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Agricultural Labor Data Sources: An Update

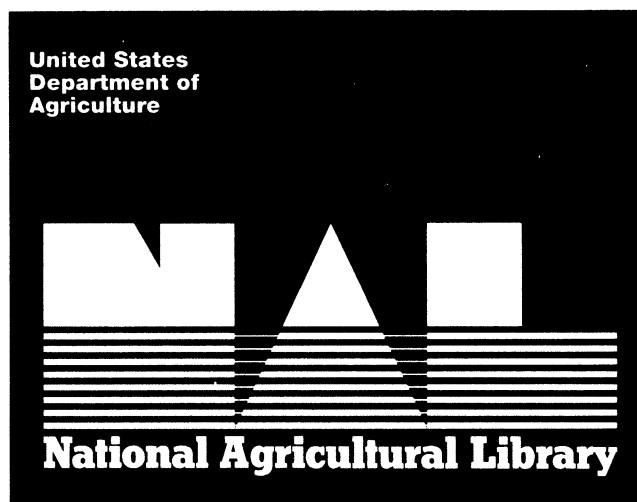
Stan G. Daberkow
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Agricultural Labor Data Sources: An Update, by Stan G. Daberkow and Leslie A. Whitener, Agriculture and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Agriculture Handbook No. 658.

Abstract

Agricultural labor data provide information for monitoring the performance of U.S. agriculture, examining the economic well-being of farmworkers, and analyzing farm labor policies and legislation. This report identifies, describes, and compares various data sources used to analyze the different components of the agricultural work force, and alerts the reader to differences in data sources that complicate comparisons. The data sources differ by population universe, degree of coverage, frequency of data collection, concepts and definitions, age criteria, employment reference period, and published versus other available data.

Keywords: Agricultural employment, farm labor expenditures, farmworker earnings, hired farmworkers, farm operators, unpaid farmworkers, agricultural service workers, data sources.

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Summary

Agricultural labor data provide necessary information for monitoring the performance of U.S. agriculture, examining the economic well-being of farmworkers, and allocating funds for farmworker programs. Information on agricultural employment is also used to examine farm labor policy issues, such as immigration reform, occupational safety and health, income and wage stability, and the effects of technological developments on farm employment. Also, accurate estimates of net farm income require reliable data on labor expenditures as a part of agricultural production costs.

Agricultural employment data originate from three major sources: households which supply workers, establishments that employ workers, and agencies that administer employment-related programs. This report reviews 20 sources of data that include information on some aspect of agricultural employment, agricultural expenditures, wages, or hours worked. All of these sources report national level data which are collected on a periodic basis.

Household data from the Decennial Census of Population or the Current Population Survey provide detailed information on the demographic, economic, and employment characteristics of agricultural workers and members of their households. Establishment or employer data, such as that from the Census of Agriculture or the U.S. Department of Agriculture's Farm Labor Survey, include statistics on characteristics of the job or the farm. Data from the administrative records of Government employment-related programs, such as the Unemployment Insurance or Social Security Programs, are generally obtained from employers. The universe from which these data are collected is limited to the scope of the individual programs.

Agricultural employment numbers and estimates of farm labor expenditures vary among the data sources reviewed in this report due to differences in survey methods, definitions, data collection procedures, and the time data were collected. An examination of the methods used to collect the information can provide a general explanation for some of the variation in estimates among the different data sources.

Many of the data sources reviewed in this handbook suffer from problems of limited geographic detail, small sample size, infrequency of data collection, or population universes which exclude major segments of farmworkers. Collecting more timely and accurate information with greater geographic detail should aid future policy and program developments relating to U.S. agriculture.

Abbreviations

ADF—Annual Demographic File
BEA—Bureau of Economic Analysis
BLS—Bureau of Labor Statistics
CBP—County Business Patterns
CPS—Current Population Survey

CWHS—Continuous Work History Sample
ERS—Economic Research Service
ETA—Employment and Training Administration
FCRS—Farm Costs and Returns Survey
FICA—Federal Insurance Contributions Act

FUTA—Federal Unemployment Tax Act
H-2—Temporary Foreign Worker
HFWF—Hired Farm Working Force
INS—Immigration and Naturalization Service
IRS—Internal Revenue Service

MSPA—Migrant and Seasonal Agricultural Worker Protection Act
NASS—National Agricultural Statistics Service
SIC—Standard Industrial Classification
SIPP—Survey of Income and Program Participation
SSA—Social Security Administration

USDA—U.S. Department of Agriculture

Agricultural Labor Data Sources: An Update

Stan G. Daberkow
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Introduction

Detailed data on the employment and earnings characteristics of farmworkers have been used to examine farm labor policy issues, including occupational safety and health (5), immigration reform (4), stabilization of income and wages (1,7,17), labor organization and collective bargaining (8), and the effects of technological developments on farm employment (6,11).¹ Agricultural labor data also have been used to develop, evaluate, and allocate funds for farm labor programs (15,26). Information on the level and trends of agricultural employment and total hours worked are necessary for measuring labor productivity and productivity changes in the agricultural sector (3,20,21). Individual and household data have been used to monitor the demographic characteristics and economic well-being of farmworkers (14,18,24,30). Finally, accurate farm income estimates require reliable data on labor expenditures as part of the costs of agricultural production (16,19).

This report identifies, describes, and compares various data sources which are most useful for analyzing the different components and characteristics of the agricultural work force. We have undertaken this study because existing reviews of agricultural data (2,9,12) have become outdated and do not cover all the major sources. Since the existing reviews were completed, some data sources have changed in the frequency of data collection, sample size, statistical reliability, and definitional

concepts.² Also, we consider some of the less well-known sources of data, which generally were not included in other reviews.

The criteria for including a data source in this report were: the data must measure some aspect of agricultural employment, agricultural expenditures, wages, or hours worked; the data must be available to the public (but not necessarily published) at the national level; and the data must be collected on a regular basis.

This report examines the definitions, data collection and estimation procedures, and content of each of the data sources. Detailed tables are provided to contrast the different sources of agricultural labor data. Discussed in a miscellaneous section are several data sources that are less defined and documented or that relate to only a particular type of agricultural employment, for example, seasonal farmworkers, farm labor contractors, or illegal aliens. The implications section examines agricultural labor data from each major data source, and suggests points of difference that users should consider when comparing or evaluating the different data sources. For more information, data users are encouraged to consult the suggested references listed at the end of each section. Suggested references marked with an asterisk alert the reader to publications containing information on research methods and data collection procedures.

*Stan Daberkow was with the Agriculture and Rural Economics Division (ARED), Economic Research Service (ERS), U.S. Department of Agriculture when he co-authored this report. He is now an agricultural economist with the Natural Resource Economics Division, ERS. Leslie Whitener is a sociologist with ARED.

¹Italicized numbers in parentheses refer to items in the References section at the end of this report.

²For example, the sample size and frequency of data collection for the U.S. Department of Agriculture's (USDA) Farm Labor Survey has changed twice since 1981. The USDA's Hired Farm Working Force data are now collected and published biennially instead of annually, and this survey now collects information on farm operators and unpaid workers as well as hired farmworkers. The administrative framework underlying farmworker estimates based on Social Security data has changed considerably since 1977, and the Social Security Administration no longer publishes farmworker data.

Major Sources of Agricultural Labor Data

The collection, dissemination, and use of agricultural labor data is complicated by several factors that relate to the structure of the agricultural industry and the characteristics of its workers. Agricultural production is widely dispersed throughout the country, and the number of potential reporting units (farms, ranches, and agricultural service operations) is large. There is also considerable seasonal fluctuation in agricultural employment, with wide variations in peak employment by type of commodity and region. Thus, numerical estimates provided by agricultural employment data vary depending on time of collection and whether data refer to employment during 1 week or the entire year (29).

Self-employment and unpaid family employment are difficult concepts to define and measure. The problem is further complicated by part-time and hobby farmers, partnerships, and multiple job-holding by farm operators and their family members. The problems of data collection and use are also compounded by varying definitions of agriculture, farms, farmers, and farmworkers (9). Finally, agricultural labor data are affected by the unknown number of illegal aliens who work in agriculture. Illegal aliens are more likely to be included in some agricultural labor data sources than in others because of the time and type of data collected.³

Agricultural labor data originate from three major sources: households, establishments, and Government agencies. Household data provide detailed information on the demographic, economic, and employment characteristics of agricultural workers and other members of their households. Establishment or employer data generally provide details on characteristics of the job or the farm. The administrative records of Government agencies which operate employment-related programs provide data typically obtained from employers. This information is usually less comprehensive than other sources, because individual programs normally do not cover the entire farm labor universe.

Data sources differ in terms of the Federal agency responsible for data collection, degree of coverage, level of geographic detail, and frequency of data collection or publication (table 1). The data sources reviewed here collect information on different

³For example, data measuring total annual expenditures for farm labor probably include expenditures for illegal aliens; data on total employment collected in winter months may exclude those foreign nationals who did farmwork in the United States but who returned home before the data were collected.

universes, such as farms, farm resident households, households with self-employed or hired farm workers, farm employers covered by Unemployment Insurance, agricultural service employers contributing to Social Security, and agricultural employees contributing to Social Security. Household and establishment employment data are based on a sample rather than a complete census. Data from administrative records of employers often approximate a complete census, but the population included may be limited by program definitions. All of these sources provide measures for the Nation as a whole. Some provide additional data for counties, States, or regions. The frequency of data collection varies considerably among the different employment series, ranging from monthly to once every 10 years.

The specific types of data which are available (but are not necessarily published) from each data series are summarized in table 2 for three broad agricultural data categories—employment data, labor expenditure or payroll data, and earnings and hours data.

Establishment Surveys

Establishment data are collected directly from farm employers. The major sources of establishment data are the Census of Agriculture, the U.S. Department of Agriculture's (USDA) Farm Labor Survey, and USDA's Farm Costs and Returns Survey.

