables, and four blank lines are provided on which are to be written the names of other garden products not specially mentioned, which are grown in commercial quantities. If a farm is found on which were raised in 1899 more than four vegetable products not mentioned by name, after making use of the blank lines as directed, you should erase the names of vegetables not grown and substitute those of vegetables which are raised. Special efforts should always be made to obtain, as directed on the schedule, full returns concerning the acreage of the family farm garden, and the total value of all vegetables and garden truck and fruit raised, whether sold or consumed at home; and also, in answer to Inquiry 29, the square feet of land in market gardens and truck farms under glass, for developing and forcing the growth of vegetables, fruit, etc.

Irrigation on farms.—In the arid and subhumid regions of the West, and to a very limited extent in some other parts of the country, the raising of crops depends largely upon irrigation. In the section where such use of water prevails, enumerators should be very careful, not only to secure answers to Inquiries 17 and 18, but also to report the acreage of the crops raised by the artificial use of water, as directed in the instructions given on page 1 of the schedule.

Florists' establishments.—You should secure reports from all florists' establishments. These reports should be entered upon Schedule No. 2. For those establishments whose product consists only of flowers and flowering plants, answers should be obtained to Inquiries 1, 2, 3, 4, 5, 6, 11, 12, 13, 15, 16, 29, 38, and the first line of Inquiry 37. Where the word "farm" occurs in these inquiries, it is to be understood as meaning the same as the expression "florist's establishment." If the florist resides in a house located upon the land connected with his establishment, the value of the house should be included in the answers to Inquiries 11 and 12, and the land upon which it is located, after Inquiry 6. For florists' establishments that grow agricultural products in addition to flowers and flowering plants, the report of those products should also be entered upon the schedule the same as for an ordinary farm.

Nurseries and seed farms.—Where a portion or the whole of any farm is utilized for the growing of trees, shrubs, plants, or vines, or for the production of vegetable and other seeds, answers should be secured for the appropriate lines of Inquiry 37, together with answers to all the other questions upon the schedule that are necessary to exhibit the agricultural products of the farm, as well as its acreage, value, etc.

Exceptional farms and conditions.—Where you find a farmer carrying on unusual branches of agriculture, raising animals or crops of an exceptional nature, or you learn that a farm or the section in which it is located suffered severely in 1899 from drouth, floods, cyclones, or other calamities, write a brief statement of the facts upon the margin of the schedule.

Incorrect and false statements.—It is to be specially noted that enumerators are not required or expected to accept answers upon the agricultural or other schedules which they know or have reason to believe are false or incorrect. Many farmers do not keep book accounts. They can not tell exactly the quantity or value of their crops and other products. From this fact it often happens that some of them, with the best intentions, make incorrect statements in answer to the enumerator's inquiries. To detect all such statements and to assist farmers in giving correct answers to inquiries, you should make yourself thoroughly familiar with the yield per acre of crops in 1899 in your district, and the prices at which products were sold.

Dairy products, poultry, and eggs.—If you are not already possessed of the information, you should ascertain from the most intelligent farmers in your district the average quantities of milk, butter, and cheese produced per cow in your neighborhood, and the average number of eggs per fowl obtained in 1899. If possible, you should secure this information from farmers who keep accounts of their operations. You should also learn something of the selling prices of dairy products, eggs, and fowls in your district in 1899.

Milk should be reported for all farms on which you find dairy cows, that is, cows kept for their milk. Butter should be reported for all farms where it is made in large or small quantities, either for sale or for house consumption. Eggs should also be reported for all farms keeping fowls.

Home consumption.—The amounts that should be reported as answers to Inquiries 14, 30, 41, 43, 45, and 46 include the value of the grains, vegetables, fruits, nuts, dairy products, poultry, eggs, honey, etc., raised by the farmer in 1899 and consumed as food by his family. If these inquiries are incorrectly answered, it will be impossible to state correctly in the census report the total product of the farms of the nation, the exhibit of agriculture will be less perfect than that of manufactures, and the farm will suffer in comparison with the factory. Your attention is therefore especially directed to these inquiries, and it is desired that you exercise the greatest care and vigilance in obtaining correct answers to the questions, making use of the knowledge obtained as suggested in the two preceding paragraphs.

Schedules for live stock not on farms or ranges.—Two or more of these schedules should be in the portfolio of every enumerator. The instructions for reporting live stock on these schedules will be found in part printed on them. In filling these schedules for cities of over 20,000 inhabitants, notice that the lines bearing odd numbers are reserved for the names of proprietors of barns and inclosures in which are live animals, and for the statistics regarding them. Upon the lines bearing even numbers, and immediately below the name of each proprietor, write the name of the street and the lot number upon which the barn is situated. In the large cities, for which is kept a street book, you should enter a record of the barn or inclosure in that book. Great vigilance should everywhere be exercised in securing reports for all barns and inclosures in which domestic animals are kept, but no animal reported as owned or kept on a farm should be reported on these schedules, and only one report of each animal should be made.

Dairy cows in cities and villages.—When the dairy cows kept by an individual in a city or village are sufficient in number to require for their care the continual services of one or more persons, the cows and other animals kept by that individual must be reported on Schedule No. 2 for agriculture, and not on the special schedule for "Live stock not on farms and ranges" (7-340). The dwelling house of such a dairyman, together with his barns, the land on which he pastures his cows, and all other land which he uses for agricultural purposes, are to be considered his farm and so reported, whether he owns all or a part of the land and buildings used by him or whether he leases them. The general facts relating to his dairy business and the crops raised by him, if any, are to be reported the same as for any other farm.

All cows kept in cities and villages, which do not belong to dairy farms such as are described above, must be reported on special schedule (7-340) for "Live stock not on farms and ranges."

General explanation.—A farm is the home of a farmer. It is also his workshop and his means of subsistence. It includes, therefore, the house in which he dwells, the buildings occupied by him in connection with his farming operations, the land used for raising crops, pasturing live stock, and also the woodlands for furnishing material for fuel, fences, etc., and all the other lands under his supervision and management, in connection with the house, buildings, and lands above mentioned. A separate schedule is to be returned for each such farm, but not for the separate lots or parcels of land of which the farm is composed. The correct answer to question 6 on the schedule thus includes the area of all land occupied by a farmer in connection with the operation of his farm, either as owner or tenant, and the answer to question 11 will in like manner include the value of all the land, together with the buildings upon the same, and in each case excludes the land which is cultivated by another person, either as owner or tenant. (For the case of an individual who cultivates or manages a farm by means of hired labor, while he himself resides in a village away from the farm and follows some other occupation than that of farmer, see paragraph entitled "Tracts of farm land with no farmers residing upon them.")

Tenure.—Of the twelve farm families reported in connection with the eleven farms referred to in the illustrative examples, six are reported as "owners." Of these six, three—William Brown, Silas Wright, and Richard Harding—own all the land contained in their farms, and one of them also owns the land contained in three other farms. The other three reported as "owner" only own a portion of that which is given as their farms. Every farmer is an "owner," in census purposes, if he or any member of his family is possessed of any real estate used by him as a part of his farm, no matter how small the area of that owned land is. The word "Owner" written on the "Illustrative example," under "Tenure," for these six farms expresses the fact that some member of the families who operate them owns the whole or a part of such farms. The number of acres thus owned is given for each farm in answer to question 9, and the number of acres of leased land after question 10. (See instructions on schedule, relating to "Tenure.")

Thomas Jefferson, as well as George Washington, Caesar Brown, and Napoleon Jones, are tenants and are reported as "share" or "cash," because they assume the risk of poor crops, and do not have specified sums or wages guaranteed to them for their labor of cultivating the land. For census purposes the difference between a laborer on a farm and a tenant consists principally in these facts: A farm laborer is one who tills land on a farm and assumes no risk

of crop failures or other contingencies. He has a definite wage assured him. A farm tenant is one who tills land and assumes more or less of the risk attending such cultivation. He may manage his land as he pleases, without direction from others, as does Thomas Jefferson, or he may, as in the case of the three colored men, manage land under the direction of others. The assumption of risks makes them "tenants" and not "farm laborers." The payment of a fixed amount of money for the use of land, as in the case of George Washington, or a fixed amount of farm produce, as in the case of Caesar Brown, is each to be reported "cash," to distinguish such rental from that designated "share," as illustrated in the cases of Jones and Jefferson.

Farms situated in one district, but operated by individuals residing in another.—The enumerator for Cordova election precinct, as well as the enumerator for Williamstown, will report the farm of Richard Harding, and each will write across the face of the schedule in large letters the word "NONRESIDENT." Both of the enumerators should seek to make their report of this farm as perfect as possible. The enumerator for Williamstown should obtain his information direct from Mr. Harding; the enumerator for Cordova should obtain it from those residing near the land or from any other source that he deems trustworthy.

II.—GENERAL AGRICULTURAL SCHEDULE.

[First page.]

TWELFTH CENSUS OF THE UNITED STATES.

SCHEDULE NO. 2.—AGRICULTURE.

[7-261]

State..... Supervisor's District No.

County..... Enumeration District No.

Township or other division of county.....

(Insert name of township, town, precinct, district, or other division as the case may be.)

Name of incorporated city, town, or village, }
 within the above-named division. }

Number of farm in order of visitation.....

Enumerated by me this..... day of June, 1900.

..... Enumerator.

EXPLANATIONS AND GENERAL INSTRUCTIONS.

[NOTE.—These explanations and instructions were printed on the schedule itself.]

Not connected with taxation.—The information reported on this schedule will not be used as a basis of taxation, nor communicated to any assessor. It will, under all circumstances, be treated as strictly confidential.

Answers.—A definite answer must be made to every question on this schedule that applies to the farming industry as conducted on the farm of which it is a report.

Estimates.—In the absence of book accounts of the quantities and values of the farm products of 1899, careful estimates for each must be given.

What constitutes a farm.—A farm, for census purposes, is the land under one management, though consisting of different tracts, upon which agricultural products, including animals and fowls, are raised or produced. In reporting the acreage, value, and crops of each farm, care should be taken to include the acreage, value, and crops of all wood lots, pastures, meadows, plow lands, and other lands, occupied or used in connection therewith. This is to be done, although not all of such lands are situated in the same enumeration district, or are owned by the same individual, corporation, or institution. Each farm proprietor or manager should report all the land under his immediate management or supervision, but should report *no land* under the management of another.

Separate tracts of land.—Where the land owned by one person, firm, or corporation is divided among two or more tenants, or is

under the management of two or more persons, the part occupied or cultivated by each must be fully reported as a separate farm in the name of its tenant or manager. In reporting a farm cultivated by its owner, do *not* include any land cultivated by a tenant.

Market gardens, etc.—All considerable market, truck, and fruit gardens, nurseries, greenhouses, etc., should be reported as farms, but family gardens, on city and village lots, the products of which are used exclusively for home consumption, are not to be considered farms.

Change of owners or tenants.—Never omit the report of a farm because it has changed owners, tenants, or managers between the close of the crop year 1899 and June 1, 1900, but report it fully in the name of the person in possession, giving the statistics of live stock, implements, machinery, and farm values, as for any other farm. If the previous occupant is unknown or can not be reached the enumerator *must secure* estimates of the crops, etc., of 1899 from the most reliable sources.

Acres.—Wherever the number of acres is required to be given, the nearest whole number should be used for tracts of three acres and upward. For smaller tracts the areas should be given in acres and fractional parts of an acre, as the case may be.

Values.—The values reported on this schedule should be, in all cases, those of local markets. The values reported for the farm

and its implements and the live stock on hand should be the amounts which could be secured for them if they were sold on June 1, 1900, under fairly average conditions. The values to be reported for the crops and products of 1899 are the amounts for which the same were sold, or for which they could have been sold, on the farm or at the usual market town, when they were harvested or made ready for use or sale, including the value of the completed product of all fruits and vegetables which on the farm were dried, canned, or otherwise preserved, or were on the farm made into cider, vinegar, wine, raisins, oil, pickles, or other similar products. Values should always be given in *dollars only*.

Mixed crops.—When oats and rye, oats and pease, or any other two or more grains are sowed and harvested together *after ripening*, report the acreage, products, and value of each proportioned to the quantities of the several grains sowed as seed. When cotton is barred with corn, report the acreage, product, and value of the cotton and the product and value, but *not* the acres, of the corn.

Irrigation.—In all cases where the answer to questions 17 or 18 shows that a farm had irrigated crops upon it in 1899, the enumerator should ask the names and acres of all crops irrigated, and in the spaces containing the names of such crops write the letter "I" and the number of acres irrigated, thus: "Wheat I 20."

SPECIAL INSTRUCTIONS FOR THE NEXT PAGE.

1. Names.—For those farms conducted by one individual, either as owner, tenant, or manager, only one name is to be written in the blank. Two names, however, should be written in all cases where an owner and a tenant on shares are residing upon and jointly working the farm.

3. Color or race.—Under these words write "white," "black" (negro or of negro descent), "Indian," "Chinese," or "Japanese," as the case may be.

4. Tenure.—This inquiry is to be answered as follows:
OWNER.—If a farm is cultivated by a person who owns all or a part of it, by a man whose wife owns all or a part of it, by a widow or widower, by the heir or heirs thereto, or by the trustee or guardian for such heirs, write "owner." For census purposes a settler on Government land who has not "proved up," a person who has bought land on a contract for a deed, or a person who holds over for redemption, is an owner and must be so marked.

OWNER AND TENANT.—If a farm is cultivated jointly by its owner and by one or more other persons working for a share of the farm products, write "owner" after the name of the owner, and "share" after the tenant on shares.

MANAGER.—If the farm is cultivated for its owner, or public institution, by a salaried manager, superintendent, or overseer, write "manager."

CASH TENANT.—If the farm is cultivated by a tenant who pays a fixed rental in money, or a stated amount of labor or farm commodities (not a proportionate share of all), write "cash."

TENANT ON SHARES.—If the farm is cultivated by a tenant who pays for its use a share (as one-third, or one-half, or other proportion) of the crops raised, write "share."

19. Grains and seeds.—Include with the value of grains and corn reported any amounts received from the sales of straw and corn-stalks.

THE GRAINS, INCLUDING CORN, to be reported in the group of General Farm Products designated as "Grains and Seeds" are those harvested *after ripening*. The quantities called for, for all grains excepting corn, are those of threshed grain. Where unthreshed grain has been fed to stock, include its acreage with that of the threshed grains of the same kind, and also careful estimates of the quantity raised and its value. The quantities of corn reported may be for shelled corn or for corn in the ear, as is most convenient, but *not for both* shelled corn and corn in the ear.

WITH KAFIR CORN.—Report all Jerusalem corn, milo maize corn, and doura corn harvested *after ripening* for the grain.

20. Hay and forage.
HAY.—When fields of clover, alfalfa, millet, and other grasses were mown in 1899 two or more times report the acreage of such fields only once, but give, under quantities produced and values, the total number of tons of hay and forage cut in the year and the total value of the same.

GRAINS CUT GREEN and used for hay or forage for cattle should *not* be reported under "Grains and Seeds," but under their appropriate designations with the other hay crops.

FORAGE CROPS include corn, kafir corn, cane, sorghum, and similar crops *cut and fed green*, cured, or siloed for live stock.

21. Miscellaneous crops.
COTTON.—In reporting the value of the cotton raised include with the value of the lint harvested the amounts received for any cotton seed sold.

CROPS NOT MENTIONED BY NAME.—In the blank spaces at the end of "Miscellaneous Crops" write the name, and report the acreage, product, and value of any important crop raised on the farm which is not mentioned by name or otherwise specially referred to on the schedule.

[Here began the inquiries proper.]

1. Names of persons conducting farm.	2. Postoffice.	3. Color or race.	4. Tenure.

5. If the farm is conducted by a tenant, or by a salaried superintendent or overseer, report in the blank spaces which follow the name and post-office address of the person, firm, corporation, or institution owning the farm.

Name of owner.....
 Post-office address.....

- 6. Total number of acres, June 1, 1900, in farm (including all outlying or separate meadows, pastures, wood lots, marshes, etc.).....
- 7. Number of acres, June 1, 1900, of unimproved land (i. e., land which has never been plowed, mown, or cropped, including land once cultivated but now grown up to trees and shrubs).....
- 8. Number of acres, June 1, 1900, of improved land (including all not reported as unimproved).....
- 9. Number of acres in this farm, June 1, 1900, owned by the occupant.....
- 10. Number of acres rented or leased June 1, 1900.....

- NOTE.**—The number of acres reported for question 6 should equal the total of those reported for 7 and 8, and also the total of those reported for 9 and 10.
- 11. Value, June 1, 1900, of entire farm (including all owned or leased land contained therein, together with the value of the buildings and other permanent improvements)..... \$
 - 12. Value, June 1, 1900, of all the buildings on the farm..... \$
 - 13. Value, June 1, 1900, of all implements and machinery belonging to the farm (including ordinary implements, all wagons, carriages, sledges, harnesses, etc., and all apparatus for making butter and cheese, for ginning cotton, for making cider, wine, sugar, molasses, and sorghum, for drying fruit, and for threshing grain, or for similar purposes, together with the engines and other motors for propelling the same)..... \$
 - 14. Estimated value of all farm products (sold, consumed, or on hand) for 1899..... \$
 - 15. Amount expended in 1899 for fertilizers..... \$
 - 16. Amount expended in 1899 for farm labor (exclusive of housework), including the value of board furnished..... \$
 - 17. Number of acres irrigated in 1899, by ditches from natural streams.....
 - 18. Number of acres irrigated in 1899, by pumped or artesian well water.....

GENERAL FARM PRODUCTS OF 1899.

FARM PRODUCTS.				Acres harvested.	Quantities produced.		Values of products.	FARM PRODUCTS.				Acres harvested.	Quantities produced.		Values of products.									
19. Grains and seeds.	Corn.....	Bu.....	Shelled corn.				\$	21. Miscellaneous crops.							\$									
			Corn in the ear.																					
	Wheat.....	Bu.....																						
	Oats.....	Bu.....																						
	Barley.....	Bu.....																						
	Rye.....	Bu.....																						
	Buckwheat.....	Bu.....																						
	Flaxseed.....	Bu.....																						
	Kafir corn.....		Tons.....																					
	Clover seed.....		Bu.....																					
Grass seed.....		Bu.....																						
20. Hay and forage.	Wild, salt, or prairie grasses.....		Tons.....				X	22. Sugar.																
	Millet and Hungarian grasses.....		Tons.....				X																	
	Alfalfa or Lucern.....		Tons.....				X																	
	Clover.....		Tons.....				X																	
	Other tame and cultivated grasses.....		Tons.....				X																	
	Grains cut green for hay.....		Tons.....				X																	
	Forage crops.....		Tons.....				X																	
Total hay and forage crops.....		Tons.....																						
Do not write on this line.																								

23. Value of all of the farm products of 1899 reported on this schedule which have been fed, on this farm, to animals or poultry..... \$.....

24. Average number of pounds of cotton in a bale..... Lbs.
25. Number of bales of cotton ginned on the farm..... Bales.

SPECIAL INSTRUCTIONS FOR THIS PAGE.

26. Vegetables.—For vegetables not specifically mentioned, which are raised in large quantities, write the names in the blank spaces provided and report acres and products. Opposite "Other vegetables" report the acres or fractional parts of an acre used on each farm as a family garden, and the acres devoted to raising field crops of all kinds of vegetables and garden truck, except potatoes, sweet potatoes, yams, and sugar beets, not reported on this schedule. Answers must be given in all cases to Inquiries 28 and 30 so that the report will show the total acreage devoted to raising vegetables and small fruit and also the total value of the product raised.

32-35. Trees and vines.—For farms on which large quantities of orchard fruits, grapes, or nuts are raised, report the product, the number of acres covered with the trees or vines, and the number of trees or vines of bearing ages. Where only a few trees or a few grapevines are grown, report the number of trees or vines and the product.

34. Tropical and semitropical fruits.—Where a farm raises the citron, guava, Japanese persimmon (or kaki), or limes, write the name of the fruit in the blank spaces provided in connection with "Tropical fruits," and report trees and product the same as for other fruit. Opposite the words "Miscellaneous tropical fruits" report all trees and products of the avocado (or alligator pear), banana, date, loquat, mango, pomegranate, sapodilla, and tamarind.

35. Miscellaneous nuts.—Opposite this designation report all nuts raised on the farm except peanuts, pecans, coconuts, almonds, and English or Persian walnuts.

[Here began the inquiries of the second page.]

VEGETABLES AND SMALL FRUITS.		Acres harvested.	Quantities produced.	
26. Vegetables.	Cabbages.....		Hds.....	
	Tomatoes.....		Tons.....	
	Sweet corn.....		Bu.....	
	Onions.....		Bu.....	
	Cucumbers.....		Bu.....	
	Watermelons.....		No.....	
	Musk and other melons.....		No.....	
			
			
	Other vegetables.....			X

APPENDIX B—AGRICULTURE.

VEGETABLES AND SMALL FRUITS.		Aeres harvested.	Quantities produced.	
27. Small fruits.	Strawberries.....		Qts.....	
	Raspberries and loganberries.....		Qts.....	
	Blackberries and dewberries.....		Qts.....	
	Currants.....		Qts.....	
	Gooseberries.....		Qts.....	
	Other small fruit.....		Qts.....	
Do not write on this line.				

28. Total number of acres devoted to raising small fruits and vegetables (other than potatoes, sweet potatoes, yams, and sugar beets) in 1899.....

29. Square feet of land under glass in propagating houses, greenhouses, and hothouses; for propagating, developing, and forcing the growth of vegetables, fruits, plants, and flowers.....

30. The values of all vegetables (other than potatoes, sweet potatoes, yams, and sugar beets), of all fruits, and nuts, excepting peanuts, raised in 1899. (See instructions for values on first page.)

FRUITS AND VEGETABLES.	Value.	FRUITS AND NUTS.	Value.
Grapes.....	\$	Orchard fruits.....	\$
Small fruits.....		Tropical fruits.....	
Vegetables (other than potatoes, sweet potatoes, yams, and sugar beets).....		Nuts (other than peanuts).....	
Do not write on this line.			

31. Value of all wood, logs, railroad ties, telegraph and telephone poles, fence posts, material for barrels, bark, resin, and other forest products cut or produced on the farm in 1899, whether sold, consumed at home, or on hand June 1, 1900..... \$.....

TREES AND VINES.		Aeres.	Number of trees and vines.	Quantities produced.	
32. Orchard fruits.	Apples.....			Bu.....	
	Peaches and nectarines.....			Bu.....	
	Pears.....			Bu.....	
	Plums and prunes.....			Bu.....	
	Cherries.....			Bu.....	
	Apricots.....			Bu.....	
	Other orchard fruits.....			Bu.....	

33. Grapes..... Lbs.....

TREES AND VINES.		Aeres.	Number of trees and vines.	Quantities produced.	
34. Tropical fruits.	Figs.....			Bxs.....	
	Lemons.....			Bxs.....	
	Olives.....			Lbs.....	
	Oranges.....			Bxs.....	
	Pineapples.....			No.....	
	Pomeles.....			Bxs.....	
				Lbs.....	
				Lbs.....	
Miscellaneous tropical fruits.....			Lbs.....		

TREES AND VINES.		Aeres.	Number of trees and vines.	Quantities produced.	
35. Nuts.	Almonds.....			Lbs.....	
	Pecans.....			Lbs.....	
	Persian or English walnuts.....			Lbs.....	
	Miscellaneous nuts.....			Bu.....	

36. Cider, vinegar, etc., produced in 1899:

PRODUCTS.	Quantities.	PRODUCTS.	Quantities.
Cider.....	Bbbls.....	Raisins and dried grapes.	Lbs.....
Vinegar.....	Bbbls.....	Olive oil.....	Gals.....
Wine.....	Gals.....	Dried or evaporated fruit.	Lbs.....

37. Acres of land devoted to raising flowers, seeds, trees, plants, etc., and the amounts received from their sales in 1899:

SPECIAL CROPS.	Area in acres.	Received from sales.
Flowers and foliage plants in greenhouses and in the open fields.....		\$
Vegetable and other seeds (not including grass seed, clover seed, and flaxseed).....		
Trees, shrubs, plants, and vines in nurseries.....		

38. Farm animals: Number and value, June 1, 1900, of all the animals on the farm, whether belonging to the occupant of the farm or to others.

ANIMALS.	Ages in years.	Number.	Value.
Calves.....	Under 1.....		\$
Steers.....	1 and under 2.....		
Steers.....	2 and under 3.....		
Steers.....	3 and over.....		
Bulls.....	1 and over.....		
Heifers.....	1 and under 2.....		
Cows kept for milk.....	2 and over.....		
Cows and heifers not kept for milk.....	2 and over.....		
Colts.....	Under 1.....		
Horses.....	1 and under 2.....		
Horses.....	2 and over.....		
Mule colts.....	Under 1.....		
Mules.....	1 and under 2.....		
Mules.....	2 and over.....		
Asses and burros.....	All ages.....		
Lambs.....	Under 1.....		
Sheep (owes).....	1 and over.....		
Sheep (rams and wethers).....	1 and over.....		
Swine.....	All ages.....		
Goats.....	All ages.....		
Do not write on this line.			

39. Pure-blooded animals: The number, June 1, 1900, of all pure-blooded animals, recorded or eligible to record, on the farm. All animals reported under this head should also be reported under 38.

ANIMALS.	Number.	ANIMALS.	Number.
Horses.....		Sheep.....	
Cattle.....		Swine.....	X
Angora goats.....			X

40. Received in 1899 from the sale of live animals which were raised on this farm..... \$.....

41. Market value of the meat and other animal products of all the animals that in 1899 were slaughtered on the farm, whether for home use or for sale, together with the receipts from the sale of the hides and carcasses of animals dying from disease or accident in 1899..... \$.....

42. Dairy products of 1899: Report, as sold, all milk and cream delivered to cooperative creameries and factories, *but report no butter or cheese made in factories or creameries.* Where milk or cream is sold by the pound, the enumerator must erase "gals." and write in its place "lbs." before filling in the schedule.

PRODUCTS.	Quantities produced in 1899.		SOLD IN 1899.	
			Quantities sold.	Received from sales.
Milk.....	Gals.	X	Gals.	
Cream.....			Gals.	
Butter.....	Lbs.		Lbs.	
Cheese.....	Lbs.		Lbs.	

43. Total value of all milk, cream, butter, and cheese produced in 1899, and consumed on the farm..... \$.....

44. Wool, mohair, and goat hair: Shorn in fall of 1899 and spring of 1900, and the value of the same.

WOOL, ETC.	Number of fleeces.	Total weight of all fleeces (unwashed).	Total values.
Wool.....		Lbs.....	\$.....
Mohair.....		Lbs.....	
Goat hair.....		Lbs.....	

45. Poultry and eggs: Number of fowls over 3 months old on the farm June 1, 1900. (Report guinea fowl with chickens.)

Chickens.	Turkeys.	Geese.	Ducks.

Value of the poultry of all kinds and of all ages on hand June 1, 1900.. \$.....

Value of the poultry of all kinds and all ages raised in 1899, whether sold, consumed, or on hand June 1, 1900..... \$.....

Dozens of eggs produced in 1899.....

Total value of all eggs produced in 1899..... \$.....

46. Bees and honey:

Number of swarms or hives of bees on hand June 1, 1900.....

Total value of bees on hand June 1, 1900..... \$.....

Number of pounds of honey produced in 1899.....

Number of pounds of wax produced in 1899.....

Total value of honey and wax produced in 1899..... \$.....

III.—INSTRUCTIONS FOR SPECIAL SCHEDULE FOR LIVE STOCK ON RANGES.

(NOTE.—These instructions were not on the schedule itself but in a separate pamphlet.)

DEPARTMENT OF THE INTERIOR, CENSUS OFFICE,
Washington, D. C., May 3, 1900.

INSTRUCTIONS TO SPECIAL AGENTS FOR LIVE STOCK.

The attached instructions must be observed by every special agent charged with the duty of collecting statistics of live stock on ranges, unless expressly modified, in writing, by Mr. L. G. Powers, chief statistician in charge of agriculture.

Very respectfully,

WILLIAM R. MERRIAM,
Director of the Census.

GENERAL INSTRUCTIONS FOR SPECIAL AGENTS FOR THE COLLECTION OF STATISTICS OF LIVE STOCK ON THE RANGES.

1. Commission and oath of office.—You have been selected as special agent, in accordance with the provisions of the act authorizing the census. A commission (Form 7-520) has been sent you, and also a blank oath of office (Form 7-335). You must retain the commission and have it with you at all times while acting as special agent. The oath must be taken and subscribed by you in accordance with the instructions printed thereon, and immediately returned to the Census Office at Washington, D. C. Until this is done, you can not enter upon the discharge of your duties as special agent. After taking the oath, you can not, without justifiable cause, neglect or refuse to perform those duties. If you do, you render yourself liable, upon conviction, to a fine not exceeding five hundred dollars. (See section 21 of the census act.)

2. Direction of work.—Mr. L. G. Powers, chief statistician, has under his supervision all statistics in the Twelfth Census relating to agriculture. His office is located at Washington, D. C. Mr. Charles F. Martin has been appointed special agent and placed in charge of the field work of securing data concerning live stock on ranges. His headquarters are at Denver, Colorado. His work is

mainly of an executive nature and is under the immediate direction of Mr. Powers. You are to make certain reports to Mr. Martin (see paragraphs 3 and 19) and are to apply to him for instructions in certain matters, all of which are clearly defined in the instructions which follow. In all other cases apply to Mr. Powers.

3. Supplies.—A supply of schedules and the necessary articles of stationery, as paper, pens, pencils, etc., has been furnished you. Requests for additional supplies must be sent to Mr. Martin at Denver, Colorado. Immediately on receipt, all supplies should be acknowledged on a postal card. Write a separate letter concerning each subject or request for supplies.

4. Visiting county seats.—In the course of your work in any county in your district, you should first proceed to the county seat and obtain from the tax or assessment rolls, or otherwise, a list of all owners of live stock (cattle, horses, sheep, or goats) who are commonly understood to own, or who paid taxes during the year 1899 on 500 head or more, or who have been assessed for 1900 as owning not less than that number. You should include in the list, obtaining the information from the most reliable sources, all roving herds or flocks; that is, those which have no range or ranch headquarters, but which are or probably will be present in the county June 1. On your way to the county seat, you should visit

every ranch along the route where you have reason to believe that you will find herds or flocks, which correspond to the above description, and make a report as outlined in the next section. (See paragraph 5.)