Census of Agriculture. The Census of Agriculture provides a periodic statistical report of the Nation's farms and ranches. It includes information on land in farms, acreage, land use, operator characteristics, production expenses, machinery and equipment, inventory, production, and sales data for agricultural products. The Census of Agriculture has been conducted by the Bureau of the Census periodically since 1840, primarily by mail, but beginning with 1982 it is scheduled for every 5 years. Data are published for the United States, the 50 individual States, and over 3,000 counties or their equivalents. Data are also available on public-use computer tapes, and special tabulations can be prepared by the Bureau of the Census for users with specific requirements that cannot be met by published statistics or public-use tapes.

Most data are collected from all identified farm and ranch operators. However, some of the selected items, including information on hired labor expenditures, contract labor expenditures, and number of hired farmworkers, are collected from a 20-percent

sample. This sample contained about 450,000 farm operators in 1982.

The 1982 Census of Agriculture identifies a farm as any place from which \$1,000 or more of agricultural products were sold, or normally would have been sold during the census year.

Agricultural employment data from the Census of Agriculture fall into the following categories: number and characteristics of farm operators; number of hired workers employed during the year; and expenditure data on hired farm or ranch labor, contract labor, and machine rental and customwork.

Table 1—Major sources of agricultural labor data: General characteristics

Data series	Responsible Federal agency	Degree of coverage	Level of greatest geographic detail	Frequency of data collection
Establishment survey data: Census of Agriculture Farm Labor Survey Farm Costs and Returns Survey	Bureau of the Census NASS ¹	Sample of farms Sample of farms	County State/region	5 years Quarterly
	ERS-NASS ^{1 2}	Sample of farms	Region	Annual
Household survey data: Decennial Census of Population Current Population Survey— Monthly survey Farm Population March ADF ⁶ Hired Farm Working Force Survey Farm Sector Productivity	Bureau of the Census	Sample of households	County	10 years
	Bureau of the Census-BLS ³	Sample of households	State ⁴	Monthly
	Bureau of the Census-ERS ²	Sample of farm households	State ⁴	Annual ⁵
	Bureau of the Census	Sample of households	State ⁴	Annual
	Bureau of the Census-ERS ²	Sample of households with hired farmworkers	State ⁴	2 years
BLS ³	Sample of households	U.S.	Quarterly	
Administrative records data: ES-202 Program— BLS Unemployment Insurance covered employment ³ BEA Employment and Income	BLS ³	Census of Unemployment Insurance covered employers ⁷	County	Monthly
	BEA ⁸	Census of self-employed and Unemployment Insurance covered employers ⁹	County	Annual ⁵
Social Security Program— County Business Patterns	Bureau of the Census	Census of agricultural service employers contributing to Social Security	County	Annual
Social Security Farm-worker Statistics	Social Security Administration	Sample of farmworkers contributing to Social Security	State	Annual
Federal tax returns	IRS ¹⁰	Sample of farms	State	Annual

¹NASS = National Agricultural Statistics Service, U.S. Department of Agriculture.

²ERS = Economic Research Service, U.S. Department of Agriculture.

³BLS = Bureau of Labor Statistics, U.S. Department of Labor.

⁴State data are available but are not published due to the small sample size and low reliability of the estimates.

⁵Based on monthly data but published as an annual average.

⁶Annual Demographic File compiled from the March CPS supplement.

⁷Includes farms and agricultural service establishments.

⁸BEA = Bureau of Economic Analysis, U.S. Department of Commerce.

⁹Includes farms and agricultural service establishments. The BEA makes estimates for non-Unemployment Insurance covered employers in some States.

¹⁰IRS = Internal Revenue Service, U.S. Department of Treasury.

Table 2—Major sources and types of agricultural labor data

Data series	Employment data				Labor expenditure or payroll data				Labor earnings and hours data		
	Self-employed or farm operators	Wage and salary workers	Unpaid workers (family and other)	Farm contract laborers and/or agricultural service workers	Wage and salary workers	Farm contract laborers and/or agricultural service workers	In-kind payments and employer financed fringe benefits	Custom work and machine rental ¹	Hourly wages	Hours worked per week	Annual earnings
Establishment survey data:											
Census of Agriculture	X	X	—	—	X	X	—	X ²	—	—	—
Farm Labor Survey	X*	X*	X*	X*	—	—	—	—	X* ³	X*	—
Farm Costs and Returns Survey	—	—	—	—	X	X	X	X	—	—	—
Household survey data:											
Decennial Census of Population	X*	X*	X*	—	—	—	—	—	—	—	X ⁴
Current Population Survey—Monthly survey	X*	X*	X*	—	—	—	—	—	X* ³	X* ³	X ⁵
Farm Population	X*	X*	X*	—	—	—	—	—	X* ³	X* ³	—
March ADF	X	X	X	—	—	—	—	—	—	X	X
Hired Farm Working Force Survey	—	X	—	—	—	—	—	—	—	—	X
Farm Sector Productivity	X ⁶	—	—	—	—	—	—	—	X ⁶	X ⁶	X ⁶
Administrative records data:											
ES-202 Program											
BLS Unemployment Insurance covered employment	—	X	—	X	X	X	—	—	—	—	—
BEA Employment and Income	X	X	—	X	X	X	—	—	—	—	X ⁷

See footnotes at end of table.

continued

Table 2—Major sources and types of agricultural labor data—continued

Data series	Employment data				Labor expenditure or payroll data				Labor earnings and hours data		
	Self-employed or farm operators	Wage and salary workers	Unpaid workers (family and other)	Farm contract laborers and/or agricultural service workers	Wage and salary workers	Farm contract laborers and/or agricultural service workers	In-kind payments and employer financed fringe benefits	Custom work and machine rental ¹	Hourly wages	Hours worked per week	Annual earnings
Social Security Program—County Business Patterns	—	—	—	X*	—	X	—	—	—	—	—
Social Security Farm-worker Statistics	—	X	—	—	X	—	—	—	—	—	X
Federal tax returns	—	—	—	—	X ⁸	—	X	—	—	—	—

Note: X indicates annual estimates; X* indicates estimates for survey week only.

— Indicates data were not available.

¹Custom work includes activities such as spraying, threshing, and combining when a combined rate is paid to an individual for the use of equipment and labor.

²Includes expenditures for machine hire, rental of machinery and equipment, and custom work. Categories are not reported separately.

³For wage and salary workers only.

⁴Only net income from own farm is available; total annual earnings data for other workers are reported but cannot be associated with specific occupations.

⁵Weekly earnings for wage and salary workers for the survey week are available from this source but are not published; no other annual earnings data are available.

⁶Data are for total agricultural employment; information for categories of self-employed, wage and salary, and unpaid workers is not reported separately.

⁷Annual earnings estimates are available separately for farm proprietors, agricultural wage and salary workers, and agricultural service wage and salary workers.

⁸Includes expenditures for wage and salary and contract workers; expenditures are not reported separately for these groups.

Information on farm operators includes those persons who have major responsibility for the day-to-day farm decisions. The operator may be the owner, member of owner's household, salaried manager, tenant, renter, or sharecropper. However, in the case of partnerships, only one partner is counted. Operator characteristics reported include racial/ethnic group, age, gender, place of residence, principal occupation, and days of off-farm work during the census year. Data are not reported for unpaid family workers.

The Census of Agriculture collects information on the number of hired workers working either fewer than 150 days, or 150 days or more during the year on individual farms. Farmworkers employed by more than one employer during the year could be counted more than once. The Census of Agriculture does not provide information on the hours worked or wages received by hired farmworkers and does not report the number of workers involved in contract labor or custom work.

The Census of Agriculture provides three types of labor expenditure data. Hired labor expenditure

data include gross wages or salaries, commissions, paid bonuses, leave pay before deductions, Social Security taxes, health, life, and employment insurance, and other benefits paid by the employer. Contract labor expenditures include expenses paid primarily for labor, such as harvesting of crops or shearing sheep, which is performed on a contract basis by a contractor, crew leader, or cooperative. This excludes money paid to contractors for capital improvements such as land clearing and building repairs, or maintenance. Expenditures for custom work, machine hire, and rental of machinery and equipment include expenses for use of equipment and for customwork such as grinding and milling feed, combining corn, picking, drying, spraying, dusting, or fertilizing. These expenditure data are classified by various farm and operator characteristics, including tenure, type of organization, age and principal occupation of operator, size of farm, value of agricultural products sold, and type of agricultural production identified by the Standard Industrial Classification (SIC). Data are available at the 4-digit detail for crops (SIC 01) and livestock (SIC 02), but most data are published at the 2- or 3-digit level. Data are not available for agricultural

services (SIC 07). (See app. for a listing of the detailed SIC groups relating to agriculture.)

Suggested references:

U.S. Department of Commerce, Bureau of the Census. 1982 *Census of Agriculture*. Vol. 1: *Geographic Area Series, State and County Data*. Series AC82-A-1 to 54. (Volume 1 includes a U.S. summary with data for States, and separate reports for each of the 50 States, Puerto Rico, Guam, and the Virgin Islands.)*⁴

_____. Vol. 2: *Subject Series, Graphic Summary*. Series AC82-55-1. (Presents profile of agriculture in a series of U.S. maps.)

_____. Vol. 2: *Subject Series, Coverage Evaluation*. Series AC82-55-2.*

_____. *Guide to the 1982 Census of Agriculture and Related Statistics*, April 1984.*

Farm Labor Survey. The USDA's National Agricultural Statistics Service (NASS) conducts the Farm Labor Survey (FLS) of farm employers to obtain information on farm employment, hours worked, and wages paid. Statistics on the numbers, hours, and wages of agricultural service workers are also collected. Agricultural service work is work done on farms or ranches for a fee or on a contract basis. Since July 1984, the survey has been conducted four times a year (January, April, July, and October) in five areas, California, Florida, Hawaii, Texas-Oklahoma, and Arizona-New Mexico. Farming operations in the remaining States are surveyed three times a year (April, July, and October). Estimates of agricultural employment are published for 3 States, 15 regions, and the Nation. Estimates for agricultural service workers are published for California, Florida, and the Nation.