5. Canvassing the district.—After obtaining the list referred to, you should visit every such owner or his range manager and obtain answers to all the questions on the schedule. You should be on the lookout constantly for all large herds and flocks not on your list. When through with each county, you should be sure that you have located every herd or flock containing 500 head and over, and have obtained a report concerning it, unless it has been previously reported to Mr. Martin. (See paragraphs 11 and 13.)

6. Filling schedules.—Instructions for filling the schedule are printed upon it. You should make yourself thoroughly familiar with the schedule and with all instructions for filling it before attempting to begin your work.

7. Rights and duties.—Your rights as special agent are clearly defined in the census act. You have the right of admission to every ranch or stock farm in your district, and to answers to all the questions included on the schedule. You are cautioned, however, not to obtrude needlessly upon any person the compulsory features of the enumeration. Much can be done by tact and persuasion, and it is of the utmost importance that your manner should, under all circumstances, be courteous and conciliatory. If your authority is disputed, display your commission. If other means fail, call the attention of the person refusing to give information to the penalty in section 22 of the census act. If, after exhausting your powers, you fail to secure the desired information, report the facts fully to Mr. Powers, at Washington.

8. False answers.—You are not expected to accept answers which you know, or have reason to believe, are false. Should a person make statements which are obviously erroneous, or refuse to give an answer, you should enter upon a schedule answers to the questions as nearly as you can ascertain them from your own observation or from inquiry through reliable sources. You should also write upon the margin of the schedule the facts relating to such false answers or refusal to answer, and make a special report to Mr. Powers, as directed in the preceding paragraph.

9. Answers confidential.—Information that you obtain as special agent must not be disclosed to any person not authorized to receive it. Any unauthorized disclosure will render you liable, upon conviction, to a fine not exceeding five hundred dollars. (See section 21 of census act.)

10. Delegation of authority.—You have no right to delegate your authority to secure information for the census, and must not attempt to do so.

11. No conflict with enumerator's work.—After you have obtained complete answers to the questions on the schedule, you should fill a receipt (Form 7-591) and give it to the stockman for delivery to the enumerator. The latter will accept this receipt in lieu of answers to the inquiries on the agricultural schedule (Form 7-281), but in all other respects will execute his regular duties. If you find that the enumerator has called at the ranch before you and secured a report, you must nevertheless obtain a report, but you must write across the face of the schedule "Previously reported by enumerator." You should call the attention of stockmen to the fact that the investigation by special agents concerning live stock has been undertaken by the Census Office at the request of live stock associations, and is in addition to the work of the regular enumerators. (See paragraphs 5 and 13.)

12. Headquarters of ranch in another district.—If a range or stock farm located in your district has its office outside of your district,

and it is necessary to apply to that office to secure a part or all of the information called for on the schedule, you should secure answers to all the questions possible from the sources available, and write upon the schedule the name of the city in which the office is located. Make a special report of the facts at once to Mr. Powers. You need not then take further action unless instructed to do so.

13. Schedules by mail.—Many stockmen have sent schedules to the Census Office by mail and have received acknowledgments. So far as possible you will be given their names from time to time by Mr. Martin, and you will not be required to visit such ranges. However, unless instructed to the contrary, you should visit every range owner or manager in your district whose herds number 500 or more. If the person in charge of any range exhibits a receipt from this office (Form 7-590), you need not fill a schedule. If the range owner or manager claims that he has forwarded a report by mail, but is not able to produce a receipt, you should fill a schedule for such range, writing upon the margin "Claims report sent by mail." (See paragraphs 5 and 11.)

14. Unforeseen difficulties.—If peculiar or unforeseen difficulties arise that may prevent your securing a report concerning any range, you should report the facts at once to Mr. Powers at Washington.

15. Use of telegraph.—If an emergency arises which can not be met by the use of the mails, you may communicate with Mr. Powers or Mr. Martin, as seems desirable, by telegraph. The telegraph companies will accept messages without requiring prepayment if marked "Official business, charge Census Office, Washington, D. C., at Government rates." It will, however, be necessary for you to exhibit your commission to the receiving operator.

16. Registering schedules.—At the close of each day inclose the schedules which you have filled that day in an envelope provided for that purpose (Form 7-233), addressed to the Census Office, Washington, D. C. Be sure to register all such packages. This can be done free of postage, under the provisions of section 27 of the census act, when properly indorsed. If you fail to reach a place with a post office for two or more days, you must nevertheless make out your daily reports and mail them, together with the schedules, when you reach the first post office.

17. What constitutes a day's work.—You are expected to devote at least ten hours every day (except Sundays) to your work. You will be paid for the number of days during which you were actually at work.

18. Other work prohibited.—You must not combine with your work any other occupation, such as canvassing for directories, soliciting subscriptions to newspapers or magazines, or the advertising or selling of any article whatsoever.

19. Daily reports.—You have been furnished with a report card (Form 7-650) for each working day of the period allowed for the enumeration, addressed to Mr. Powers. You should also make out daily a memorandum (Form 7-698) of the places which you expect to visit for several days in advance, and mail it to Mr. Martin, in order that he may communicate with you whenever desirable.

20. Vouchers.—At the end of each month you must make out, in duplicate, a voucher (Form 7-035) covering your compensation and authorized expenses. Full instructions will be found in "Instructions to Special Agents of the Census Office" (Form 7-348).

21. Work completed.—Immediately upon completion of your work, you should report the fact on your daily report card, and return your commission and all Government property in your possession to the Census Office at Washington.

IV.—SPECIAL SCHEDULE FOR LIVE STOCK ON RANGES.

[7-581]

TWELFTH CENSUS OF THE UNITED STATES.

STATISTICS OF AGRICULTURE.

RANGE ANIMALS AND LIVE STOCK RANCHES.

DEPARTMENT OF THE INTERIOR, CENSUS OFFICE,
Washington, D. C., May 1, 1900.

Charles F. Martin, of Denver, Colo., has been appointed in accordance with law special agent of the Census Office for the collection of statistics relating to live stock on the ranges, under the general supervision of L. G. Powers, Chief Statistician of the Division of Agriculture. Special agents thus appointed have all the authority of census enumerators under the act of March 3, 1899, and are empowered to conduct in their own names the correspondence relating to the industry assigned them.

This schedule has been prepared to assist in collecting the statistics relating to live stock ranches and domestic animals on the range in the Western states. By means of this schedule, the general agricultural schedule, and that for live stock in cities and towns, it is the purpose of the Census Office to bring out a full and reliable exhibit of the number and value of the domestic animals in the United States, June 1, 1900, and the leading facts relating to agriculture. To this end the Director of the Census solicits the cooperation of all interested.

The proprietors of live stock ranches and owners of range cattle, to whom this blank is sent, are earnestly requested to fill out and return the schedule promptly. If it is impossible to give an exact answer to any of the inquiries, estimates *may* and *should* be given, but such estimates should be made with exceeding care. If the domestic animals owned by an individual, firm, or corporation are under the supervision of a number of overseers or ranch foremen, separate schedules should be returned for the land and animals under the care of each overseer or foreman. Additional blanks will be sent on application if desired. Immediately on receiving the schedule, properly filled, there will be returned a receipt, which should be preserved and delivered to the census enumerator next June, as it will be accepted by him in place of the report which he is directed to collect from all managers of farms and ranches.

Stockmen are assured that their answers will be regarded as strictly confidential, and will not be disclosed to any person not connected with the Census Office. No publication will be made in the census reports that will reveal the names or operations of individuals, firms, or corporations, and the data secured will not be used in connection with any system of taxation, or in any way that will affect adversely the interest of those reporting.

The Director, while fully acknowledging his obligation to and dependence upon stockmen, desires to impress upon all that the time and labor devoted to furnishing the facts requested are in their interest, and that upon the completeness of their returns may depend much of the future progress of the industry of raising domestic animals.

A careful report on this blank, and its prompt return in the inclosed envelope, which requires no postage, is solicited.

Very respectfully,

WILLIAM R. MERRIAM,
Director of the Census.

[Extract from act of Congress, March 3, 1899.]

SEC. 22.—* * * "And every president, treasurer, secretary, director, agent, or other officer of every corporation, and every establishment of productive industry, whether conducted as a corporate body, limited liability company, or by private individuals, from which answers to any of the schedules, inquiries, or statistical interrogatories provided for by this act are herein required, who shall, if thereto requested by the Director, supervisor, enumerator, or special agent, willfully neglect or refuse to give true and complete answers to any inquiries authorized by this act, or shall willfully give false information, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding ten thousand dollars, to which may be added imprisonment for a period not exceeding one year."

CERTIFICATE.

This is to certify that the information given on this schedule is complete and correct to the best of my knowledge and belief.

(Signature.)

(Official designation of any officer of a corporation reporting.)

Ranch No. _____

Collected by me on the _____ day of _____, 1900.

Special Agent.

1. Location of the ranch, or headquarters of the person in charge. State _____, county _____, township or other division of the county _____.
2. Name and post-office address of the person, firm, or corporation owning the range animals or live stock ranch reported on the schedule. Name _____, of _____ (street and number). Post office _____, county _____, state _____.
3. Name and post-office address of the person in charge of this ranch or range. Name _____, post office _____.

Observe that Inquiry 2 calls for the post-office address of the individual, firm, or corporation owning the animals reported on this schedule, while Inquiry 3 asks for that of the man in charge of the animals. If the owner of the animals resides on the range or ranch and directs the care of them, the answers to the two questions should be identical; otherwise, different. If the individual, firm, or corporation owning the ranch has an office in a city, be careful to give the street and number in answer to Inquiry 2.

4. Race or color of the person in charge of this ranch or range _____.

This question is asked in order to comply with the act of Congress authorizing this census, which directs that among the inquiries on the farm schedule shall be one asking for the race and color of farm owners, tenants, and managers. If the person whose name is given in answer to Inquiry 3 belongs to the white or Caucasian race, write the word "white" in the blank space following the question. If he is a negro or of negro descent, write the word "black." Write "Indian," "Chinese," or "Japanese," if he belongs to any of these races.

5. The number of acres of land connected with this ranch or range June 1, 1900, which are owned by its proprietors, and the value of such land, including buildings and improvements. Number of acres _____. Total value, including land, buildings, and improvements _____.
6. The number of acres of land connected with this ranch or range June 1, 1900, which are leased by its proprietors, together with the annual rental paid for the use of such lands, and the estimated selling value of the same. The answer to this inquiry should be given under one or more of the following subdivisions:
 - (a) Land leased from railroad companies or their agents. Number of acres leased _____. Annual rents paid, \$ _____. Estimated selling values of land leased, \$ _____.
 - (b) Land leased from the National or State Government. Number of acres leased _____. Annual rental paid, \$ _____. Estimated selling values of land leased, \$ _____.
 - (c) Land leased from Indian tribes or from citizens of such tribes. Number of acres leased _____. Annual rental paid, \$ _____. Estimated selling values of land leased, \$ _____.
 - (d) Land leased from firms or corporations other than railroad companies, or from individuals other than citizens of Indian tribes.

Number of acres leased _____ Annual rental paid, \$ _____ Estimated selling values of land leased, \$ _____

(e) Area of public lands used for range purposes without rental. Square miles _____

7. The number of acres of owned or leased land connected with this ranch or range June 1, 1900, which is inclosed with fences _____.
8. The number of miles of fence and cross-fences upon this ranch or range June 1, 1900, including all upon owned or leased lands _____.
9. The cost of the fences on this ranch or range, \$ _____.
10. The value, June 1, 1900, of the buildings on the ranch or range, including those on owned and leased lands, \$ _____.
11. The number of acres of the owned and leased lands of this ranch which have been plowed _____.
12. The value, June 1, 1900, of the improvements other than fences and buildings on this ranch or range, \$ _____.
13. The value, June 1, 1900, of the wagons, carriages, harness, and saddles, and all other ranch or farming implements and machinery and appliances on or used in connection with this ranch or range, \$ _____.
14. Received during 1899, from the sale of live animals, \$ _____.
15. Paid during 1899, for live animals on this ranch or range for breeding or feeding purposes, \$ _____.
16. Market value of the meat and other animal products of all animals slaughtered on this ranch or range, whether for home use or for sale, \$ _____.
17. Received during 1899 from the sale of hides and pelts of animals dying from disease or accident, \$ _____.
18. Number and kind of live animals purchased for the ranch and range during the year 1899:

KIND.	Number.	KIND.	Number.

19. Number and kind of live animals sold from the ranch or range during the year 1899:

KIND.	Number.	KIND.	Number.

20. Number and kind of animals slaughtered on this ranch or range during the year 1899:

KIND.	Number.	KIND.	Number.

On the blank lines under "Kind," in Inquiries 18, 19, and 20, write the class and age of the various kinds of animals purchased, sold, or slaughtered on the ranch or range during the year 1899, making use for such report of the classification of animals given on the last page of this schedule. Under "Number," give the number of each kind of animals purchased, sold, or slaughtered, as "Steers, 3 years old, 25," "Cows, over 2 years old, 10," etc.

21. The average number of employees during the year 1899 _____.
22. The amount expended in 1899 for wages, including cost of board furnished employees, \$ _____.
23. The amount expended in 1899 for feed purchased for live stock, \$ _____.
24. The number of acres of pasture or grazing land connected with this ranch or range which were irrigated in 1899 _____.
25. The acreage, products, and value of the crops harvested in 1899 on this ranch or range, and the acreage of the crops which were irrigated in that year _____.

NAMES OF CROPS.	Acres harvested.	Unit of weight or measure.	Quantities produced.	Values of crops harvested.	Acres irrigated.
Wild grasses cut for hay.....		Tons.....			
Alfalfa cut for hay.....		Tons.....			
Rye, barley, oats, and other grains cut green for hay.....		Tons.....			
Corn, Kafir corn, Jerusalem corn, Milo maize corn, sorghum, and similar crops cut green and used for forage or fodder for cattle.....		Tons.....			
Vegetables, etc., in ranch garden for home use.....		Bu.....			
.....					
.....					
.....					
.....					
.....					

On the blank lines at the bottom of Inquiry 25 write the names of all grains and other crops, such as wheat, corn, oats, potatoes, etc., which were raised and harvested in 1899, and report the acreage, quantities produced, and values of the same. Do not omit any crop, however small its acreage or product, as it is desired to secure a complete exhibit of all the products of agriculture on the ranges as well as on the ordinary farms of the nation.

26. Range animals: Number and value, June 1, 1900, of all the animals on the ranch or range.

ANIMALS.	Ages in years.	Number.	Value.
Calves.....	Under 1.....		\$
Steers.....	1 and under 2.....		
Steers.....	2 and under 3.....		
Steers.....	3 and over.....		
Bulls.....	1 and over.....		
Heifers.....	1 and under 2.....		
Cows kept for milk.....	2 and over.....		
Cows and heifers not kept for milk.....	2 and over.....		
Colts.....	Under 1.....		
Horses.....	1 and under 2.....		
Horses.....	2 and over.....		
Mule colts.....	Under 1.....		
Mules.....	1 and under 2.....		
Mules.....	2 and over.....		
Asses and burros.....	All ages.....		
Lambs.....	Under 1.....		
Sheep (ewes).....	1 and over.....		
Sheep (rams and wethers).....	1 and over.....		
Swine.....	All ages.....		
Goats.....	All ages.....		
Do not write on this line.....			