In 1982 and 1983, NASS conducted the survey once each year, and collected information during 1 week in July. Prior to that, the survey was conducted on a quarterly basis from 1974 through the second quarter of 1981, and on a monthly basis from 1910-74. Because of changes in survey methods and concepts, data from the FLS are not strictly comparable over time.

The FLS employment data are based on a multiple frame probability survey which uses both a list and an area sampling frame. Survey estimates are ex-

⁴* Indicates that information on survey methods and data collection procedures are contained in the report.

panded to State or regional totals. The list frame is a stratified random sample containing employers likely to hire workers. The area frame contains all land units in the Nation and is used to account for the incompleteness in the list frame. In 1985, information was obtained from about 14,500 farm operators. A farm is defined according to the official farm definition (see p. 3). Agricultural work is defined as work performed on an operation engaged in the production of commodities specified by SIC 01 and 02 (see app.). Agricultural work does not include work done off the farm, work done on the farm which materially changes the form of the product, domestic family work in the home of the operator, hauling farm products from farms to distant markets, or nonfarmwork done on the farm, such as plumbing, carpentry, or mechanical work.

The FLS collects information on the number of self-employed, unpaid, and hired farmworkers who are employed on farms during the survey week (Sunday through Saturday) containing the 12th day of the survey month. While some data series collect employment information based on a minimum age of workers, the FLS data include all workers regardless of age. Self-employed workers are defined as operators and others (including active partners) who work on farms without wage or salary, but share in the returns from the farm. Unpaid workers are defined as those who worked on farms for at least 15 hours during the survey week without pay and do not share in the returns of the farm. Hired workers are family members and other workers who are paid a wage or salary for working on farms for 1 hour or more during the survey week. This group includes workers directly involved with the production of crops and livestock, as well as management personnel, bookkeepers, accountants, cropdusters, buyers, sales people, or professional staff on the payroll who perform work on the farm. The hired worker category does not include agricultural service or contract workers.

The number of hours worked per week is reported for the self-employed, unpaid family, and hired workers. Additional information is collected on hired workers including method of pay (hourly, piece, and other rate); hourly wage rates; and perquisites (housing, meals, and monetary bonuses) furnished to hired workers by operators. Occupational data are collected on the type of work done on the farm for categories of field workers, livestock workers, supervisors, and others which includes bookkeepers, machine operators, and professional staff people. Information on length of work

(whether the worker was expected to work fewer than 150 days or 150 days or more during the year on an individual farm) is also available. Workers who worked on two or more farms during the survey week may be counted more than once in the survey, but their hours worked and wages are not duplicated.

In the FLS, agricultural service work includes soil preparation services, crop services, veterinary and other animal services, and farm labor and management services for others if done on a contract or fee-paid basis. These services are the same as those contained in SIC 07, with the exception of landscape and horticultural services (SIC 078) and veterinary services for specialty animals (SIC 0742), which are not included.

Farm operators (except those in California and Florida) are asked to report the number of agricultural service workers that worked on their ranch or farm during the survey week. In California and Florida, information is collected on a separate questionnaire from a sample of agricultural service firms on the number of workers employed, hours worked, type of work done, hourly wages paid, and number of farms worked on during the survey week.

Suggested references:

U.S. Department of Agriculture, Statistical Reporting Service. *Farm Labor*. Feb., May, Aug., and Nov., 1985.

_____. *Interviewer's Manual, Farm Labor Survey*. Feb. 1985.*

_____. *Scope and Methods of the Statistical Reporting Service*. MP-1308. Revised Sept. 1983.*

Farm Costs and Returns Survey. The Farm Costs and Returns Survey (FCRS) is an establishment survey conducted by USDA's Economic Research Service (ERS), and National Agricultural Statistics Service (NASS). The survey collects production costs and returns for the entire farm, with detailed information obtained on specific items. This survey combines what were the Farm Production Expenditure Survey and the Costs of Production Survey. A farm is defined as any place from which \$1,000 or more of agricultural products were sold during the year. A sample of approximately 24,000 farms was surveyed in 1985.

The survey estimates, nationally and regionally, annual expenditures by farm operators and/or

landlords for farm inputs, including expenditures for hired farmworkers and contract labor. Since 1982, data are reported by economic class of farm for each of the 10 USDA farm production regions and the United States.⁵ Both ERS and NASS publish estimates from the FCRS. The two sets of numbers differ slightly because ERS uses expenditure data from the Census of Agriculture, and information from the Social Security Administration on the employers' share of Social Security taxes paid for employees to adjust the expenditure data from the FCRS. The data published by NASS are based totally on FCRS sample data.

Expenditures for wage and salary workers include cash wages, incentives for profit-sharing plans, bonuses, in-kind and fringe benefits, and the employer's share of Social Security taxes. In addition, contract labor expenditures for harvesting, combining, plowing, planting, seeding, or other agricultural work performed on a contract basis by a contractor, crew leader, or a cooperative is recorded. The expense or cash value of voluntary expenditures such as pension or retirement plans, health insurance, or bonuses, and legally required employer expenditures including Social Security taxes, and unemployment and workers' compensation is reported separately. Peak number of employees at any time during the last year is the only employment number collected.

Suggested references:

U.S. Department of Agriculture. Economic Research Service. *Economic Indicators of the Farm Sector, Farm Sector Review, 1984*, ECIFS 4-2. Dec. 1985.

_____. *Economic Indicators of the Farm Sector, National Financial Summary, 1984*, ECIFS 4-3. Jan. 1986.

_____. *Statistical Reporting Service. Farm Production Expenditures for 1984*, July 1985.

_____. *Interviewer's Manual, Costs and Returns Survey*, Jan. 1985.*

_____. *Scope and Methods of the Statistical Reporting Service*. MP-1308. Sept. 1983.*

Household Surveys

Two major sources of household survey data are the Decennial Census of Population and the

⁵The farm production regions are: Pacific, Mountain, Northern Plains, Southern Plains, Delta States, Lake States, Corn Belt, Northeast, Appalachian, and Southeast (20).

monthly Current Population Survey. Detailed demographic and economic information on agricultural workers can be drawn from these surveys. Data are also available for other members of farmworker households but the summaries below reflect data available on individual farmworkers.

Decennial Census of Population. The Decennial Census of Population has been conducted every 10 years since 1790. The Bureau of the Census collects household data on the demographic and economic characteristics of the U.S. population. Information is available for all States, counties, and independent cities. Data are available in published volumes for each State and the United States and in summary computer tape files. Public-use microdata tapes, which contain information from a 1-percent or a 5-percent sample of households, allow a more detailed examination of individuals and their households. Special tabulations can be prepared by the Bureau of the Census for users with specific requirements.

Information for the 1980 Census of Population was collected primarily through mail surveys. Data on number of people, race, Spanish origin, gender, age, household relationship, household size, family type, marital status, and urban/rural and metro/nonmetro residence were based on a complete count of households. Information on employment status, occupation, industry of employment, and earnings was based on a 19-percent sample of households.

Employment data were obtained for all civilians 15 years and older but are published only for those civilians 16 years and older. All employment data, including industry, occupation, and class of worker, were based on the respondent's chief job activity or business during the reference week, generally the last week of March. Persons with more than one job during the week were asked to describe the job at which they worked the longest. Those not in the labor force during the reference week were asked to describe the last job held during the previous 5 years.

The occupational classification system developed for the 1980 Census consists of 503 specific occupation categories. Those related to agriculture are:

- Farm operators and managers—
 - Farmers, except horticultural
 - Horticultural specialty farmers
 - Managers, farms, except horticultural
 - Managers, horticultural specialty farms

- Other agricultural and related occupations—
 - Farm occupations, except managerial
 - Supervisors, farmworkers
 - Farmworkers
 - Marine life cultivation workers
 - Nursery workers

- Related agricultural occupations
 - Supervisors, related agricultural occupations
 - Groundskeepers and gardeners, except farm
 - Animal caretakers, except farm
 - Graders and sorters, agricultural products
 - Inspectors, agricultural products

Industry employment data are grouped into 231 categories, which correspond to SIC groups. However, the Census classification does not reflect the full SIC detail, and data on the agricultural industry are not available below the 2-digit level. Data for the agricultural industry categories available from the Census are:

- Agricultural production, crops (SIC 01)
- Agricultural production, livestock (SIC 02)
- Agricultural services, except horticultural (SIC 07, except 078)
- Horticultural services (SIC 078)

Class of worker categories are private wage and salary worker; Federal, State, and local government worker; self-employed in own incorporated or unincorporated business; and unpaid family worker (which includes only those working 15 hours or more on a family farm or business during the reference week).

Total wage and salary income before deductions is reported for all jobs held in the previous year and includes wages, salary, pay from Armed Forces, commissions, tips, piece-rate payments, and cash bonuses earned. However, income cannot be tied specifically to the occupation or industry reported by the respondents as their major activity during the reference week. Therefore, if farmworkers did any nonfarmwork in addition to farmwork completed during the year, these earnings would reflect wages received from all jobs, and not just from farm employment. The Census also collects self-employment income from own farm after subtracting operating expenses. This includes income as an owner, renter, or sharecropper. In addition, income is reported separately for nonfarm self-employment; interest, dividends, and rent; Social Security and retirement; and public assistance.

Data were also collected on number of weeks worked during the previous year, usual hours worked during the survey week (from all jobs), and usual hours worked per week in the last year. However, as with the wage and salary income data, this information is collected for all employment activities, and cannot be associated with the occupation or industry reported in the reference week.

Suggested references:

U.S. Department of Commerce, Bureau of the Census. 1980 Census of Population. *Characteristics of the Population*, "Detailed Characteristics." Series PC80-1-D.*

_____. *Characteristics of the Population*, "General Social and Economic Characteristics." Series PC80-1-C.*

_____. *1980 Census of Population and Housing. Public-use Microdata Samples Technical Documentation*. Feb. 1983.*

_____. *1980 Census of Population*. Vol. 2: *Subject Reports*. Series PC80-2. (Selected reports in this series contain information on agricultural employment.)*

_____. *1980 Census of Population and Housing: Users Guide*. Series PHC80-R1.*

Current Population Survey. The Current Population Survey (CPS) is a sample survey of households conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics (BLS). This survey, conducted since 1940, provides comprehensive information on the labor force, the employed, and the unemployed, and characteristics such as age, gender, race, education, ethnic origin, marital status, occupation, and industry of employment of respondents. The survey also provides data on the characteristics and past work experiences of those not in the labor force. The CPS data are available at the State level, but are not published due to the small sample size and low statistical reliability. Since 1968, the sample records from the CPS have been available each month in public-use computer files. These files contain demographic and economic information for every person included in the survey. Sufficient geographic information is removed to ensure confidentiality.