27. Pure-blooded animals: The number, June 1, 1900, of all pure-blooded animals, recorded or eligible to record, on the ranch or range. All animals reported under this head should also be reported under 26.

ANIMALS.	Number.	ANIMALS.	Number.
Horses.....		Sheep.....	
Cattle.....		Swine.....	X
Angora goats.....			X

28. Bees and honey:

Number of swarms or hives of bees on hand June 1, 1900.....
 Total value of bees on hand June 1, 1900..... \$.....
 Number of pounds of honey produced in 1899.....
 Number of pounds of wax produced in 1899.....
 Total value of honey and wax produced in 1899..... \$.....

29. Dairy products of 1899: Where milk or cream is sold by the pound, erase the abbreviation "gals." and write the abbreviation "lbs." before filling the schedule.

PRODUCTS.	Quantities produced in 1899.		SOLD IN 1899.	
			Quantities sold.	Received from sales.
Milk.....	Gals.	X	Gals.	
Cream.....			Gals.	
Butter.....	Lbs.		Lbs.	
Cheese.....	Lbs.		Lbs.	

Milk should be reported by every ranch or range when those in charge use it either for family consumption or to convert it into butter. Butter should be reported when it is made, either in small quantities for home consumption or for sale.

30. Total value of all milk, cream, butter, and cheese produced in 1899 and consumed on the ranch or range, \$.....

The value of dairy products, reported in answer to this inquiry, should be the amount which those in charge of the ranch would have been required to pay for the milk and butter produced by them had they purchased it from others.

31. Wool, mohair, and goat hair shorn in fall of 1899 and spring of 1900, and the value of the same.

WOOL, ETC.	Number of fleeces.	Total weight of all fleeces (unwashed).		Total values
		Lbs.	\$	
Wool.....		Lbs.		\$.....
Mohair.....		Lbs.		
Goat hair.....		Lbs.		

When the owner of sheep or goats has not shorn his animals in the spring of 1900 at the time of making the report on this schedule, the owner should give the best possible estimate of the number of fleeces to be shorn, their weight and value, and mark the same "estimate."

32. Poultry and eggs: Number of fowls over 3 months old on the ranch or range June 1, 1900. (Report guinea fowl with chickens.)

Chickens.	Turkeys.	Geese.	Ducks.

Value of the poultry of all kinds and of all ages on hand June 1, 1900.... \$.....

Value of the poultry of all kinds and all ages raised in 1899, whether sold, consumed, or on hand June 1, 1900..... \$.....

Dozens of eggs produced in 1899.....

Total value of all eggs produced in 1899..... \$.....

V.—SCHEDULE FOR LIVE STOCK NOT ON FARMS AND RANGES.

[7-340]

TWELFTH CENSUS OF THE UNITED STATES.

STATISTICS OF AGRICULTURE.

LIVE STOCK NOT ON FARMS OR RANGES.

State..... Supervisor's District No.....
 County..... Enumeration District No.....
 Township or other division of county.....
 Name of incorporated city, town, or village, within the above-named division....., Enumerator.

EXPLANATIONS AND INSTRUCTIONS.

On this schedule are to be reported all live stock, neat cattle, horses, mules, asses, sheep, swine, and goats. They are to be reported by the barn or inclosure in which they are kept on June 1, 1900, and in the name of the proprietor of the barn or inclosure on such date. Proprietors of boarding or livery and sales stables, and other occupants of barns and inclosures for keeping live stock, should report the number of all animals in their care on that date, as well as of those owned by themselves.

In filling the schedule one line should be devoted to reporting each occupied barn or inclosure. No report is to be made for barns or inclosures in which no live stock is kept on June 1, 1900. Do not report upon this schedule animals that belong to any farm, however small. They should be reported on the general agricultural schedule.

NAMES OF PROPRIETORS OF BARN AND INCLOSURES.	NEAT CATTLE.						HORSES.			MULES.			ASSES AND BURROS.	SHEEP.			SWINE.	GOATS.	
	Calves under 1 year.	Steers.			Bulls over 1 year.	Hefers 1 and under 2 years.	Cows over 2 years.	Colts under 1 year.	1 and under 2 years.	Over 2 years.	Under 1 year.	1 and under 2 years.	Over 2 years.	All ages.	Lambs under 1 year.	Over 1 year.		All ages.	All ages.
		1 and under 2 years.	2 and under 3 years.	Over 3 years.												Kept for milk.	Not kept for milk.		

THE THIRTEENTH CENSUS: 1910.

I.—INSTRUCTIONS FOR GENERAL AGRICULTURAL SCHEDULE AND SCHEDULE FOR LIVE STOCK NOT ON FARMS AND RANGES.

[These instructions were not on the schedules themselves but in a separate pamphlet.]

[8-1012]

INSTRUCTIONS TO ENUMERATORS.

AGRICULTURAL SCHEDULES.

Objects of the agricultural census.—The census of agriculture is taken for the purpose of obtaining (1) an accurate inventory of all classes of farm property on April 15, 1910; (2) a complete exhibit of farm operations during the year ended December 31, 1909; and (3) a statement of the number and value of domestic animals in cities and villages on April 15, 1910.

Schedules.—The information desired relating to the first two objects, which have to do with farms, must be reported on the general farm schedule (Form 8—1604). The number and value of domestic animals in cities and villages (other than those on small farms) must be reported on the special schedule, "Domestic Animals Not on Farms or Ranges" (Form 8—1513). In addition to these schedules, the enumerators in the South Atlantic and South Central states will make use of a "Supplemental Plantation Schedule" (Form 8—1950), and those in sections using water for irrigation will make use of a "Supplemental Irrigation Schedule" (Form 8—1979).

GENERAL FARM SCHEDULE.

Instructions and definitions.—Read carefully the instructions and definitions printed on the schedule, as they must be fully understood before any attempt is made to fill out the same. Then study the definitions, instructions, and illustrative examples here given, which are no less important than the instructions printed on the schedule. After this study, if still in doubt on any point, ask your supervisor for special instructions.

Especially is it important that you should, at the very outset, get a clear idea of what is a farm, from the census standpoint, and in whose name a farm should be reported. In each case always ask those questions of the farmer which will put you in possession of *all* the facts relative to the farm area and tenure under which the land is held before writing down the answers first given you by the farmer relative to these points.

Enumerator's record and signature.—In filling the blanks under the head "Enumerator's record and signature," follow the instructions given with reference to the similar heading of the population schedule and, in addition, enter on the proper line the number of the farm in the order of visitation.

Farm.—A "farm," for census purposes—that is, for which a general farm schedule should be obtained—is all the land which is directly farmed by a single person, managing and conducting agricultural operations, either by his own labor alone or with the assistance of members of his household or of hired employees. The term "agricultural operations" is here used as a general term referring to the work of growing crops, producing other agricultural products, and raising animals, fowls, and bees. A farm as thus defined may consist of a single tract of land or a number of separate and distinct tracts situated in the same or in different enumeration districts, and may be held under different tenures, as where one tract is owned by the farmer and another tract leased by him.

For example, if A B operates or cultivates under his personal management one tract of 60 acres in one place and another tract of 30 acres in another place, these two separate tracts constitute one farm of 90 acres. But if A B owns 90 acres of land in one tract but cultivates under his personal management only 60 acres of such tract and leases the other 30 acres to another person, C D, the farm of A B consists of but 60 acres—that is, the number of acres actually

farmed or operated by him, the remaining 30 acres constituting the farm, or part of the farm, of C D. Or, again, if A B owns 90 acres of land which he ordinarily considers as "his farm," but leases 30 acres from C D, then the farm of A B consists of 120 acres—that is, the total number of acres actually farmed by him.

Small farms.—Prepare a farm schedule for (1) any tract of 3 or more acres upon which agricultural operations are conducted by a single person, as above described, no matter what the value of the products raised on the land, or the amount of labor involved in operating the land, may be; and also for (2) any tract containing less than 3 acres which either produced at least \$250 worth of farm products in the year 1909 or required for its agricultural operations the continuous services of at least one person. Other tracts of less than 3 acres are not to be considered as farms.

Market gardens, nurseries, greenhouses, poultry yards, dairies, etc.—All market, truck, and fruit gardens, nurseries, greenhouses, poultry yards, places for keeping bees, and all dairies in and near cities, villages, and incorporated towns, even though little land is employed, are, for census purposes, farms, provided they produced in 1909 agricultural products to the value of at least \$250 or required the continuous services of at least one person. Special effort should be made to secure reports for all such farms.

Institutional farms.—The lands utilized by public institutions, such as almshouses, insane hospitals, etc., for growing vegetables or fruit, or carrying on other agricultural operations are, for census purposes, farms. Such farms include only the land used for agricultural purposes, and their value is the value of that land, together with the value of such buildings only as are used for agricultural purposes.

Farms being collectively developed.—In some localities individuals, firms, and corporations purchase considerable tracts of agricultural land, set out fruit trees, construct irrigation works, or make other improvements thereon and then sell the land in small parcels on the installment plan to nonresident investors, contracting at the time of sale to cultivate the land for a certain length of time. Each such parcel of land, the title to which has been conveyed to a purchaser and on which *fruit trees have been planted or crops are being grown* for him, should be returned as a separate farm. The remainder of the original tract, the title to which has not been thus actually transferred, even though subdivided for purposes of its sale, and even though some steps have been taken looking toward its sale and operations are being conducted on behalf of the prospective owners, should be returned as one farm in the name of the person managing it.

Farm operator.—The term "farm operator" is employed by the census to designate a person who directly works a farm, managing and conducting agricultural operations either by his own labor alone or with the assistance of members of his household or of hired employees. Note especially that farms should be returned in the name of such farm operator—that is, the person *actually conducting the agricultural operations*, even though supervision of such operations may be exercised by another person.

Thus, when land is leased, the tenant, and not the owner, is the "farm operator," even though the owner may exercise supervision over the farming operations of the tenant. Special instructions will be given regarding the census of plantations in the South farmed by tenants—renters or croppers.

Retired farmers are not "farm operators."—No schedule should be obtained for any retired farmer or other farm owner when the farm

is operated for such person by a manager or tenant, even though the farm operations may be supervised by such retired farmer or farm owner. In all such cases the manager or tenant is the farm operator and the farm should be returned in his name.

Schedules to be returned.—Prepare a schedule for the farm of every farm operator who lives in your enumeration district, whether his farm lies wholly in your district, partly in your district and partly in another, or wholly in another. As a rule one (and only one) general farm schedule should be returned for each farm operator. But to this rule there is one general exception. If a farm operator operates two separate tracts of land as a hired manager for two different owners, or one tract as an owner, part owner, or tenant, and another as manager, a separate schedule should be returned for each, as each represents a separate enterprise.

Procedure where farm operator does not reside in the enumeration district in which his farm is situated.—To assist in securing a schedule for every farm, you are provided with "nonresident farmer's slips" (Form 8—1867). Whenever you learn of a farm situated in your enumeration district, but operated by an individual residing in another enumeration district, do not try to obtain a schedule for such farm, but fill out one of these slips in duplicate and forward both copies to your supervisor, as directed on that slip.

If an individual residing within your district works a farm lying wholly within another district, prepare a schedule for such farm, as for other farms, and write across the schedule in large letters **FARM NOT IN THIS DISTRICT**. Attach to such schedule a memorandum stating the name of the minor civil division, as *township, borough, precinct*, etc., and, if known to you, the number of the enumeration district in which the farm is located or the name of the enumerator of that district. If you have received a "nonresident farmer's slip" from your supervisor relating to the farm, attach it to the schedule prepared by you for that farm.

If, for any reason, you find that no schedule should be made for a "nonresident farmer's slip" sent to you, you should return the slip to your supervisor with a memorandum on the back stating why no schedule is returned.

Change of farm operators.—You should not omit the report of the crops of 1909 for a farm because it has changed operators between the close of the crop year 1909 and April 15, 1910. Such a farm should be reported *in the name of the person in possession on April 15, 1910*, and not in the name of the former operator. Of course, obtain from the present operator the statistics of live stock, implements, machinery, and farm value on April 15, 1910, as for any other farm. If the previous occupant can be reached, secure from him the returns of the crops of 1909; otherwise secure estimates of them from the most reliable source. In the case of farms operated by tenants this information can generally be best obtained from the owners of the farms or their agents, if they are accessible.

Changes in size of farm.—If a tract of land which in 1909 was divided and cultivated by two or more persons is cultivated by one person on April 15, 1910, report it as only one farm. Or, vice versa, if that which in 1909 was one farm is operated on April 15, 1910, as two or more distinct farms, report as many farms as there are separate owners, managers, or tenants.

Ranches using public lands.—The farm of a ranchman using the public domain includes only the land which he owns or leases. If he leases public land or any other land, such land is a part of his farm. But his farm does not include any public land for which he pays no rental or upon which live stock are grazed at a fixed charge per head. Across the head of schedules for farms and ranches using public lands for grazing live stock write **RANGE** in large letters. In cases where cattle are grazed wholly upon the public domain and the owner of the animals does not own or lease any land, fill out a schedule for the owner the same as for any ordinary farm operator, omitting answers, however, to Inquiries 10 to 15 and writing in answer to Inquiry 6 the words "No land owned or leased."

Tenure. (Inquiry 6.)—Farms are classified, according to the form of their tenure, in 7 classes, as fully defined in the instructions on the schedule itself.

Note that a person holding title to *all* the land operated by him is an *owner*, whether he has wholly paid for his farm or owes in part for the same.

Note also the important distinction between *owner* and *part owner*. If the farm operator, in addition to operating a farm owned by him, operates a tract of land that is leased by him from some one else, he should be returned as *part owner*, as only part of the land operated by him is owned by him.

Likewise be careful not to confuse *part owner* with *owner and tenant*. In the census classification *owner and tenant* refers to the case where *two persons* (or more) operate the same farm, one owning the land and the other receiving in return for his cooperation and labor a share of the products. In such cases the answer to Inquiry 6 should be *owner and tenant*, and the names of both persons should be given in answer to Inquiry 1. Inquiries 3, 4, and 5 are to be filled out for the owner of the farm only.

A *tenant* is a farm operator who leases *all* the land operated by him. It will be noted that provision is made for three classes of tenants—*share tenant*, *cash tenant*, and *share-cash tenant*. It therefore becomes necessary, in all cases where the farm operator is a tenant, for you to determine to which of these three classes he belongs. That depends on the terms of his lease or the kind of rent he pays for the use of the land.

If he pays a proportionate share of the products or crops, say one-half or one-third, to the owner for the use of the land, then he is a *share tenant* and should be so returned. But if (1) he pays a fixed rental in money, say \$200 a year, or (2) a stated amount of produce, say 100 bushels of wheat or 5 bales of cotton, or (3) if he agrees to work for the owner of the land a specified number of days, say two days every week, then in either case he is a *cash tenant* and should be so returned. It should be noted, therefore, that the word *cash*, as here used, means not necessarily money, but a definite and fixed amount of either money, produce, or labor, as the case may be, paid as rent.