The CPS sample includes about 60,000 households each month with coverage in all 50 States and the District of Columbia. The sample results are

weighted to represent independent estimates of the U.S. civilian noninstitutional population.

Monthly Survey. Each month, questions similar to those used in the Decennial Census are asked on industry of employment, occupation, and class of worker for the employed population. These questions relate to the employment activity during the survey week which contains the 12th day of the month. If individuals had more than one job in that week, the one at which they worked the longest was reported. Thus, individuals are counted as employed in agriculture if they worked longer in their agricultural job than they worked at any other job during the survey week. Employment data are collected for all persons 14 years and older, but are generally published only for those 16 years and older.

Industry of employment, occupation, and class of worker information are collected and categorized according to definitions used in the Decennial Census of Population. Data on workers in agriculture are reported for crop production (SIC 01), livestock production (SIC 02), agricultural services except horticulture (SIC 07, excluding 078), and horticultural services (SIC 078). Information on farming occupations is classified into 14 categories, including farmers, farm managers, nursery workers, groundskeepers, and gardeners (see p. 8). Class-of-worker data for agriculture identify self-employed, wage and salary workers, unpaid family members working 15 hours or more per week, and Federal, State, and local government workers. Information is also reported on hours worked at all jobs during the survey week, but these data cannot be tied to the specific industry or occupation reported in the survey week.

Some employment information for wage and salary workers, including hourly and weekly earnings, and hours usually worked per week is collected each month from one quarter of the CPS sample. Earnings data collected include wages, salary, tips, piece-rate payments, and cash bonuses earned. Median weekly earnings for the combined farming, forestry, and fishing occupations are published quarterly by BLS in the January, April, July, and October issues of *Employment and Earnings* (24). However, as with most employment information from the CPS, earnings data relate only to the primary activity during the survey week and do not measure earnings from other farm or nonfarm jobs held during the year.

The CPS employment data are published monthly by BLS in *Employment and Earnings*. This publication contains monthly data on employment in

agriculture by race, gender, age, and class of worker. Some data are seasonally adjusted for fluctuations in levels of employment due to changes in weather, reduced or expanded production, harvests, major holidays, and opening and closing of schools. More detailed data are available from the public-use computer files.

Supplemental questions are added to the basic CPS questionnaire to obtain information on topics such as displaced workers, job training, adult education, immunization, and fertility. Most of this additional information is available for farmworkers defined by agricultural industry, occupation, and class of worker.

The BLS publishes national annual averages of the monthly CPS employment data in the January issue of *Employment and Earnings*. Annual averages for States and other areas are published in the May issue. Agricultural employment data are reported by industry and occupation groups, class of worker, and demographic characteristics. Another publication, the *Geographic Profile of Employment and Unemployment*, reports annual averages of selected employment data by State, census region, and census division.

Suggested references:

U.S. Department of Commerce, Bureau of the Census, and U.S. Department of Labor, Bureau of Labor Statistics. *Concepts and Methods Used in Labor Force Statistics Derived from the Current Population Survey*. BLS Report 463, Series P-23. No. 62. Oct. 1976.*

_____. Bureau of the Census. *The Current Population Survey: Design and Methodology*. Technical Paper No. 40. Jan. 1978.*

_____. *Current Population Reports. Population Characteristics*. Series P-20. (Selected reports.)

_____. *Current Population Reports. Special Studies*. Series P-23. (Selected reports.)

U.S. Department of Labor, Bureau of Labor Statistics. *Employment and Earnings*. (Monthly.)*

_____. *Geographic Profile of Employment and Unemployment, 1983*. Bull. 2216. Oct. 1984.

Farm Population Data. The Bureau of the Census, in cooperation with USDA's Economic Research Service, prepares estimates of the U.S. farm popula-

tion 14 years and older by age, gender, race, and labor force status. The farm population consists of all persons living in a rural territory on places which had sales of agricultural products of \$1,000 or more during the reporting year. Farm families living in urban areas are not included in the count of farm residents. These estimates are derived from the CPS and are computed by using weighted averages for the five quarters centered on April of that particular year. For example, 1983 estimates were based on data from October 1982 and January, April, July, and October 1983. Beginning in 1984, farm population estimates will be a 12-month annual average. State data are available but are not published due to low statistical reliability.

Any of the basic occupation, industry, class of worker, and other employment-related data collected in the monthly CPS, including hours worked at all jobs, are available for the farm population. However, the published reports provide only limited employment information for the farm population. Weekly earnings data are not published.

Suggested reference:

U.S. Department of Commerce, Bureau of the Census and U.S. Department of Agriculture, Economic Research Service. *Farm Population of the United States: 1983*. Current Population Reports. Series P-27, No. 57. Nov. 1984.*

Annual Demographic File. In March of each year, supplemental questions are added to the CPS to obtain information on family characteristics, household composition, income during the previous calendar year, weeks employed full-time or part-time, and occupation and industry classifications of the longest job held during the year. Data are collected from the full CPS sample, plus an additional 2,500 households of Spanish origin.

Unlike the basic monthly CPS, most of the supplemental employment data are based on activities during the entire year, not just 1 survey week. Data on occupation, industry, and class of worker are based on the longest job held during the year. Also, unlike the basic CPS, data on total annual earnings from the longest job, earnings from any other work during the year, and net income from self-employment activities, are collected separately for the preceding year. The definitions of income and earnings are the same as those used in the basic CPS. Hours usually worked by respondents and number of weeks worked are reported for all jobs during the year and cannot be matched to the longest job.

Suggested references:

U.S. Department of Commerce, Bureau of the Census. Current Population Reports. Consumer Income. Series P-60. (Selected reports.)

_____. Current Population Reports. Population Characteristics. Series P-20. (Selected reports.)

_____. Current Population Reports. Special Studies. Series P-23. (Selected reports.)

_____. The Current Population Survey: Design and Methodology. Technical Paper No. 40. Jan. 1977.*

Hired Farm Working Force Survey. The Hired Farm Working Force (HFWF) Survey is conducted for USDA's Economic Research Service by the Bureau of the Census as a supplement to the December CPS. The survey was conducted annually from 1945-77, but since that time the survey has been done biennially. About 1,500 of the 60,000 households in the CPS sample contain at least one hired farmworker. Data are available at the State level but are not published due to low statistical reliability.

Supplemental questions are asked of all persons 14 years of age and older who did farmwork for cash wages or salary at some time during the year. Farmwork is defined as work done on any farm for cash wages or salary in connection with the production, harvesting, threshing, preparation for market, or delivery to market of agricultural products, as well as farm management if done for cash wages. Exchange work, work done by farm operators on their own farms, work done by unpaid workers, work done exclusively for payments-in-kind, and custom work are not included. Also excluded from the farmworker definition is any non-farmwork done on a farm, such as contract construction, domestic service work, hauling of agricultural products by commercial truckers, book-keeping, and secretarial activities. However, all nonfarmwork done by hired farmworkers during the year is reported. Self-employed and unpaid workers in agriculture are not included in the survey unless they did some hired farmwork during the year. However, in December 1985, the survey was renamed the Agricultural Work Force Survey, and information was collected on farm and non-farmwork done by self-employed farmers, unpaid farmworkers, and hired farmworkers.

The survey collects data on the employment characteristics of hired farmworkers, including days

worked and annual earnings received from all farm and nonfarmwork during the year. Data on hourly earnings for those who were paid by the hour on the longest farm job have been collected periodically, as has information on major work activity (harvestworker, livestock worker, machine operator, or supervisor), and type of crop or livestock worked with on the longest farm job. In addition, all of the demographic information collected in the CPS is available for hired farmworkers.

The HFWF Survey is the only national survey that collects detailed demographic and employment information on migrant farmworkers. Migrant farmworkers are defined as those who crossed county lines and stayed overnight to do hired farmwork with the expectation of returning home, or had no usual place of residence and did hired farmwork in two or more counties during the year.

Suggested reference:

Pollack, Susan L. *The Hired Farm Working Force of 1983: A Statistical Profile*. AER-554. U.S. Department of Agriculture, Economic Research Service. June 1986.*

Farm Sector Productivity Data. The Bureau of Labor Statistics (BLS) calculates a number of productivity measures such as output per worker and unit labor costs for several sectors of the economy including the farm sector. The BLS obtains data from the Current Population Survey (CPS) on the number of persons 14 years of age and older working in agricultural production defined as SIC 01 and 02. The total hours of labor input to the farm sector is determined by multiplying the number of farm employees (including self-employed, wage and salary, and unpaid workers) by average hours worked per week times 52 (weeks).

The BLS also calculates both total and hourly compensation estimates for the farm sector using data provided by the Bureau of Economic Analysis (BEA). The BEA derives total compensation estimates for farm wage and salary workers, farm proprietors, and unpaid family workers. As part of the national income accounts, BEA provides BLS with estimates of farm sector wage and salary compensation, which include wages and salaries, commissions, tips, bonuses, and payments-in-kind. Also added are employer contributions to Social Security, private pensions, and health and welfare plans. The BLS determines hourly compensation for wage and salary workers by dividing total compensation by total hours worked.

The BLS determines total compensation for the labor services of farm proprietors and unpaid family workers by assuming their hourly compensation is equal to that of the average wage and salary worker in the farm sector. Hence, hours of labor are considered homogeneous with no distinction made among different skill levels.⁶ Although CPS collects monthly farm employment numbers and average hours worked per week, only quarterly numbers are available. The data series, dating back to 1947, is available only at the U.S. level on a special request basis.

Suggested reference:

U.S. Department of Labor, Bureau of Labor Statistics. "Productivity Measures: Business Economy and Major Sectors," *BLS Handbook of Methods*. Vol. 1. Bulletin 2134-1. Dec. 1982.*

Administrative Records

Most employers are required to submit wage and workforce information to State or Federal agencies which verify employers' compliance with various public laws. Among the administrative records which have agricultural labor data are the ES-202 Program which collects information filed through State or Federal unemployment insurance programs required by the Federal Unemployment Tax Act; the Social Security program authorized by the Federal Insurance Contributions Act; and the Internal Revenue Service tax returns.

ES-202 Program. State and Federal unemployment insurance programs provide the data base for two major data series: (1) employment and wage information published by the Bureau of Labor Statistics, and (2) employment and income data released by the Bureau of Economic Analysis (BEA).

Bureau of Labor Statistics Unemployment Insurance Covered Employment Data. Since its enactment in 1938, the Unemployment Insurance Program has operated under a mix of Federal and State coverage provisions. In 1978, agricultural employment was first covered by unemployment insurance under the Federal Unemployment Tax Act (FUTA). Provisions of either FUTA or State unemployment insurance laws determine whether an agricultural employer is required to contribute to an unemployment insurance fund, and also which employees are eligible to receive benefits

⁶See (3) for estimates of productivity by characteristics (age, gender, education, occupation, and class of work) of agricultural workers using CPS data.

from that fund. Most State unemployment insurance laws conform to the provisions of FUTA. There are some exceptions, and variations in State coverage are published each year by the U.S. Department of Labor's Employment and Training Administration (ETA) (25).

With the exception of employers of agricultural labor and certain domestic workers, FUTA applies to all employers who paid wages of \$1,500 or more during any calendar quarter in the current or immediately preceding calendar year, or employers who hired one or more workers on at least 1 day in each of 20 weeks during the current or immediately preceding calendar year. However, in the case of agriculture, FUTA applies only to employers who paid cash wages of \$20,000 or more for agricultural labor in any calendar quarter in the current or preceding calendar year, or who employed 10 or more workers on at least 1 day in each of 20 different weeks in the current or immediately preceding calendar year.⁷ Most States have adopted the Federal law related to agricultural labor, which limits coverage to the larger farms.⁸ The ETA estimates about 40 percent of all farmworkers are covered by FUTA.

The ES-202 program is the title of the cooperative agreement between ETA and State employment security agencies which administer the Unemployment Insurance Program. Qualifying employers are legally required to file quarterly reports (one for each establishment or reporting unit) with their respective State employment security agency, which in turn submits selected data to BLS headquarters in Washington, D.C. Each quarterly establishment report received by ETA contains the following information:

- State and county of employer filing reports.
- 2- or 4-digit 1977 SIC code (10 States only report 2-digit industry code).
- Ownership (government, international, corporate or noncorporate).
- Employment as of the 12th day of each month.
- Total wages by quarter.

⁷Under FUTA, an employer of farmworkers is defined as one that employs workers who raise or harvest agricultural or horticultural products on a farm; care for the employer's farm and its equipment when most of the care is done on a farm; handle, process, or package any agricultural or horticultural commodity if over half of the (unmanufactured) commodity was produced by the employer; do work related to cotton ginning, turpentine, or gum resin products; or do housework in the employer's private home if it is done on a farm that is operated for profit.

⁸California, Maine, Minnesota, Rhode Island, Virginia, Washington, the District of Columbia, Virgin Islands, and Puerto Rico all have a more inclusive definition of agricultural employer than FUTA. See (10, 25).

Employment data include all corporation officials, executives, supervisory personnel, clerical workers, wage earners, pieceworkers, and temporary and part-time workers. Total wages, in most States, include gross wages and salaries, bonuses, tips and any payments-in-kind, but in the case of agricultural employers, only cash wages must be reported.

Summary statistics are available on annual average employment, wages paid, and number of farm (SIC 01 and 02) and agricultural service (SIC 07) employers. Annual wage per employee, and average weekly wage by 4-digit SIC categories are also published. BLS disclosure rules prevent the release of SIC industry data for counties, States, or the Nation where there are fewer than three reporting units, or in which the employment of a single establishment accounts for over 80 percent of the industry.

Suggested references:

U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Wages: Annual Averages*, 1982. Oct. 1984.

_____. "Employment and Wages Covered by Unemployment Insurance," *BLS Handbook of Methods*. Vol. I. Bulletin 2134-1. Dec. 1982.*

Bureau of Economic Analysis Agricultural Employment and Income Data. The Bureau of Economic Analysis (BEA) established the Regional Economic Information System in 1967 to maintain a regional data base on personal income. As part of the personal income estimating procedure, BEA estimates 2-digit SIC industry employment for U.S. counties. Using data from the ES-202 program, the U.S. Department of Agriculture's Farm Labor Survey, and the Census of Agriculture, BEA develops estimates, by county, of the number of farm proprietors (sole proprietors plus partners), wage and salary workers in farming, and agricultural service workers. County estimates of farm proprietors' income, farm earnings for wage and salary workers (which include payments-in-kind), other farm labor income (employer contributions to private pension and welfare funds), contract farm labor earnings, and wage and salary earnings for agricultural service employees are also available. Officers and workers of corporate farms are classed as farm wage and salary workers, while corporate farm income is classed as dividend income, not farm proprietor income. The BEA does not estimate unpaid labor nor distinguish between full-time or part-time

employment or between temporary or year-round employment. Annual income per farm proprietor or per farmworker can be estimated by dividing total annual income by total average annual employment for the respective worker categories.

A separate BEA data series, Farm Income and Expenditures, provides estimates of county-level farm expenditure data. Annual estimates are made for cash receipts; other farm income (government payments and rent); production expenses (including separate expenditure estimates for hired and contract labor); corporate farm income; and value of inventory change. The estimated value of payments-in-kind (room, board, and so forth), to farm wage and salary workers is also available.

The number of farm proprietors is derived from the annual estimate of farms reported by USDA. This estimate is adjusted to reflect the number of partners and corporate farms reported in the latest Census of Agriculture. In States judged by BEA to have adequate unemployment insurance coverage for agricultural workers, BEA uses monthly ES-202 data to estimate annual average agricultural wage and salary, and agricultural service employment. BEA works with BLS each year to assess the adequacy of unemployment insurance coverage in each State. As of 1985, California, Arizona, Florida, Delaware, New Hampshire, and Rhode Island were considered to have adequate unemployment insurance coverage for agricultural employment data. In the remaining States that are not judged to have adequate unemployment insurance coverage, BEA reports the number of wage and salary workers based on annual average farm employment data from USDA's Farm Labor Survey. Individual county employment estimates are based on the county distribution of hired farm labor expenses as reported in the latest Census of Agriculture. The BEA's region or industry disclosure rules are similar to those for ES-202 data.

Suggested references:

U.S. Department of Commerce, Bureau of Economic Analysis. *Local Area Personal Income*. Various years.

_____. *Local Area Personal Income, Sources, Methods, and Output Available from the BEA Regional Economic Information System*. Aug. 1983.*

Social Security Program. Most employers are required to pay Social Security taxes under the

Federal Insurance Contributions Act (FICA). The administrative records filed with the Social Security Administration (SSA) form the basis for County Business Patterns (CBP) and Social Security Farmworker Statistics data series.

County Business Patterns. The CBP data are based on administrative records filed by employers whose employees are subject to Social Security taxes. Agricultural workers who are paid \$150 or more in cash wages, or who work 20 or more days during the year must pay these Social Security taxes. Employers who hire these workers are required to withhold Social Security taxes from their employees' wages. These employers must then submit these taxes to the U.S. Treasury and report this withholding to the Internal Revenue Service (IRS). The CBP data report employment information only for agricultural service employers (SIC 07) whose employees are subject to Social Security taxes. Employment data for farm employees (SIC 01 and 02) are collected but are not available for public distribution.

Agricultural service employers report quarterly payroll, annual payroll, and employment as of the mid-March pay period. Payroll data from these employers include cash wages only. The value of in-kind benefits and employers' cost of voluntary or legally required fringe benefits are excluded. Self-employed workers are not included in CBP data. Officers of corporations are reported as wage and salary workers. Data on the number and size of establishments, number of mid-March employees, and payroll are published annually for agricultural services (SIC 07) and farm labor contractors (SIC 0761) at the county level. Disclosure restrictions do not permit data to be published for all counties.

Suggested reference:

U.S. Department of Commerce, Bureau of the Census, *County Business Patterns*. (Various years.)*

Social Security Farmworker Statistics. Congress established the Social Security Program in 1935; in 1950 the Social Security Program was revised to extend mandatory coverage to all qualifying farmworkers. Under this program, employers must file an aggregate wage and income statement with the Social Security Administration (SSA) for all workers employed during the past year. Similar to FUTA, each employer is identified as being involved in an agricultural or nonagricultural trade or business.⁹ Farmworkers may have both types of income. Infor-

mation is available on Social Security taxable wages (excluding payments-in-kind), which in 1985 was limited to the first \$39,600 in cash wages for farmworkers. The SSA sums employees' wages from each employer during the calendar year and then records farmworker employment and earnings data, thus preventing double counting of workers.

The SSA draws a 1-percent sample of all Social Security numbers to summarize data. Called the Continuous Work History Sample (CWHS), this sample allows demographic data to be associated with employees covered by Social Security. In addition to estimating the number of covered farmworkers, data on race, gender, age, and farm and nonfarm earnings are available. Taxable farm wages and average farm wages per worker are also available from the CWHS.

The CWHS contains no farm family employment due to program exclusions. The data on farm laborers are limited to those who either were paid \$150 or more in wages by any one agricultural employer during the year, or who did farm wagework for 20 days or more for any one employer during the year.

Suggested reference:

U.S. Department of Health and Human Services, Social Security Administration, Office of Research and Statistics, *Social Security Farmworker Statistics, 1977*. Research and Statistics Note No. 3. May 1981. (Since 1977, data are available on a special request basis only.)