It may happen that a tenant pays both kinds of rent. He may pay for a single tract of land both a fixed amount of money, produce, or labor, and a proportionate share of the crops, or he may rent one tract of land on one basis and another tract on the other basis. In both such cases he is to be returned as a *share-cash tenant*.

Value of implements and machinery belonging to farm.—Report in answer to Inquiry 16 the value of all implements, machinery, etc., used on the farm and permanently kept there, whether they belong to the farm operator or not.

Domestic animals and bees on the farm.—Report all domestic animals on the farm on April 15, 1910. The phrase *on the farm* in the case of all farms other than those using the public domain means regularly and continually *kept on the farm*. If a farmer hires his neighbor's team for a short time, this team is not to be regarded as "on the farm," for census purposes, and should not be included in that farm schedule, although it may happen to be at work on the farm April 15, 1910. But horses or other animals belonging to the hired man, or to others, which are boarded or being cared for on the farm should be included, even though not used in its operation. Breeding animals owned jointly by two or more farmers and kept in turn on the various farms should be reported on the farm where they happen to be on April 15, 1910. In the case of farms of ranchmen using the public domain, *animals on the farm* should be understood as meaning all animals belonging to or under the care of the ranchman for whom the schedule is prepared.

Where the custom prevails of the owner of a large number of hives of bees distributing them among the farmers of the region, who keep them on their farms, the bees so distributed must be reported on the schedule for such farms. Care should be taken that the owner of such bees does not also report them.

Similarly, where the owner of cattle gives them out to be taken care of on other ranches or farms, such cattle must be reported on the individual ranches or farms where they are kept and *not* on the ranch or farm of their owner.

Milk cows.—Be careful not to confuse cows and heifers *kept* for milk and cows and heifers *not kept* for milk. Report as cows kept for milk those whose milk is used in some form for human food. Cows milked for three months, or to be milked for three months, during the year 1910, should be reported as *kept for milk* although a part of the year they run with their calves.

Pure-bred animals. (Inquiry 34.)—Do not overlook Inquiry 34, relating to pure-bred animals. This inquiry should be gone over with the farmer wherever live stock of any kind is kept on the farm. If a farmer has a pure-bred bull, boar, or other animal which he is crossing with common stock, it is of great importance that such animal be reported. If a farmer has animals which are descended from registered animals or from animals eligible to registry on both sides such animals should be reported as pure bred, even though they have not been registered.

Domestic animals purchased, sold alive, and slaughtered in 1909. (Inquiry 35.)—Under this head report all animals purchased and placed on the farm in 1909, whether purchased by the farm operator or, in case of a tenant farm, by the owner. If the tenant does not know the amount paid for animals purchased for the farm by the owner, the best estimate possible should be made.

Dairy products. (Inquiry 38.)—In reporting dairy products be sure that the answer to the first item of the inquiry *milk produced* represents *all* the milk produced during the year (except that fed directly, without being skimmed, to calves, pigs, etc., on the farm), even though a portion or all of such milk is converted into butter or cheese and reported under those items. The quantity of milk reported should be sufficient to account at least for the quantity of butter, cream, and cheese reported as produced, whether sold or consumed on the farm.

Report as *milk sold* only such milk as is sold "whole" or unskimmed. Sales of skimmed milk or of buttermilk must not be included with sales of "whole" milk, but should be separately reported on some unused line of Inquiry 38. For example: If no cheese is made on the farm, cross out the word *cheese* and insert *skimmed milk* or *buttermilk*, as the case may be, and report the quantity sold.

Poultry. (Inquiries 39 and 40.)—Notice carefully that Inquiry 39 asks for the value of all fowls over 3 months old on the farm April 15, 1910. That is, a report is desired of the total number of such fowls in the country on April 15, 1910, exactly as is wanted the number of domestic animals on that date, and the general instructions for domestic animals apply to fowls also. Inquiry 40, however, has to do with the number of fowls raised and the value of their products for the calendar year 1909. Do not confuse the number of fowls raised during this period with the number on hand April 15, 1910, which is covered by Inquiry 39.

Crops.—The crops reported by each farmer should be only those raised in 1909 on the farm which the farmer is operating on April 15, 1910. Frequently farmers will be found who rented additional land in 1909 which they are not renting in 1910. *The crops grown on such land are not to be reported by the farmer who raised those crops in 1909, but by the farmer who is operating that land in 1910.* This distinction must be carefully noted, or a duplication of crops will result.

Fruits.—The harvest of certain subtropical and tropical fruits extends through a part of two calendar years. For example: The harvest of the navel orange crop begins in November or December and is not finished until February or March. The crop to be reported on the schedule as produced in the year 1909 is the crop harvested in the latter part of 1909 and the early part of 1910. This rule applies to all fruits harvested under similar conditions.

Crops grown for sugar in 1909. (Inquiry 52.)—When a plantation or farm on which sugar cane is raised is operated by a tenant who sells his cane to his landlord, the amount reported on the schedule as receipts from the sale of cane should be the total value of such cane, and not the total value less the rental paid (whether cash or share) for the use of the land. Where a farmer raises either sugar cane or sorghum cane and has it reduced to sirup by a neighbor, the schedule should exhibit the acreage of the cane grown, its weight in tons, the gallons of sirup obtained, and its value. No deduction from the quantity or value of the sirup should be made for the expense of converting the cane into sirup. The report made of *cane crushed on farm* in answer to Inquiry 52 should include only cane grown on the farm to which the schedule relates.

Sales of specified products in 1909. (Inquiry 56.)—In answer to this inquiry, do not report sales of any farm product in 1909 other than those specifically mentioned on the schedule, even though various other products were sold. This inquiry is placed on the schedule for a particular purpose, and is not intended to present a complete exhibit of all farm products sold in 1909.

Pasture land. (Inquiry 58.)—In answer to the several inquiries under this head, include only land that was used *exclusively* for pasture in 1909. Do not include land which may have been pastured after a crop of hay or grain was harvested therefrom. Do not include wheat, rye, or other grain fields that may have been pastured in the spring or fall but which later yielded or will yield grain.

Report as *woodland pasture* all woodland which furnished pasture in 1909.

Include with improved land in pasture all permanent pasture which can be plowed or mowed and all fields pastured and cropped in rotation which were used exclusively for pasture in 1909. Report as *all other pasture land* all unimproved land, other than woodland, used for pasture in 1909.

Distinction between farm and factory operations.—The manufacture of butter, cheese, cider, vinegar, wine, or other products may be carried on in buildings or plants operated either (1) in connection with farms or (2) as independent manufacturing enterprises. In the latter case such buildings and plants are to be regarded as factories to be covered by the census of manufactures and not to be included in the census of agriculture. But unless it is clear that such buildings or plants are operated as a manufacturing enterprise independent of a farm, you should include the value of such buildings or plants as a part of the improvements of the farm on which they are located; you should include with the products of the farm only the butter, cheese, cider, vinegar, or wine made in such establishments from milk produced or crops (apples, grapes, etc.) *grown on the farm*. Where raw materials, other than those grown on the farm on which the plant is located, are tressed, state that fact on the margin of the schedule or on a slip attached.

Special rule regarding cane sugar, molasses, sirup, and sorghum mills.—Where mills exist on farms for the manufacture of cane sugar, molasses, sirup, or sorghum, the value of such mills must be included in the farm report if they confine their operations to the treatment of cane grown on the farm on which they are located. If, however, a mill located on a farm crushes cane grown on farms other than the one on which it is located, its value should not be included upon the general farm schedule.

Special rule regarding canning factories.—Factories canning fruits and vegetables for sale, even though located on a farm and using only the fruits and vegetables grown on such farm are *not* to be reported on the general farm schedule. In reporting the value of fruits, vegetables, etc., grown on the farm and canned in factories such as those last mentioned, their value when delivered to the factory, and not their value after canning, should be reported.

SPECIAL SCHEDULES FOR DOMESTIC ANIMALS NOT ON FARMS OR RANGES.

When to be used.—This schedule (Form 8—1513) is to be used in reporting all domestic animals *not kept on farms or on public ranges*, and is to be filled in accordance with the instructions printed upon the schedule itself.

ILLUSTRATIVE EXAMPLES OF THE METHOD OF MAKING RETURNS FOR CERTAIN IMPORTANT INQUIRIES ON THE GENERAL FARM SCHEDULE.

In order that there may be no doubt in the mind of the enumerator regarding the manner in which the foregoing instructions should be applied in the practical work of securing returns for farms, there are given on the pages which follow illustrative examples of the precise manner in which these inquiries which are likely to offer any difficulty to enumerators should be answered. The examples given are for hypothetical farms, but conform closely to cases which will have to be handled by enumerators in performing their work. Special

effort should be made to ask such questions of the farmers as will disclose the facts necessary to secure correct answers to inquiries relative to tenure (Inquiry 6), area (Inquiry 10), value of farm (Inquiry 14), and land owned but leased, etc., to others (Inquiry 26).

Among the first questions to be asked of the farm operator to secure the information here mentioned are the following: (a) "Do you own your farm, or does it belong to others?" If the answer is "I own it," ask such further questions as (b) "How many acres of land do you own?" (c) "Do you use all of the land which you own?" (d) "Do you rent some of it to others as tenants?" (e) "Do you hire any land from others which you use in connection with your own land in growing crops and pasturing live stock?" If the answer to question (c) is "No," ask such further questions as will secure correct answers to Inquiries 10, 14, and 26. If the answer to question (e) is "Yes," ask such further questions as will secure the facts for answers to these schedule inquiries and also those regarding mixed tenure (Inquiries 17, 18, and 19). If the answer to question (a) is "Farm belongs to others," ask such further questions as will secure correct answers to all the schedule inquiries regarding tenure (Inquiries 6, 17, 18, and 19).

In the case of Farm A, the questions are printed in full exactly as they appear on the complete schedule that will be used in taking the census of agriculture. In the case of the other two farms, the explanations that accompany the inquiries on the schedule are omitted to save space. Those inquiries for which no facts are given in the narratives are omitted altogether.

A. Farm of an owner.—The first farm visited by the enumerator is that of Henry Wilson, of Waynesville, Pulaski County, Mo. He is a white man, 50 years of age, was born in the United States, and his name is entered on population schedule on sheet 1, line 1. He owns 190 acres of land, on which he has lived for ten years. He operates 180 acres of this land himself and rents 10 acres to a neighbor, Frank Jones. (See second illustrative example—B. Farm of a part owner.) His farm, therefore, for census purposes, consists of 180 acres, and this is the land whose area and value are reported in answer to Inquiries 10 to 15 and for which the animals and products are to be reported in answer to Inquiries 27 to 59. Of the 180 acres operated by himself, 120 acres are improved, 50 acres are in timber land, and 10 acres in swamp. The total value of his farm of 180 acres, including buildings, is \$5,700; he values the buildings at \$1,000. The implements and machinery on the farm are worth \$250. During 1909 he paid the farm laborer whom he hired by the month \$50 in cash and in addition gave him a horse valued at \$100. He hired day labor during the harvest season at a cash expense of \$50. The value of the board furnished these laborers is estimated at \$50. He paid \$25 for bran and other feed for his live stock. He also bought \$10 worth of commercial fertilizer. There is a mortgage of \$2,500 on the land owned by Mr. Wilson. The 10 acres which he rents to Frank Jones are valued at \$300. For method of reporting on Mr. Wilson's schedule the value of the land leased to Mr. Jones, see answer to Inquiry 26.

INFORMATION CONCERNING FARM OPERATOR.

Henry Wilson

1. Name.....

Waynesville

2. Post-office address.....

3. Color or race..... W 4. Age..... 50

5. Country in which born..... U. S. 6. Tenure..... Owner

7. Sheet and line on population schedule on which name of 1 1 farm operator is written..... Sheet No....., Line No.....

8. If farm operator farms this farm or any part of it as manager or tenant, give for owner of such land..... Name..... P. O. address.....

9. How long has this farmer operated this farm?..... 10 Years....., months.....

FARM ACREAGE APRIL 15, 1910.

	Acres.
10. Total number of acres in this farm. (Give here all lands operated or farmed by the farm operator, including all outlying or separate fields, meadows, pastures, or woodlands operated by him as owner, tenant, or manager. Do not include land operated or cropped by any other than the one whose name is given under Inquiry 1).....	180
11. Improved land in this farm. (Give here all land regularly tilled or mowed, land pastured and cropped in rotation, land lying fallow, land in gardens, orchards, vineyards, nurseries, and land occupied by buildings).....	120
12. Woodland in this farm. (Give here land covered with natural or planted forest trees, whose principal value is in firewood, timber, or other forest products which it will now or later yield).....	50
13. All other unimproved land in this farm.....	10

FARM VALUES APRIL 15, 1910.

14. Total value of this farm with all buildings and improvements, but not implements and machinery.....	\$ 5,700
15. Value of all buildings on this farm included above.....	1,000
16. Value of all implements and machinery, belonging to this farm. (Include all implements, machinery, tools, wagons, carriages, harnesses, etc.; all apparatus for making butter and cheese, for ginning cotton, for making cider, wine, sugar, molasses, and sorghum, for drying fruit, for thrashing grains, and for similar purposes, together with engines and other motors).....	250

MORTGAGE INDEBTEDNESS APRIL 15, 1910.

20. If the farm operator owns any or all of the land in this farm, state whether such land is mortgaged.....	Yes
(Answer "Yes" or "No.")	
21. Amount of mortgage indebtedness April 15, 1910.....	\$ 2,500

FARM EXPENSES.

22. Amount spent in cash in 1909 for farm labor (exclusive of housework).....	\$ 200
23. Estimated value of house rent and board furnished farm laborers in 1909, in addition to cash wages reported above.....	50
24. Amount spent in 1909 for hay, grain, and other produce (not raised on this farm) for use as feed of domestic animals and poultry.....	25
25. Amount spent in 1909 for manure and other fertilizers.....	10

LAND OWNED BUT NOT OPERATED BY THIS FARMER.

26. If farm operator owns land leased to or farmed by others as tenant (renter or cropper) or manager, report here—	
Number of acres farmed by others.....	10
Value of land and buildings farmed by others.....	\$ 300
Number of farm tenants and managers.....	1

B. Farm of a part owner.—The second farm visited is that of Frank Jones. His name is entered on the population schedule, sheet 1, line 5. Mr. Jones receives mail at Waynesville. He is a white man, 30 years of age. He was born in England. He owns free from incumbrance and works 120 acres of land, of which 20 acres are improved, 90 acres are in woodland, and 10 acres are so rough that it is used for pasturage only and can not be plowed. In addition, he rents from Henry Wilson, whose address is Waynesville, 10 acres of improved land for one-third of the products. The value of the 120 acres owned by him, including buildings thereon, is \$1,700. The buildings alone are worth \$500. The value of the 10 acres leased from Mr. Wilson is \$300, with no buildings. Mr. Jones's farm, for census purposes, therefore, consists of the 120 acres owned by him together with the 10 acres which he leases from

Mr. Wilson. The method of reporting the acreage and value of such a farm is shown in the illustrative example which follows, by the answers to inquiries relating to these subjects. Mr. Jones owns farm machinery, consisting of wagons, plows, harnesses, tools, etc., valued at \$150, and also keeps on the farm a thrashing outfit in which he owns an interest valued at \$2,000. He expended \$50 for labor in 1909 and furnished board valued at \$10. He also bought \$20 worth of corn, which he fed to poultry. He has operated this farm for five years.

INFORMATION CONCERNING FARM OPERATOR.

Frank Jones

1. Name.....
 2. Post-office address..... *Waynesville*
 3. Color or race..... *W* 4. Age..... *30*
 5. Country in which born..... *England* 6. Tenure..... *Part owner*
 7. Sheet and line on population schedule on which name of farm operator is written..... Sheet No. *1*, Line No. *5*
 8. If farm operator farms this (Name..... *Henry Wilson*
 farm or any part of it as manager or tenant, give P. O. address..... *Waynesville, Mo.*
 for owner of such land.....
 9. How long has this farmer operated this farm? { Years..... *5*, months.....

FARM ACREAGE APRIL 15, 1910.

	Acres.
10. Total number of acres in this farm.....	150
11. Improved land in this farm.....	30
12. Woodland in this farm.....	30
13. All other unimproved land in this farm.....	10

FARM VALUES APRIL 15, 1910.

14. Total value of this farm with all buildings and improvements, but not implements and machinery.....	\$ 2,000
15. Value of all buildings on this farm included above.....	500
16. Value of all implements and machinery belonging to this farm.....	\$ 150

MIXED TENURE: If answer to Inquiry 6 is "part owner" or "share-cash tenant," give—

17. Land and buildings in this farm owned by farm operator:

Total acres.....	120	Total value \$.....	\$ 2,200	Acres improved.....	30
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18. Land and buildings in this farm rented by farm operator from others for share of products:

Total acres.....	10	Total value \$.....	300	Acres improved.....	10
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19. Land and buildings in this farm rented by farm operator from others for cash or fixed amount of labor or products:

Total acres.....	Total value \$.....	Acres improved.....
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FARM EXPENSES.

22. Amount spent in cash in 1909 for farm labor (exclusive of housework)....	\$ 50
23. Estimated value of house rent and board furnished farm laborers in 1909, in addition to cash wages reported above.....	10
24. Amount spent in 1909 for hay, grain, and other produce (not raised on this farm) for use as food of domestic animals and poultry.....	20
25. Amount spent in 1909 for manure and other fertilizers.....	

C. Farm of a share-cash tenant.—The third farm visited is that of Wilhelm Weitzel, whose post-office address is Waynesville. He is enumerated on the population schedule on sheet 1, line 23. He is a white man, 35 years of age, and was born in Germany. Eight years ago he came to this country and rented 100 acres of land from William Long, of Dixon, Mo., which he has operated continuously

since that time. Sixty acres of his farm are improved, 30 acres are covered with timber, and in addition there are 10 acres of very rough land used exclusively for pasturage. The total value of the farm, including buildings, is \$4,200. The buildings alone are worth \$700. The implements and machinery belonging to the farm are valued at \$400. He leased his land under a contract, the principal terms of which are as follows:

He agrees to pay \$5 per acre for the use of 20 acres of exceptionally fertile land, on which he agrees to raise corn. The total value of this 20-acre tract is \$1,000. For the remaining 80 acres, on which the buildings are located and which is valued (including the buildings) at \$3,200, he agrees to pay one-half of all the crops raised. He spent for labor in 1909 \$150 in cash, and furnished board to the laborers, which he estimates to have been worth \$75. For special method of separating the acreage and value of such a farm as that of Mr. Weitzel, see answers to Inquiries 18 and 19 in the following illustrative example.

INFORMATION CONCERNING FARM OPERATOR.

Wilhelm Weitzel

1. Name.....
 2. Post-office address..... *Waynesville, Mo.*
 3. Color or race..... *W* 4. Age..... *35*
 5. Country in which born..... *Germany* 6. Tenure..... *Share-cash*
 7. Sheet and line on population schedule on which name of farm operator is written..... Sheet No. *1*, Line No. *23*
 8. If farm operator farms this farm or any part of it as manager or tenant, give for owner of such land.. { Name..... *William Long*
 P. O. address..... *Dixon, Mo.*
 9. How long has this farmer operated this farm. { Years..... *8*, months.....

FARM ACREAGE APRIL 15, 1910.

	Acres.
10. Total number of acres in this farm.....	100
11. Improved land in this farm.....	60
12. Woodland in this farm.....	30
13. All other unimproved land in this farm.....	10

FARM VALUES APRIL 15, 1910.

14. Total value of this farm with all buildings and improvements, but not implements and machinery.....	\$ 4,200
15. Value of all buildings on this farm included above.....	700
16. Value of all implements and machinery belonging to this farm.....	400

MIXED TENURE: If answer to Inquiry 6 is "part owner" or "share-cash tenant," give—

17. Land and buildings in this farm owned by farm operator:

Total acres.....	Total value \$.....	Acres improved.....
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18. Land and buildings in this farm rented by farm operator from others for share of products:

Total acres.....	80	Total value \$.....	\$ 2,200	Acres improved.....	30
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19. Land and buildings in this farm rented by farm operator from others for cash or fixed amount of labor or products:

Total acres.....	20	Total value \$.....	1,000	Acres improved.....	20
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FARM EXPENSES.

22. Amount spent in cash in 1909 for farm labor (exclusive of housework)....	\$ 150
23. Estimated value of house rent and board furnished farm laborers in 1909, in addition to cash wages reported above.....	75
24. Amount spent in 1909 for hay, grain, and other produce (not raised on this farm) for use as food of domestic animals and poultry.....	
25. Amount spent in 1909 for manure and other fertilizers.....	

II. GENERAL AGRICULTURAL SCHEDULE.

[First page.]

DEPARTMENT OF COMMERCE AND LABOR,
(8-1604)

BUREAU OF THE CENSUS.
[NNI-268]

CENSUS OF AGRICULTURE, 1909.

GENERAL SCHEDULE.

ENUMERATOR'S RECORD AND SIGNATURE:

State..... Supervisor's District No.....
County..... Enumeration District No.....
Township or other division of county.....
(Insert name of township, town, precinct, district, or other division, as the case may be.)
Name of incorporated city, town, or village within the above-named division.....
Number of farm in order of visitation.....
Enumerated by me this..... day of....., 1910.
....., Enumerator.

INFORMATION CONCERNING FARM OPERATOR:

1. Name.....
2. Post-office address.....
3. Color or race..... 4. Age.....
5. Country in which born..... 6. Tenure.....
7. Sheet and line on population schedule on which name of farm operator is written..... Sheet No....., Line No.....
8. If farm operator farms this farm or any part of it as manager or tenant, give Name..... P. O. address..... for owner of such land....
9. How long has this farmer operated this farm? } Years....., months.....

FARM ACREAGE APRIL 15, 1910:

- | | |
|--|--------|
| | Acres. |
| 10. Total number of acres in this farm. (Give here all lands operated or farmed by the farm operator, including all outlying or separate fields, meadows, pastures, or woodlands operated by him as owner, tenant, or manager. Do not include land operated or cropped by any other than the one whose name is given under Inquiry 1)..... | |
| 11. Improved land in this farm. (Give here all land regularly tilled or mowed, land pastured and cropped in rotation, land lying fallow, land in gardens, orchards, vineyards, nurseries, and land occupied by buildings)..... | |
| 12. Woodland in this farm. (Give here land covered with natural or planted forest trees, whose principal value is in firewood, timber, or other forest products, which it will now or later yield)..... | |
| 13. All other unimproved land in this farm..... | |

FARM VALUES APRIL 15, 1910:

14. Total value of this farm with all buildings and improvements, but not implements and machinery..... \$.....
15. Value of all buildings on this farm included above.....
16. Value of all implements and machinery belonging to this farm. (Include all implements, machinery, tools, wagons, carriages, harnesses, etc.; all apparatus for making butter and cheese, for ginning cotton, for making cider, wine, sugar, molasses, and sorghum, for drying fruit, for thrashing grains, and for similar purposes, together with engines and other motors).....

Mixed Tenure: If answer to Inquiry 6 is "part owner" or "share-cash" tenant, give—

17. Land and buildings in this farm owned by farm operator.
Total acres..... Total value, \$..... Acres improved.....
18. Land and buildings in this farm rented by farm operator from others for share of products.
Total acres..... Total value, \$..... Acres improved.....
19. Land and buildings in this farm rented by farm operator from others for cash or fixed amount of labor or products.
Total acres..... Total value, \$..... Acres improved.....

MORTGAGE INDEBTEDNESS APRIL 15, 1910:

20. If the farm operator owns any or all of the land in this farm, state whether such land is mortgaged..... (Answer "Yes" or "No.")
21. Amount of mortgage indebtedness April 15, 1910..... \$.....

[These spaces are for office memoranda; do not write in them.]

Char.	Inc.	Eqt.	Live stock.	Products.	Products not fed.

FARM EXPENSES:

22. Amount spent in cash in 1909 for farm labor (exclusive of house-work)..... \$.....
23. Estimated value of house rent and board furnished farm laborers in 1909, in addition to cash wages reported above.....
24. Amount spent in 1909 for hay, grain, and other produce (not raised on this farm) for use as feed of domestic animals and poultry.....
25. Amount spent in 1909 for manure and other fertilizers.....

LAND OWNED BUT NOT OPERATED BY THIS FARMER:

26. If farm operator owns land leased to or farmed by others as tenant (renter or cropper) or manager, report here—
Number of acres farmed by others.....
Value of land and buildings farmed by others..... \$.....
Number of farm tenants and managers.....

DOMESTIC ANIMALS ON FARM APRIL 15, 1910:

[Report all animals on the farm whether belonging to the farm operator or not.]

ANIMALS.	Number.	Value.
27. CATTLE:		
Cows and heifers kept for milk, born before January 1, 1909.....	\$.....
Cows and heifers not kept for milk, born before January 1, 1909.....
Heifers born in 1909.....
Calves born after January 1, 1910.....
Steers and bulls born in 1909.....
Steers and bulls not kept for work, born before January 1, 1909.....
Steers kept for work, born before January 1, 1909.....
28. SWINE:		
Hogs and pigs born before January 1, 1910.....
Pigs born after January 1, 1910.....
29. HORSES AND MULES:		
Mares, stallions, and geldings born before January 1, 1909.....
Colts born in 1909.....
Colts born after January 1, 1910.....
Mules born before January 1, 1909.....
Mule colts born in 1909.....
Mule colts born after January 1, 1910.....
30. ASSES AND BURROS (all ages).....		

31. SHEEP AND LAMBS:
 Ewes born before January 1, 1910.....
 Rams and wethers born before January 1, 1910.....
 Lambs born after January 1, 1910.....

32. GOATS AND KIDS (all ages).....

33. ANIMALS BORN ON THE FARM DURING 1909:
 [If the number born is not known, give the number raised.]
 Calves..... Colts..... Mule colts.....
 Lambs..... Kids..... Pigs.....

34. PURE-BRED ANIMALS:
 [Report the number and breed of any animals reported under Inquiries 27 to 32 that are registered or eligible for register April 15, 1910.]

ANIMALS.	Number.	Breed.	ANIMALS.	Number.	Breed.
Cattle.....			Goats.....		
Horses.....			Hogs.....		
Sheep.....			Asses.....		

35. DOMESTIC ANIMALS PURCHASED, SOLD ALIVE, AND SLAUGHTERED IN 1909:

ANIMALS.	PURCHASED.		SOLD ALIVE.		SLAUGHTERED ON FARMS.	
	Number.	Amount paid.	Number.	Amount received.	Number.	Value.
Calves.....		\$.....		\$.....		\$.....
Cattle other than calves.....						
Horses and colts.....					X	X
Mules.....					X	X
Asses and burros.....					X	X
Hogs and pigs.....						
Sheep.....						
Goats.....						

36. DOMESTIC ANIMALS BOARDED OR PASTURED:
 Total amount received in 1909 for boarding or pasturing domestic animals not owned by the farm operator..... \$.....

37. WOOL AND MOHAIR (GOAT HAIR) SHORN IN 1909:
 [When sheep and goats are shorn twice in the same year, write the figure (2) in the first column after the words "wool" or "mohair."]

ITEM.	Number of fleeces.	Total weight (pounds).	Value.
Wool.....			\$.....
Mohair (goat hair).....			

38. DAIRY PRODUCTS IN 1909:

DAIRY PRODUCTS.	TOTAL PRODUCED.		TOTAL SOLD.	
	Quantity.	Value.	Quantity.	Amount received.
Milk.....	Gals.....	\$.....	Gals.....	\$.....
Butter.....	Lbs.....		Lbs.....	
Cream.....	X	X	Gals.....	
Butter fat.....	X	X	Lbs.....	
Cheese.....	Lbs.....		Lbs.....	

39. FOWLS OVER THREE MONTHS OLD ON FARM APRIL 15, 1910:

KIND.	Number.	Value.	KIND.	Number.	Value.
Chickens.....		\$.....	Geese.....		\$.....
Turkeys.....			Guinea fowls.....		
Ducks.....			Pigeons.....		

40. FOWLS AND EGGS PRODUCED IN 1909:
 Fowls of all kinds raised in 1909, whether sold, consumed, or on hand..Number..... Value..... \$.....
 Fowls sold in 1909..Number..... Amount received.....
 Eggs produced in 1909..Number of dozens..... Value.....
 Eggs sold in 1909..Number of dozens..... Amount received.....

41. BEES AND HONEY:
 Bees on hand April 15, 1910.. {Number of swarms, hives, or colonies..... }
 {Value..... } \$.....
 Honey produced in 1909..Pounds..... Value.....
 Wax produced in 1909...Pounds..... Value.....

CROPS:

CROPS.	HARVESTED IN 1909.			Number of acres planted or to be planted for harvest in 1910.
	Number of acres.	Quantity produced.	Value of products.	
42. GRAINS AND SEEDS:				
Corn.....		Bu.....	\$.....	
Oats.....		Bu.....		
Wheat:				
Common winter.....		Bu.....		
Common spring.....		Bu.....		
Durum or macaroni.....		Bu.....		
Emmer and spelt.....		Bu.....		
Barley.....		Bu.....		
Buckwheat.....		Bu.....		
Rye.....		Bu.....		
Kafir corn and milo maize.....		Bu.....		
Rough rice.....		Bu.....		
Flaxseed.....		Bu.....		
Grass seed.....		Bu.....		X
(Dry edible beans..... (Give name.)		Bu.....		X
Dry peas.....		Bu.....		X
Peanuts.....		Bu.....		

43. HAY AND FORAGE:

Timothy alone.....	Tons.....	\$.....
Timothy and clover mixed.....	Tons.....	
Clover alone.....	Tons.....	
Alfalfa.....	Tons.....	
Millet and Hungarian grass.....	Tons.....	
Other tame or cultivated grasses.....	Tons.....	
Wild, salt, or prairie grasses.....	Tons.....	
Grains cut green..... (Give name.)	Tons.....	
Coarse forage..... (Give name.)	Tons.....	
..... (Give name.)	Tons.....	