Federal Tax Returns. The Internal Revenue Service (IRS) is required by law to publish annual information on the operation of the Internal Revenue laws. Statistics or estimates of receipts, deductions, net income, and tax liability are made available on an industry basis. Data for 4-digit SIC industries are available in some cases. Estimates of payroll and associated labor expenses are among the business deductions reported for farms. Farms are identified either by filing a Schedule F for sole proprietors, or by sales of agricultural commodities in the case of partnerships and corporations.

Labor expenditure data include "reasonable wages paid for regular farm labor, piecework, contract labor and other forms of labor hired to perform

⁹At one time, SSA published data on the number of agricultural employers and size of operation by State. This data series is no longer tabulated by SSA due to significant changes in the way farm employment data are reported to SSA.

work on farming operations" (27,28). Data on payments-in-kind, as well as wages paid to children and spouses, employee benefit programs, pensions, and profit-sharing plans are also reported by IRS. However, payroll taxes are typically recorded as tax expenses rather than labor expenses.

The IRS-published data and special tabulations are based on a sample rather than a census count, but the sample is large enough to permit publication of State data.¹⁰

Suggested references:

U.S. Department of Treasury, Internal Revenue Service. *Farmers Tax Guide, 1984 Edition*. Pub. 225. Oct. 1984.*

_____. *Statistics of Income—1980, Corporation Income Tax Returns*. Pub. 16. May 1983.*

_____. *Statistics of Income—1980, Partnership Returns, 1980*. Pub. 369. Dec. 1982.*

_____. *Statistics of Income—1979-80, Sole Proprietorship Returns*. Pub. 1131. July 1982.*

Miscellaneous Data Sources

This section discusses several less comprehensive or less documented agricultural employment data sources. The Survey of Income and Program Participation is included here because the survey has not been approved beyond 1987, and we feel that this survey does not, at this time, qualify as a data series collected on a regular or periodic basis. Other data sources are discussed in this section because they relate to only a subpopulation of agricultural employment, for example, seasonal farmworkers, temporary foreign workers, illegal aliens, and farm labor contractors. Finally, this section includes a discussion of production and efficiency statistics of the farm sector because these data are primarily engineering- or requirements-based rather than derived from households, establishments, or administrative records.

Survey of Income and Program Participation

The Survey of Income and Program Participation (SIPP) is a panel survey designed to provide detailed information on changes in the economic situation of U.S. households, families, and people

¹⁰For a comparison of IRS farm data with data from USDA's Farm Costs and Returns Survey (formerly the Farm Production Expenditure Survey) data, consult (16).

over time. While the survey concentrates on sources and amounts of money income and participation in government income, transfer, and service programs, the survey also collects detailed demographic and employment information.

The SIPP was established in October 1983 by the Bureau of the Census, with approximately 20,000 sample households selected to represent the civilian noninstitutional population of the United States. Members of households in this initial sample are scheduled for interview once every 4 months for 2½ years, to produce data for analyzing changes in these households over time. In February 1985, a new sample of approximately 15,000 households was added along with an additional 12,500 households in February 1986. Another 12,500 will be added in February 1987. Individuals in sampled households will be interviewed every 4 months for 2½ years. If persons who were at the address at the time of the first interview move, they are followed to their new address for subsequent interviews.

Information from this survey will be reported on a monthly basis in quarterly reports and can be used to derive annual estimates. The first quarterly data were released in 1984. Public-use computer files containing State identification codes for 37 States are also available.¹¹ Use of the SIPP for analysis below the national or regional level (the United States is divided into four census regions) is not recommended, because the sample is selected to be representative on a national basis.

SIPP includes a core set of labor force and income questions which are repeated in each interview period. The reference period for each interview is the 4 months preceding each interview; for example, in October, the reference period was June through September.¹² Persons 15 years of age and older who were employed at any time during the 4-month reference period are asked to provide information for up to two wage and salary, or unpaid jobs held, and up to two nonfarm businesses or farms owned. The occupation, industry, and class of worker data for each of these activities are categorized in the same manner as the Decennial Census of Population and the Current Population Survey (see p. 7). Only the reference period differs;

¹¹For information on SIPP Public Use Tapes, contact the U.S. Department of Commerce, U.S. Bureau of the Census, Data User Services Division, Customer Services Branch.

¹²The panel was divided into four rotation groups, and only one rotation group was interviewed in any 1 month. Because the households in each panel are not all interviewed at the same time, the reference period varies by time of interview.

SIPP collects data on employment during a 4-month period, while the Census collects employment data based on 1 reference week.

Information reported for the self-employed in agriculture includes usual hours worked per week, number of employees, whether the business or farm was incorporated or a partnership, and monthly income for each business or farm owned. Estimates of net profit or loss and earnings from self-employment after expenses during the total 4-month reference period are also collected. Data on agricultural wage and salary or unpaid workers include days worked, usual hours worked per week, hourly wages, and monthly earnings, where appropriate. Industry data are available to identify agricultural service workers at the 2-digit SIC level.¹³

In addition to the core questions, SIPP uses sets of questions (modules) which are asked at selected times. These modules include such topics as personal and household assets and liabilities, income taxes and employee benefits, school enrollment, marital history, fertility, and migration. Other modules to follow will include questions designed by or for Federal agencies on such topics as health care; financing, pension, and retirement issues; work-related expenses; and energy use. Information collected in the modules will be available for agricultural workers defined by industry, occupation, and class of worker.

Suggested references:

Nelson, Dawn, David McMillen, and Daniel Kasprzyk. *An Overview of the Survey of Income and Program Participation*. U.S. Department of Commerce, Bureau of the Census. SIPP Working Paper Series, No. 8401. June 1984.*

U.S. Department of Commerce, Bureau of the Census. *Current Population Reports. Economic Characteristics of Households in the United States: Second Quarter, 1984*. Series P-70, No. 4. 1985.*

_____. *Survey of Income and Program Participation and Related Longitudinal Surveys: 1984*. Compiled by Daniel Kasprzyk and Delma Frankel. Jan. 1985.*

¹³The 1985 publications did not include information on persons who are members of farm households. Information on persons who live off farms and who have wages or salary from a farm job or who derive income from farm self-employment were included in the reports. The public-use tapes are not restrictive in this way and they include agricultural employment data, when appropriate, for all civilian noninstitutionalized persons.

Temporary Foreign (H-2) Agricultural Worker Data

The Immigration and Nationality Act permits employers to bring foreign H-2 workers into the United States to do temporary agricultural work. Before these workers can be admitted to this country, the U.S. Department of Labor (USDOL) must certify that there are not enough American workers available who are willing and qualified to do the work needed and that the foreign workers' entry will not adversely affect the wages or working conditions of domestic workers doing similar work.¹⁴

The USDOL's Employment and Training Administration (ETA), tabulates the number of temporary agricultural jobs (not workers) that have been certified for foreign workers each year. This number may vary slightly from the actual number of workers who entered the country to do this work because some certified jobs may not be filled, and some H-2 workers fill more than one certified job. Data are reported by State and type of crop where agricultural jobs were certified. This information on H-2 workers is published for internal use within ETA, but is available by special request from the Office of Foreign Labor Certification in USDOL.

Immigration and Naturalization Service Deportable Alien Data

The Immigration and Naturalization Service (INS) reports information on the number of deportable aliens apprehended in the United States, including those working in agriculture at the time of arrest. Deportable aliens include those who made illegal entries into the country, as well as those who violated the terms of their admission. Data are collected on year of entry into the United States, nationality, cause of deportation, and employment activity at the time of apprehension. Employment activity classifications are work in agriculture and work in all other industries. Data are available for the Northeast, Northwest, Southeast, and Southwest regions. Information is collected monthly from the records of the border patrol and INS inland offices, and totaled on a fiscal year basis.

Apprehension data cannot provide an accurate indication of the number of illegal aliens in the country nor the number who are working in agriculture. These data suffer from double-counting since the same individual can be apprehended many times during a year. Also, the INS probably detects only a

¹⁴For more details on the H-2 Program, see (4).

small proportion of those individuals who are in the United States illegally.

Suggested reference:

U.S. Department of Justice, Immigration and Naturalization Service. *Statistical Yearbook of the Immigration and Naturalization Service*. (Various years.)

In-Season Farm Labor Reports

The In-Season Farm Labor Reports list the number of local and migratory seasonal workers employed in agricultural work based on grower reports of activity on the 15th day of each month. The data are obtained by the U.S. Department of Labor's local employment service offices through telephone and personal interviews with farm operators and others knowledgeable on the local farm labor market. These data are reported on the ES-223 reporting form. Information is collected for major crop reporting areas or counties where the local employment service estimates that at least 500 migrant and seasonal farmworkers are employed. This information is not published but is available from the Employment and Training Administration, USDL.

Estimates are reported for the following types of farmworkers:

- local seasonal workers (those workers doing less than 150 days of farmwork);
- migrant workers (those workers not able to return home at the end of each work day); and,
- foreign workers (those workers employed to do temporary farmwork under the H-2 Program).

Information reported includes specific job activity, such as harvesting, thinning, or planting; and wages paid. However, from State to State there is no uniformity in the reporting, collecting, and estimating procedures used in preparing reports.

Farm Labor Contractor Data

The Employment Standards Administration's Wage and Hour Division, U.S. Department of Labor, administers and enforces the Migrant and Seasonal Agricultural Worker Protection Act (MSPA). Its purpose is to improve employment-related protections for migrant and seasonal farmworkers. The MSPA requires that a Farm Labor Contractor Certificate of Registration be obtained from the

Secretary of Labor before a contractor or a contractor's employee engages in farm labor contracting activities.

The USDL maintains a central registry which contains the name, address, certificate of registration number, issuance date, and expiration date of the certificate for each registered farm labor contractor and farm labor contractor employee. The registry also includes the contractor's estimate of the maximum number of workers to be employed in the crew at any time during the coming year.

The Wage and Hour Division tabulates information from the applications for farm labor contractor certificates of registration. The applications are filed initially in the various U.S. Employment Service offices or Wage and Hour Division area offices nationwide. The data are channeled through the regional offices to the Washington D.C. national office for compilation of the registry.