SCHEDULES: 1850 TO 1910.

44. SUNDRY CROPS:				
Potatoes.....	Bu.	\$		
Sweet potatoes and yams.....	Bu.			
Tobacco.....	Lbs			
Cotton.....	{ Bales.....			
	{ Lbs.....			
Hops.....	Lbs		X	
Hemp.....	Lbs		X	
Broom corn.....	Lbs		X	
Other crops.....			X	
(Give name.).....			X	
(Give name.).....			X	
45. SMALL FRUITS:				
Strawberries.....	Qts	\$	X	
Raspberries and loganberries.....	Qts		X	
Blackberries and dewberries.....	Qts		X	
Currants.....	Qts		X	
Gooseberries.....	Qts		X	
Cranberries.....	Qts		X	

[Second page.]

CROPS,

[NOTE.—Include quantity and value of fruits used for making products specified in Inquiry 57.]

CROPS.	NUMBER OF TREES AND VINES APRIL 15, 1910.		PRODUCTS OF 1909.	
	Of bearing age.	Not of bearing age.	Quantity produced.	Value of products.
46. ORCHARD FRUITS:				
Apples.....			Bu.	\$
Peaches and nectarines.....			Bu.	
Pears.....			Bu.	
Plums and prunes.....			Bu.	
Cherries.....			Bu.	
Apricots.....			Bu.	
Quinces.....			Bu.	
47. GRAPES.				
			Lbs	\$
48. TROPICAL FRUITS:				
Figs.....			Lbs	\$
Oranges.....			Bzs	
Lemons.....			Bzs	
Oilyes.....			Lbs	
Pomeles (grapefruit).....			Bzs	
Pineapples.....			Crate	
Other.....				
(Give name.).....				
(Give name.).....				
49. NUTS:				
Almonds.....			Lbs	\$
Pecans.....			Lbs	
Walnuts (Persian or English).....			Lbs	
Other.....				
(Give name.).....				
(Give name.).....				

50. FARM GARDEN.—Does the farm have a garden in which vegetables other than potatoes are grown for farm use?

(Answer "Yes" or "No.")

51. VEGETABLES PRODUCED IN 1909:

KIND.	Number of acres harvested.	Unit of measure.	Quantity produced.	Value of products.
Cabbages.....				\$
Tomatoes.....				
Sweet corn.....				
Pop corn.....				
Onions.....				
Cucumbers.....				
Watermelons.....				
Muskmelons and cantaloupes.....				
Turnips.....				
Green beans.....				
Green peas.....				
Asparagus.....				
Celery.....				
Other.....				
(Give name.).....				
(Give name.).....				
(Give name.).....				
Farm garden.....		X	X	

52. CROPS GROWN FOR SUGAR IN 1909:

(a) Sugar or ribbon cane.			
Acres harvested.....	Tons produced.....	Amount rec'd.....	\$.....
Cane sold as such.....	Tons.....	Value.....	\$.....
Cane crushed on farm.....	Tons.....	Value.....	\$.....
Sugar made on farm.....	Lbs.....	Value.....	\$.....
Molasses made on farm.....	Gals.....	Value.....	\$.....
Sirup made on farm.....	Gals.....	Value.....	\$.....
(b) Sugar beets.			
Acres harvested.....	Tons produced.....	Value.....	\$.....
(c) Sorghum cane.			
Acres harvested.....	Tons produced.....	Amount rec'd.....	\$.....
Cane sold as such.....	Tons.....	Value.....	\$.....
Sirup produced.....	Gals.....	Value.....	\$.....
(d) Maple sugar and sirup.			
Number of trees tapped for sugar and sirup in 1909.....	Lbs.....	Value.....	\$.....
Sugar made.....	Lbs.....	Value.....	\$.....
Sirup made.....	Gals.....	Value.....	\$.....

53. FLOWERS, NURSERY STOCK, ETC.:

CROPS.	Area in acres in 1909.	Received from sales in 1909.
Flowers and foliage plants in greenhouses and in the open field.....		\$.....
Trees, shrubs, plants, and vines in nurseries.....		
Vegetable and flower seed.....		

54. LAND UNDER GLASS: Land in greenhouses, hothouses, and cold frames for propagation of—

Vegetables (sq. ft.).....	Fruits (sq. ft.).....	Flowers (sq. ft.).....
---------------------------	-----------------------	------------------------

55. FOREST PRODUCTS PRODUCED IN 1909:

Value of all firewood, fencing material, logs, railroad ties, telegraph and telephone poles, materials for barrels, bark, naval stores, or other forest products cut or produced in 1909, whether used on farm, sold, or on hand April 15, 1910.

Used or to be used on farm.. \$..... Sold or for sale..... \$.....

Amount received from sale of standing timber in 1909.....

APPENDIX B—AGRICULTURE.

56. SALES OF SPECIFIED PRODUCTS IN 1909:

(Includes sales by owner, landlord, or tenant.)

PRODUCTS.	Quantity sold.	Amount received.	PRODUCTS.	Quantity sold.	Amount received.
Corn.....	Bu.....	\$.....	Flax fiber.....	Tons.....	\$.....
Oats.....	Bu.....		Flax straw.....	Tons.....	
Barley.....	Bu.....		Other straw.....	Tons.....	
Kaffir corn and milo milo.....	Tons.....		Cornstalks and leaves.....	Tons.....	
Hay and cones for- age.....	Tons.....		Cotton seed.....	Tons.....	

57. FRUIT PRODUCTS PRODUCED IN 1909:

PRODUCTS.	Gallons produced.	PRODUCTS.	Gallons produced.	PRODUCTS.	Pounds produced.
Apple.....		Wine and grape juice.....		Raisins and dried grapes.....	
Vinegar.....		Olive oil.....		Other dried fruit.....	

58. PASTURE LAND: Acres in this farm used exclusively for pasture in 1909: Acres.

Woodland pasture, covered with pasture grasses, but contain- ing more or less scattered timber.....	
Improved land in pasture, but which can be plowed or mowed..	
All other pasture land.....	

59. IRRIGATION: If water is used on farm for irrigation purposes, observe instructions at head of column of instructions and give—

Source from which water for irrigation is obtained. (Answer "Well," "Stream," or "Lake," as the case may be.)	
Acres of land irrigated..... Total..... Pasture.....	

EXPLANATIONS AND INSTRUCTIONS.

[NOTE.—Printed on the first page of the schedule itself.]

NOT CONNECTED WITH TAXATION.—The information reported on this schedule will not be used as a basis of taxation, nor communicated to any assessor. It will, under all circumstances, be treated as strictly confidential.

ALL QUESTIONS APPLYING TO BE ANSWERED.—Give data asked for by schedule for every crop produced and every kind of animal on farm. Inability to secure exact data does not justify failure to answer a question. The most accurate returns that the circumstances permit must be secured. If farm records or accounts are kept, take data from them. If such records are not available, careful estimates should in all cases be secured or made. Where there are no crops or animals corresponding to names listed in schedule, leave spaces opposite such names blank.

FARM OPERATOR.—All answers on this schedule should relate to the land operated or farmed April 15, 1910, by the person named in answer to Inquiry 1, who is here called "farm operator." All answers regarding crops or other products of 1909, or regarding animals born, purchased, sold, or slaughtered in 1909, must cover the land occupied by the farm operator on April 15, 1910, whether such land was farmed by him during 1909 or not, and should not cover any other land which the farm operator may have farmed in 1909. (See Book of Instructions to Enumerators.)

DEFINITION OF FARM.—For definition of "farm" and general instructions for the census of agriculture, see Book of Instructions to Enumerators.

Animals, fowls, and crops not mentioned by name.—Always ask if any animal or fowl is kept on the farm, or if any crop was raised in 1909, of which no mention has been made. If answer is "Yes," write the name of such other animal, fowl, or crop in the blank spaces provided or cross out any printed names for which there are no reports, write in the names of the ones kept or produced, and report as for other animals, etc.

Crosses on schedules.—Make no entries in spaces marked thus (X).

Exceptional farms or conditions.—If the farmer raises animals or crops under exceptional conditions, or suffered severely in 1909 from drought, flood, cyclones, or other calamities, write a brief statement of the facts upon top margin of the schedule.

INQUIRY 1. NAME.—For each farm operated by one individual, whether as owner, tenant, or manager, write only one name. But in all cases where an owner and a tenant on shares, or two owners, or two tenants, are residing upon and jointly working the farm, write two names.

INQUIRY 3. COLOR OR RACE.—Write "W" for white, "B" for black, "Mu" for mulatto, "Ind" for Indian, "Ch" for Chinese, "Jp" for Japanese, and "Mxd" for other race or mixture of races. Accompany all entries of "Mxd" with marginal notes, stating the race or mixture of races.

INQUIRY 5. COUNTRY IN WHICH BORN.—Write "U. S.," "England," "Scotland," "Ireland," "Wales," "Canada," "France," "Germany," "Russia," or name of other country in which the farm operator was born, making same entry as that made for this person on population schedule.

INQUIRY 6. TENURE.—This inquiry is to be answered as follows:

Owner.—If a farm is operated by a person who owns all of it, by a man whose wife owns all of it, by the heir or heirs thereto, or by the trustees or guardian for such heirs, write "Owner." Report as owner a settler on Government land who has not "proved up," a person who has bought land on a contract for a deed, or a person who holds over for redemption.

Part owner (owner renting additional land).—If a farm is operated by a person who owns a part of it, or by one whose wife owns a part of it, and the rest of such farm is leased from others, write "Part owner."

Owner and tenant.—If a farm is operated by two persons, one owning and one working for a share of the farm products, write "Owner and tenant."

Share tenant.—If a farm is operated by a tenant, renter, cropper, or share hand who pays a share (as one-third or one-half) of the crops or products raised, write "Share."

Cash tenant.—If a farm is operated by a tenant, renter, or cropper who pays a fixed rental in money, or a stated amount of labor or farm products (not a proportionate share of all), write, "Cash."

Share-cash tenant.—If a tenant pays both cash rent and share rent, write "Share-cash."

Manager.—If a farm is operated for its owner or for a public institution by one who receives wages or a salary for his services as manager, superintendent, or overseer, write "Manager." But a husband is never to be reported as manager of his wife's farm. (See "Owner" and "Part owner.")

INQUIRY 7. SHEET AND LINE NUMBERS.—If two names are written under Inquiry 1, give sheet and line numbers for both.

INQUIRIES 10 TO 13. FARM ACREAGE.—The sum of the answers to Inquiries 11 to 13 must be the same as the answer to Inquiry 10.

INQUIRIES 18 AND 19. MIXED TENURE.—If both cash rent and share rent are paid for the same tract of land, give acreage and value under Inquiry 18 or 19 according to whether "share" or "cash" rental is the more important item.

INQUIRIES 20 AND 21. MORTGAGE INDEBTEDNESS.—Include all debts secured by instruments locally called "mortgages;" also all debts represented by judgment notes, confessions of judgment, deeds of trust, deeds with vendor or lien clause, bonds or contracts for title, or any other legal instruments (other than mechanics' liens or crop liens) that partake of the nature of mortgages upon real estate. Do not confine yourself to reading or stating the words of Inquiries 20 and 21, but take care to explain the full significance of the inquiries.

INQUIRIES 27 TO 32. DOMESTIC ANIMALS.—Report as "kept for milk" all cows or heifers which have been or are to be regularly milked for at least three months during 1910 and whose milk is used for human food or for producing cream, butter, or cheese. Report all other cows and heifers born before January 1, 1909, as "not kept for milk."

INQUIRY 35. ANIMALS SLAUGHTERED.—Report under "slaughtered on farms" all animals slaughtered during 1909 on the farm, whether for farm use or for sale, and include in the column "value" the value of their hides, tallow, lard, etc.

INQUIRY 38. DAIRY PRODUCTS.—Report under "milk produced" the quantities sold or used for producing cream, butter fat, butter, or cheese, or for human food on the farm. Include as "sold," milk, cream, or butter fat sold or delivered to cooperative and other creameries and factories or to private customers. Butter produced must include that consumed on the farm as well as that sold. Where milk or cream is sold by the pound erase the word "Gals." and write the word "Lbs."

INSTRUCTIONS FOR CROPS.

[NOTE.—Printed on the second page of schedule itself.]

IRRIGATION.—In all sections where water is used for irrigation, ask each farmer if any of his crops in 1909 were irrigated. When the answer is "Yes," write the letter "I" and the number of acres irrigated in the spaces containing the names of crops so irrigated: as "Corn, I, 20," "Alfalfa, I, 10," etc.

CROPS HARVESTED IN 1909.—Give acreage, quantity, and value of each crop harvested in 1909 on any land reported under Inquiry 10, whether the present farm operator operated such land in 1909 or not. Do not report any crop not on the land covered by Inquiry 10.

UNITS OF MEASURE.—If you can not secure a report of quantities in the measure stated on the schedule, erase "Bu.," "Lbs.," "Tons," "Gals.," etc., and insert the measure used by the farm operator.

ACRES.—In reporting number of acres, give the nearest whole number for tracts of three acres or over. For smaller tracts, give acres and fractions of an acre.

VALUES.—Values of animals, crops, and other products should be based on the amounts for which they are sold at the usual market town under average conditions. Express values in dollars only; thus \$100—not \$100.00.

CROPS OF 1910.—In the column headed "Number of acres planted or to be planted for harvest in 1910," report the acreage of each crop that the farm operator expects to harvest in 1910 on this farm, whether such crops were planted in the fall of 1909 or have been or are to be planted in 1910. For the grass grown for hay in more or less permanent meadows, report under Inquiry 43 in this column the acreage that will probably be mown in 1910.

INQUIRY 42. GRAINS AND SEEDS.—The crops to be reported here are those grown exclusively for grain and seed, and harvested after ripening. The quantities called for are those of thrashed or "shelled" grains. Where ripened grain has been fed to stock unthrashed, include its acreage with that of thrashed grains of the same kind, and include careful estimates of the quantity raised and its value in the proper columns. If any of the crops mentioned under Inquiry 42 are cut green for hay, or harvested exclusively for ensilage or coarse forage, report them under Inquiry 43.

MIXED CROPS.—When oats and rye, oats and peas, or other grains of different kinds are sown and harvested together after ripening, report the acreage, products, and value of each in proportion to the quantities of the several grains sown as seed. When cotton is barred with corn, report the acreage, product, and value of the cotton, and the product and value, but not the acreage, of corn. In this case write in the column for corn acreage in 1909 the word "Barred."

CORN.—Always report the quantity of corn harvested in bushels of shelled corn or its equivalent. A bushel of shelled corn weighs 56 pounds and is equivalent to 70 pounds of dry corn in the ear, or to 2 bushel baskets (level full) or 1½ heaped bushel baskets of ear corn.

KAFIR CORN AND MILO MAIZE.—Report as Kafir corn and milo maize all Jerusalem or Egyptian corn and kindred crops not specifically mentioned on the schedule. A bushel of shelled Kafir corn or milo maize weighs 60 pounds and its equivalent of dry out heads of grain is 80 pounds.

GRASS SEED.—On the blank line after the words "grass seed" write the name of any clover, alfalfa, timothy, or other grass seed harvested in 1909, and report the acreage, quantity, and value of the crop the same as for any other crop, even though on

the land producing such crop there was harvested earlier in the season a crop of hay which is reported under Inquiry 43.