Farm labor contractor and employee data collected from 1965-83, under the Farm Labor Contractor Registration Act, the predecessor statute, and data collected since 1983 under MSPA, are not comparable due to legislative changes in the definition of a farm labor contractor.¹⁵

Suggested reference:

U.S. Department of Labor, Employment Standards Administration. *Public Central Registry: National Contractor Listing*. 1985.

Production and Efficiency Statistics of the Farm Sector

Each year USDA's Economic Research Service prepares production and efficiency statistics for the farm sector. This data series includes an estimate of total annual hours of labor used in farming. The unique aspect of this series is that estimates of hours of labor used are available for 12 major commodity groups, and for the United States and 10 farm production regions. The major commodity groups are: meat animals; dairy products; poultry and eggs; feed grains; hay and forage; food grains; vegetables; fruits and nuts; sugar crops; cotton; tobacco; and oil crops (including peanuts and soybeans).

¹⁵For more detailed explanation of the definition of farm labor contractor and contractor employees used in MSPA, see (23).

The hours of farmwork estimates are essentially engineering-derived rather than survey-based. An average number of hours of labor required per acre of crop or per head or unit of livestock production is derived primarily from State data or from estimates by State agricultural personnel. An indirect or overhead labor component which includes construction, maintenance, repair, and management tasks is part of the per unit estimate. These per unit labor requirements are applied to USDA's official State estimates of crop acres and livestock production to arrive at the total annual hours of labor required by commodity and by region.

Suggested reference:

U.S. Department of Agriculture. Economic Research Service. *Economic Indicators of the Farm Sector, Production and Efficiency Statistics*, 1984. ECIFS 4-4. Feb. 1986.

Differences Among Data Sources

Agricultural employment numbers and estimates of farm labor expenditures vary widely due to differences in methods, definitions, and data collecting procedures (see table 3 and table 4). Comparisons of the data from different sources are complicated because all data are not reported for the same time periods. However, comparisons of these data provide a general indication of the magnitude of variation among the different data sources. For example, the number of self-employed agricultural workers ranged from 1.3 million in the 1980 Census of Population to 2.8 million in the 1981 Bureau of Economic Analysis Employment and Income data—a difference of 1.5 million workers. The number of wage and salary workers ranged from 634,000 workers reported by the 1981 Unemployment Insurance Program to 4.9 million reported in the 1982 Census of Agriculture, a difference of over 4 million workers. The BLS Unemployment Insurance Covered Employment data showed about \$6 billion in cash expenditures for farm wage and salary workers in 1981; the Bureau of Economic Analysis Employment and Income data indicated \$11 billion in the same year.

Users should consider several major points when comparing or evaluating the different agricultural employment data sources (see table 1). The discussions that follow focus on these points and provide specific examples of differences among data sources. The examples provided are for illustration only. Data users are encouraged to examine and compare the research methods for each series.

Concepts and Definitions

Definitions and concepts used by the various data series vary considerably. Users should pay particular attention to the definitions pertaining to agriculture, farms, agricultural employment, and types of workers. For example, the Census of Agriculture and the Farm Labor Survey (FLS) use the official farm definition of any place from which \$1,000 or more of agricultural products were actually sold or normally would have been sold during the year. The Census of Population, Current Population Survey (CPS), and Survey of Income and Program Participation (SIPP) define farms as places (rural areas only) where \$1,000 or more of agricultural products were actually sold during the year. However, this farm definition is only used to determine farm residence and not farm employment. The administrative record data collected from the Unemployment Insurance and Social Security Programs define farms as establishments which raise agricultural or horticultural commodities, but do not consider rural-urban residence or value of sales.

Many of the data series define agriculture in terms of the SIC, but the level of detail reported varies by data source. County Business Patterns, the Unemployment Insurance Program, and Federal tax returns report data at the detailed 4-digit SIC level (see app.). The Census of Agriculture data are collected at the 4-digit level but are usually published at the 2- or 3-digit level. The Census of Population, monthly CPS, March Annual Demographic File, SIPP, and Social Security Program data provide information at the less detailed 2-digit level. The FLS and the Hired Farm Working Force Survey do not report data by SIC.

The definitions of agricultural employment vary among data sources. For example, the Census of Agriculture relates the definition of self-employment only to the farm operator, while the BEA Employment and Income data include the sole proprietor and partners. The CPS uses a self-employment concept which can be applied to either the agricultural industry or farming occupation groupings. Wage and salary farmworkers are defined by BEA (for most States) to include corporate farm officials, but these officials are excluded from wage and salary farmworker definitions used in the FLS and the Census of Agriculture. The FLS includes bookkeepers, accountants, sales people, and other professional staff people who work on the farm, while the Hired Farm Working Force Survey does not. The Hired Farm Working Force Survey includes packinghouse workers or processors if

Table 3—Numbers of agricultural workers reported by the major data series for selected years

Data series	Agricultural workers			Agricultural services wage and salary workers	
	Self-employed or farm operators	Wage and salary workers	Unpaid workers	All	Farm labor contractor workers only
	Thousands				
Establishment survey data:					
Census of Agriculture (1982)	2,241	4,856	—	—	—
Farm Labor Survey (July 1982)	1,620	1,541	948	289	—
Household survey data:					
Decennial Census of Population (1980)	1,285	1,297	140	—	—
Current Population Survey—					
Monthly survey (July 1982)	1,795	1,887	341	—	—
Annual averages (1981)	1,624	1,422	266	—	—
Farm population (1981)	1,633	1,547	317	—	—
March ADF (1983)	1,553	2,272	102	—	—
Hired Farm Working Force Survey (1983)	—	2,492	—	—	—
Administrative records data:					
ES-202 Program—					
BLS Unemployment Insurance covered employment (1981)	—	634	—	434	79
BEA Employment and Income (1981)	2,764	1,327	—	531	—
Social Security Program—					
County Business Patterns (1981)	—	—	—	272	4
Social Security Farmworker Statistics (1977)	—	2,443	—	—	—

— Indicates data were not available.

Note: Definitions of agricultural and agricultural service workers differ by data series. See text for description of each group of workers. Data years were selected as near to 1 year (1981) as possible to illustrate differences in data.

they worked on the farm, while the Unemployment Insurance Program and Social Security Program data exclude these workers if less than half the processed or packaged commodity is produced on the farm. The FLS excludes all persons working in a processing facility that materially changes the form of the product even though the work is done on the farm. Nearly all household surveys, as well as the FLS, collect information on unpaid workers. However, these workers are excluded from the Unemployment Insurance and Social Security Program data.

Users should also consult definitions of expenditures and earnings before selecting the best data series for answering their questions. A few commonly asked questions might be:

- Do the data series include measures of payments-in-kind and fringe benefits, or cash wages only?
- Are expenditure data for agricultural services and custom work reported separately?

- Do earnings data relate to all jobs during the year or just the primary activity during the survey week?

An issue data users frequently face relates to the use of agricultural industry or agricultural occupation data for measuring farm employment. *Industry* is generally defined as the primary activity at an establishment where business is conducted or services performed. Primary activity is determined by an establishment's principal product or group of products produced or distributed or services rendered. The SIC was developed for use in classifying establishments by type of activity, such as manufacturing, retail trade, or agricultural production.

Occupation is generally defined as the kind of work a person does at his or her place of employment. The Standard Occupational Classification was developed for classifying occupations, but because of its recent development, most data collection systems have not yet fully adopted this standard.

Table 4—Cost of labor, payroll, and wage and salary income reported by the major data series for selected years

Data series	Cash expenditure for wage and salary workers	Employer financed in-kind or fringe benefits for farmworkers	Farm labor contractors	Agricultural service workers	Custom work or machine hire
<i>Million dollars</i>					
Establishment survey data:					
Census of Agriculture (1982)	8,441 ¹	—	1,104	—	2,025
Farm Costs and Returns Survey (1981):					
ERS	7,775	1,362 ²	1,031	—	2,768
NASS	7,702	1,447 ²	733	—	1,965 ³
Administrative record data:					
ES-202 Program—					
BEA Employment and Income (1981)	11,001 ⁴	—	—	3,403 ⁵	—
BLS Unemployment Insurance covered employment (1981)	6,042	—	414	3,818	—
Social Security Program—					
County Business Patterns (1981)	—	—	40	3,035	—
Social Security Farmworker Statistics (1977)	6,270 ⁶	—	—	—	—

— Indicates data were not available.

Note: Data years were selected as near to 1 year (1981) as possible to illustrate differences in data.

¹Includes, in addition to cash wage or salary, expenditures for gross wages and salaries, commissions, paid bonuses, and leave pay before deductions, plus value of benefits paid by employer such as Social Security Tax and unemployment insurance. Payments-in-kind are not recorded by the Census of Agriculture.

²Includes payments-in-kind and employer's contributions for Social Security taxes, unemployment insurance, private welfare, and pension plans.

³Includes expenditures only for custom work.

⁴Includes payments-in-kind.

⁵Includes wage and salary earnings for farm labor contractors.

⁶Includes Social Security taxable farmworker wages only.

Household data, with the exception of the Farm Sector Productivity Data, provide information on both industry and occupation. The establishment and administrative sources reviewed here rely on an industry concept.

Agricultural industry and occupation data are not identical (table 5). Data from the 1980 Census of Population show that about 2.8 million workers are employed in agricultural industries while only 2.6 million are in farming occupations. Farming occupations include some activities such as cemetery caretakers, dog groomers, and groundskeepers which are not in agricultural industries. At the same time, agricultural industry contains such jobs as bookkeepers, truckdrivers, or mechanics who work in agricultural firms but are not included among farming occupations. About 2.4 million workers are classified in farming occupations in agricultural industries.