DRY EDIBLE BEANS.—Report here beans usable for human food that were harvested when ripe. When harvested green, such beans should be reported under Inquiry 51. Dry castor, soy, and velvet beans should be reported on the blank lines of Inquiry 44.

DRY PEAS.—Report here "cow peas," "Canada peas," and "field peas" harvested when ripe. Similar peas harvested green for human food should be reported under Inquiry 51.

INQUIRY 43. HAY.—When fields of clover, alfalfa, millet, and other grasses were mown two or three times in 1909, report the acreage of such fields only once, but give the total number of tons of hay cut and its total value.

Grains cut green.—Report here the acreage, quantity harvested, and value of all small grains, soy beans, and cow peas cut green for hay, writing name of crop so harvested.

Other tame or cultivated grasses.—Report here the acreage, quantity, and value of all hay mown, which, by the instructions and form of the inquiries, can not properly be reported on other lines of Inquiry 43.

Coarse forage.—Report here the acreage, quantity harvested, and value of all corn, Kafir corn, Jerusalem corn, milo maize, sorghum, sugar cane, vegetables, and kindred crops grown for coarse forage or ensilage or cut green and cured for feeding live stock. Write the name of any such crop in the blank spaces which follow "Coarse forage."

INQUIRY 44. COTTON.—On the line following the word "Bales" report the number of bales of ginned cotton grown on the farm in 1909. If, however, cotton grown on the farm is sold in the seed, report after "Lbs." the number of pounds of unginned cotton in the seed sold or held for sale. If part of the cotton is disposed of in bales and part in the seed, show the quantities separately disposed of in each way. For baled cotton, report in the blank space following the word "Cotton" the word "round," if the bales were round.

INQUIRY 51. VEGETABLES.—When vegetables, other than potatoes and sweet potatoes, are grown for farm use or for sale in small quantities, mark a cross (X) in the margin after the name of the vegetable so grown, and on the line "Farm garden" report the total acreage and value of all crops so marked. For each vegetable grown for sale in considerable quantities, report separately the acreage, quantity, and value, writing in the column provided therefor the unit of measure, as "Bu.," "Bbls.," "Tons," "Crates," "Bxs.," "No.," etc., and for each vegetable grown under glass write "G" in space after name.

PLANTATION SCHEDULE.

925

DEPARTMENT OF COMMERCE AND LABOR.

[8-1950]

BUREAU OF THE CENSUS.

[1117-406]

PLANTATION SCHEDULE.

GENERAL INSTRUCTIONS.

FOR INFORMATION OF CENSUS SUPERVISORS AND ENUMERATORS, AND OWNERS, MANAGERS, OR OVERSEERS OF PLANTATIONS.

Purpose of the schedule.—The purpose of this schedule is to provide the means by which the special difficulties presented in the enumeration of groups of farms operated in the Southern States under what is generally known as the plantation system may be met. These difficulties arise from the following facts among others: Many of the questions contained on the general farm schedule, to be filled out for each tenant farm separately, either can not be accurately and completely answered by the tenants themselves or can be much more accurately answered by the landlord. Many of the present tenants did not operate in 1909 the farm that they are now operating. The crops are in many cases marketed by the landlord. In many cases part or all of the farm implements and machinery and domestic animals made use of by the tenants are not owned by them but by the landlord, and may or may not be left in the possession of the tenants on their farms. The landlord in some cases makes expenditures for labor and fertilizer on the farms of the tenants as well as on the part of the plantation farmed directly by him. Unless, therefore, special precautions, such as are provided for by this schedule, are taken, there is grave danger either that omissions will be made in returning farm animals, crops, expenditures, and the like, or that duplications will result on account of returns being made both by the landlord and by the tenants. If a proper use is made of this schedule, not only will this danger be avoided, but the enumerator will find that his work will be much facilitated.

This schedule is to be used only for those plantations which have at least *three* tenants. It does not supersede the farm schedule (Form 8-1604) which still must be filled out for the farm proper of the landlord (that is, all that part of the plantation which is not farmed by tenants) and for each tenant farm; but it is designed to tie up these farm schedules to the plantation to which they belong, to insure greater accuracy in the returns and to make possible the statistical treatment of the plantation as a unit.

Definition of plantation.—The term "plantation," as here used, means a continuous tract of land of considerable area under the general supervision or control of a single individual or firm, all or a part of such tract being divided into at least three smaller tracts which are leased to tenants. This definition will include tracts of tenant-operated land which may not be locally known as plantations.

Definition of landlord.—In this schedule and these instructions the term "landlord" is used to designate the owner of the plantation or the person who, as general lessee or local manager or overseer, represents the owner in the management of the plantation; and the phrase "owned by the landlord" applies to any property on the plantation which is owned *either* by the owner of the plantation or by his representative, the general lessee, manager, or overseer.

The tenant's farm.—The term "tenant," as here used, refers to any individual who leases a tract of land on the plantation and pays for its use a share of the crops, or a fixed amount of money, or of cotton or other products. It makes no difference whether such lease is oral or written. Such tenants are sometimes called "share hands," "halvers," "croppers," "share tenants," or "renters," but for census purposes all tenants, as defined above, by whatever name designated, are farm operators, and the land leased by each is a farm for which a farm schedule must be secured.

The farm of the landlord.—All land of every description in the plantation which is not leased or subleased to tenants constitutes, for census purposes, the farm of the landlord. A general farm schedule must be prepared covering this land. The "farm"

of the landlord in some cases may not include any agricultural land, but only the house, barns, etc., and the land on which they stand. The acreage of this farm, plus the acreage of the tenant farms, should in all cases equal the total acreage of the plantation. The total number of farms into which, for census purposes, the plantation is divided, is therefore equal to the total number of tenant farms, plus the farm of the landlord. If, for example, there are ten tenants, the total number of farms on the plantation is eleven and, therefore, the total number of general farm schedules to be filled out for the plantation is eleven.

Schedules to be filled out.—Where plantations are found as above described, the following schedules are to be filled out:

1. The plantation schedule.
2. A general farm schedule (Form 8-1604) for the farm of the landlord, as above described.
3. A general farm schedule (Form 8-1604) for each tenant's farm, as above described.

Information to be secured from the landlord.—The enumerator should first go to the landlord and secure from him the first two schedules. In doing this great care must be exercised on the following points:

(1) The return for the farm of the landlord must relate to *all* the land and operations of the landlord not covered by the farms of the tenants;

(2) The return made in Part II of the plantation schedule for the farm of the landlord must agree with the general farm schedule secured for the landlord;

(3) The returns made in Part II of the plantation schedule, relative to value of implements and machinery, and number of domestic animals, must relate only to implements, machinery, and animals *owned by the landlord*.

(4) The return for principal crops raised in 1909, made in Part II of the plantation schedule, should not be *entered in ink* for the farms of tenants except (1) where the inquiry "Did tenant farm this land in 1909" (column 4, Part II) is answered "No," and (2) where the landlord is able to give this information more accurately than the tenants themselves can give it. If there is any doubt about the accuracy of the answer given by the landlord in the second case the entry should be *made in pencil* and the complete or more accurate return entered in ink after the enumerator has visited the individual tenants and secured reports from them. As thus verified and corrected the figures must agree with those entered on the general farm schedules secured for such tenants.

Partial filling-in of general farm schedules for tenants.—After the enumerator has secured this plantation schedule and the general farm schedule for the landlord, he should, from the data contained on the plantation schedule and such other information as the landlord can furnish, proceed to fill out as far as he can a general farm schedule for the farm of *each tenant* of the plantation *who resides in his district*. The landlord can thus answer with certainty questions 1 to 15 of the general farm schedule, with the exception of 4, 5, and 7. If the landlord *knows* that a tenant owns no implements, machinery, horses, mules, or milch cows, the figures given for these items in Part II of the plantation schedule will be the ones that should be entered on the general farm schedule for such tenant. If the landlord does not have definite information on these points, no attempt should be made to fill in the answers to such questions, or the figures should be entered in pencil, so that they can be changed if necessary after full information is obtained from the

tenant himself, in order that a complete return may be secured of the value of all implements and machinery, whether owned by the landlord or the tenant.

Information to be secured from tenants.—After securing the above information from the landlord, the enumerator should visit all those tenants who reside in his district, for the purpose of verifying the information furnished by the landlord and of securing the balance of the information required to complete the tenant's farm schedules, and also for the purpose of enumerating them and their families on the population schedule. In cases where it proves necessary to visit the tenants before visiting the landlord, the landlord should be asked to verify the information furnished by the tenants.

Returning the schedules.—After the canvass of the plantation has been completed, all the schedules relating to the plantation (that is, the plantation schedule, the landlord's farm schedule, and the tenants' farm schedules) should be fastened together or, at any rate, placed together, and on the top margin of each farm schedule the name of the plantation should be written.

Procedure when a plantation lies in two or more enumeration districts.—In case a plantation lies partly in one enumeration

district and partly in another, the procedure should be as follows: The enumerator in the district in which the landlord resides should secure from him a general farm schedule for the landlord's own farm, as above defined, and also secure from the landlord a complete plantation schedule containing the required information for all the tenant farms in the plantation, whether located in his own enumeration district or outside. He should also secure a general farm schedule for each of the tenant farms situated in his district, but he should not prepare farm schedules for those tenant farms outside his district.

The enumerator in whose district is a tenant, the landlord of which resides in another district, should obtain from such tenant all the information necessary to fill a complete farm schedule, unless he can conveniently reach the landlord and obtain from him directly such information as the landlord can furnish more accurately. In all such cases the enumerator who prepares the farm schedule for the tenant farm should write on the margin at the head of such schedule "Plantation landlord not in this district; resides in" writing in the name of the minor civil division or the number of the enumeration district in which the plantation landlord resides.

SPECIAL INSTRUCTIONS TO THE ENUMERATOR FOR FILLING IN PART II OF THE PLANTATION SCHEDULE.

To the Enumerator:

This part of the schedule, as already explained, should cover the entire plantation. It should include, therefore, all the tenants on the plantation, whether they all reside in your district or elsewhere. In case any of the tenants do not reside in your district, put a cross (X) after the names of such tenants in column 2. This means that you have not obtained a farm schedule for such tenants. You will be expected, however, to secure a farm schedule for all other tenants—that is, for all those who reside in your district.

Rental contract. (Column 3.)—If the tenant pays a share of the crop, indicate the proportion paid by writing 1/2, 1/3, or 1/4, or whatever the proportion may be. But if the tenant pays cash, or a specified number of bales of cotton, or a fixed amount in certain other crops, write "Cash." If he pays cash and also a share of the crop, indicate this fact by writing "Cash 1/2" or "Cash 1/3," or whatever the proportion may be.

Implements, machinery, and domestic animals. (Columns 10 to 15.)—The purpose of these inquiries is to determine the value of the implements, machinery, and the animals specified which are owned by the landlord, and to apportion and distribute such property properly to the different farms together constituting the plantation. In making this apportionment assign to the farm of the tenants only the implements, machinery, and animals which are turned over to the tenants and are kept by them or regularly used by them on their farms. All other implements, machinery, animals, and expenditures should be assigned to the farm of the landlord.

Where the number of tenants exceeds 25.—If there are more than 25 tenants on the plantation, continue Part II of the schedule on extra sheets, writing "Continued" at the bottom of each sheet except the last, and writing the number of the sheet and the name of the plantation at the top of each sheet. At the bottom of the last sheet write "Here ends the plantation schedule for" plantation." When more than one sheet is used, the lines for "Totals for plantation" and for "Farm of landlord" should be filled in on the first sheet only.

ENUMERATOR'S RECORD AND SIGNATURE.

State..... Supervisor's District No.....
County..... Enumeration District No.....
Township or other division of county.....
(Insert name of township, town, precinct, district, or other division, as the case may be.)
Name of incorporated city, town, or village within the above-named division.....
Enumerated by me this..... day of....., 1910.
....., Enumerator.

PLANTATION SCHEDULE: PART I.

GENERAL DESCRIPTION OF PLANTATION:

- 1. Name of this plantation.....
(If the plantation has no name by which it is generally known, use owner's name, as "Thompson's plantation.")
2. Name of owner.....
3. Post-office address of owner.....
4. Name of general lessee (if any).....
5. Post-office address of general lessee.....
6. Name of local overseer or manager (if any).....
7. Post-office address of overseer or manager.....
8. Total number of acres in this plantation.....
a. Leased to tenants.....
b. Not so leased.....
9. Total value of land and buildings in this plantation..... \$.....
a. Leased to tenants..... \$.....
b. Not so leased..... \$.....
10. Is this plantation mortgaged?..... ("Yes" or "No.")
11. Amount of mortgage indebtedness April 15, 1910..... \$.....
12. Amount spent by the landlord in 1909 for manure and fertilizer..... \$.....
a. On land leased to tenants..... \$.....
b. On land not so leased..... \$.....
13. Amount spent in cash by the landlord in 1909 for labor..... \$.....
a. On land leased to tenants..... \$.....
b. On land not so leased..... \$.....

TENURE AND TERMS OR CONDITIONS OF TENANCY:

- 14. Total number of tenants on this plantation.....
a. Number of cash tenants.....
b. Number of share tenants.....
c. Number of share-cash tenants.....
15. Number of tenants for whom the landlord fixes the kind and acreage of crops to be grown.....
16. Number of tenants for whom the landlord fixes the days when the tenants must work and those when they may be idle, the same as is customary for ordinary wage laborers on farms.....
17. Number of tenants for whom the landlord fixes the hours of beginning and closing daily toil by the ringing of a bell or otherwise, the same as is customary for ordinary wage laborers on farms.....
18. Number of tenants for whom the landlord contracts or agrees to advance the household supplies and charge the same to their account.....
19. Number of tenants who contract or agree to have the landlord market their cotton or other principal crops.....
20. Number of tenants who contract or agree to sell to the landlord all of specified crops, such as corn, sugar cane, etc.....

PLANTATION SCHEDULE.

927

PLANTATION SCHEDULE: PART II.

LIST OF FARM OPERATORS ON THIS PLANTATION APRIL 15, 1910.

	Enumeration district.	Color or race of tenant.	Did tenant farm this land in 1909? (Answer "Yes" or "No.")	Rental contract. (See instructions.)	ACRES.				VALUES.			DOMESTIC ANIMALS OWNED BY LANDLORD. (See instructions.)			PRINCIPAL CROPS RAISED IN 1909.					
					Total number.	Improved land.	Woodland.	Other unimproved land.	Total value of land and buildings.	Value of buildings alone.	Value of implements and machinery owned by landlord. (See instructions.)	Number of horses (not including colts born in 1909 or 1910).	Number of mules (not including colts born in 1909 or 1910).	Number of milch cows.	Cotton.		Corn.		Other principal crop (if any). (Insert name of crop.)	
															Acres.	Bales.	Acres.	Bushels.		Acres.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Total for plantation.....		X	X	X																
Farm of landlord (Being that portion of the plantation not leased to tenants.)																				
(Name of landlord.)		X	X	X																
Farms of tenants.																				
NAMES OF TENANTS.																				
1.....																				
2.....																				
3.....																				
4.....																				

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