Population Universe and Availability of Data Items

While all of the data series reviewed here include some form of agricultural employment or expend-

Table 5—Employed civilians by industry and occupation, 1980

Industry	Occupation		Total
	Farming	Other	
<i>Thousands</i>			
Agriculture	2,380	380	2,760
Other	253	94,626	94,880
Total	2,633	95,006	97,640

Source: (22). Detail may not add to totals due to rounding.

iture data, the universe examined and the data items collected differ extensively. For example, data on the numbers of agricultural service workers or farm labor contractor employees are available from only a few sources—Farm Labor Survey (FLS), BLS Unemployment Insurance Covered Employment data, BEA Employment and Income data, and County Business Patterns (see table 2). Expenditure data for agricultural services are also limited to a small number of data sources. Information on demographic characteristics is available only from household survey data (Census of Population, Current Population Survey (CPS), or Survey of Income

and Program Participation). Establishment and administrative record data only report characteristics of the job, the employer, or the establishment. Information on hours worked per week are available from the FLS, CPS monthly file, Annual Demographic File, and the Farm Sector Productivity Data, but hours worked data from these series are not always provided for all worker groups. Data on H-2 workers are available only from USDL's administrative data, and the Hired Farm Working Force Survey is the only national level data source that collects information on migrant farmworkers.

Degree of Coverage

The household and establishment data series reviewed in this report are all based on samples of the population examined (see table 1).¹⁶ However, the reliability of the estimates from household and establishment data sources may be affected by sample size which varies considerably among the different series. For example, the Census of Population employment data is based on approximately 15.3 million households while the Current Population Survey data are based on approximately 60,000 households. Agricultural employment and labor expenditure data from the Census of Agriculture are collected from approximately 450,000 farms while the Farm Costs and Returns Survey collects information from approximately 24,000 farms.

Administrative record data more likely approximate a census count, even though both the Social Security Farmworker Statistics and Federal Tax Return employment data are obtained from samples. However, the universe of the administrative record data may be limited because of program definitions. The BLS Unemployment Insurance Covered Employment data, for example, are collected only from those employers covered by the Unemployment Insurance Program. The BEA Employment and Income data include information from employers covered by unemployment insurance supplemented with data from other sources for farm proprietors and employers not covered by unemployment insurance. County Business Patterns collects information only from agricultural service establishments required to contribute to Social Security, and Social Security Farmworker Statistics are collected only from farmworkers who are required to contribute to Social Security. However, even if an agricultural employer is covered by a

particular program, some types of farmworkers may be excluded due to program definitions.

Frequency of Collection

Certain data series, such as the Census of Population (taken every 10 years) and the Census of Agriculture (taken every 5 years), are limited in their use by the infrequency of data collection (see table 1). Other data series, such as the monthly Current Population Survey and the BLS Unemployment Insurance Covered Employment data, offer the advantage of more timely monthly data collection. Monthly data, for example, are often used to examine the shortrun effects of changes in weather, economy, or production levels on agricultural employment and expenditures. Annual data are often used for allocating farmworker program funds, assessing the economic well-being of farmworkers, and determining annual farm income. With the exception of the Censuses of Population and Agriculture, and the Hired Farm Working Force Survey, all data series reviewed here collect data on an annual or more frequent basis.

Age Criteria

Users should also be aware of different age criteria used in collecting agricultural employment and expenditure data. Employment information from the Census of Population, for example, is available for all civilians 16 years and older; the Current Population Survey collects employment information for those 14 years and older, but only publishes data for those 16 years and older. Employment data from establishment and administrative records are generally reported for all workers regardless of age.

Employment Reference Period

The reference period for employment is important when evaluating agricultural employment data. The Census of Population collects employment information based on the week before enumeration, generally the last week of March. The monthly Current Population Survey collects employment information each month based on 1 week containing the 12th day of the survey month. The Farm Labor Survey collects information from farm employers 3 times a year (4 times for some areas) relating to the 7-day period Sunday through Saturday which contains the 12th day of the survey month. On the other hand, County Business Patterns reports data for agricultural service establishments based on employment as of the pay period which contains March 12th. The Hired Farm Working Force Survey collects information on hired workers who

¹⁶ Although the Census of Agriculture and Decennial Census of Population are called censuses of farms and U.S. households, respectively, the employment data from these series are based on samples.

did farmwork at any time during the survey year. The Census of Agriculture reports data on labor expenditures and number of workers employed over the entire year, while most administrative data on employment are available monthly.

Employment reference period probably has less effect on the number of self-employed workers or farm operators than on unpaid and hired labor whose employment is more susceptible to the seasonality of agricultural production (29). Expenditure data collected from establishment surveys or administrative records filed by farm employers generally use a year as the reference period although the BLS Unemployment Insurance Covered Employment expenditure data are reported on a quarterly basis.

Published Versus Other Available Data

While much of the agricultural employment data from the sources described in this report are published, more detailed information can be obtained from computerized files or through special requests made to the responsible Federal agency. Micro-level data which allow analysis of individual records are available from the Decennial Census in a 1- or 5-percent sample and from the Current Population Survey. The Census of Agriculture data are available on computerized tape, but do not allow analysis of individual records. Several data sources, the Farm Sector Productivity Data, BEA Employment and Income data, and the Social Security Farmworker Statistics, can only be obtained by special request.

References

- (1) Agricultural Employment Work Group. *Agricultural Labor in the 1980's: A Survey with Recommendations*. U.S. Dept. Agriculture and Division of Agricultural Sciences, University of California, Berkeley, May 1982.
- (2) Association of Farmworker Opportunity Programs. *Toward an Equitable CETA 303 Allocation Formula for Farmworkers: The Impact of Definitions, Eligibility Criteria, and Data Bases*. Washington, D.C., July 1978.
- (3) Ball, V. Eldon. "Measuring Agricultural Productivity, A New Look." Staff Report. No. AGES840330. U.S. Dept. Agr., Econ. Res. Serv., May 1984.
- (4) Coltrane, Robert. *Immigration Reform and Agricultural Labor*. AER-510. U.S. Dept. Agr., Econ. Res. Serv., Apr. 1984.
- (5) Daberkow, Stan G. and Conrad F. Fritsch. "Agricultural Workplace Safety: A Perspective on Research Needs." *American Journal of Agricultural Economics*, Vol. 61, No. 4 (Nov. 1979) pp. 824-35.
- (6) Friedland, William H., Amy E. Barton, and Robert J. Thomas. *Manufacturing Green Gold: The Conditions and Social Consequences of Lettuce Harvest Mechanization*. California Agricultural Policy Seminar Pub. No. 22. Department of Applied Behavioral Sciences, University of California, Davis. 1978.
- (7) Gardner, Bruce L. "Minimum Wages and the Farm Labor Market," *American Journal of Agricultural Economics*, Vol. 54, No. 3 (Aug. 1972) pp. 473-76.
- (8) Hayes, Sue Eileen. "The California Agricultural Labor Relations Act and National Agricultural Labor Relations Legislation," *Seasonal Agricultural Labor Markets in the United States*. Ed. Robert Emerson. Ames, Iowa: Iowa State Univ. Press. 1984.
- (9) Holt, James S. and others. *Toward the Definition and Measurement of Farm Employment*. Proceedings of a Workshop on Agricultural and Rural Data. American Agricultural Economic Association and U.S. Dept. Agr., May 1977.
- (10) Krause, Kenneth R. *Indirect Farm Labor and Management Costs*. AER-496. U.S. Dept. Agr., Econ. Res. Serv., 1983.
- (11) Martin, Philip and Stanley S. Johnson. "Tobacco Technology and Agricultural Labor," *American Journal of Agricultural Economics*, Vol. 60, No. 4 (Nov. 1978) pp. 655-60.
- (12) National Commission on Employment and Unemployment Statistics. *Counting the Labor Force*. U.S. Government Printing Office, 1979.
- (13) Office of Management and Budget. *Standard Industrial Classification Manual*. U.S. Government Printing Office, 1972.
- (14) Pollack, Susan L. *The Hired Farm Working Force of 1983: A Statistical Profile*. AER-554. U.S. Dept. Agr., Econ. Res. Serv., June 1986.
- (15) Rochin, Refugio. "Farmworker Service and Employment Programs," *Seasonal Agricultural Labor Markets in the United States*. Ed. Robert Emerson. Ames, Iowa: Iowa State Univ. Press. 1984.
- (16) Simunek, R. and L. Poirer. "Comparing IRS Farm Data Trends with USDA Measures of Farm Income," *Economic Indicators of the Farm Sector, Farm Sector Review*, 1982. ECIFS 2-1. U.S. Dept. Agr., Econ. Res. Serv., May 1983.
- (17) Smith, Leslie Whitener and Robert Coltrane. *Hired Farmworkers: Background and Trends for the Eighties*. RDRR-32. U.S. Dept. Agr., Econ. Res. Serv., Sept. 1981.
- (18) Somers, Dixie. "Occupational Rankings for Men and Women by Earnings," *Monthly Labor Review*. Vol. 97, No. 8 (Aug. 1974) pp. 34-51.
- (19) U.S. Department of Agriculture, Economic Research Service. *Economic Indicators of the Farm Sector, Farm Sector Review*, 1983. ECIFS 3-2. Aug. 1984.
- (20) _____. *Economic Indicators of the Farm Sector, Production and Efficiency Statistics*, 1984. ECIFS 4-4. Feb. 1986.

- (21) _____. *Measurement of U.S. Agricultural Productivity, A Review of Current Statistics and Proposals for Change*. TB-1614. Feb. 1980.
- (22) U.S. Department of Commerce, Bureau of the Census. *1980 Census of Population. Occupation and Industry*. Subject Reports, Vol. 2, Series PC80-2-7C, May 1984.
- (23) U.S. Department of Labor, Employment Standards Administration. "Interim Migrant and Seasonal Agricultural Worker Protection Regulations," *Federal Register*. Vol. 48, No. 71 (Apr. 12, 1983).
- (24) _____, Bureau of Labor Statistics. *Employment and Earnings*. Monthly.
- (25) _____, Employment and Training Administration. *Comparison of State Unemployment Insurance Laws*. Sept. 1983.
- (26) _____. "Migrant and Seasonal Farmworker Programs, Fiscal Year 1984 Proposed State Planning Estimates," *Federal Register*. Vol. 48 No. 157 (Aug. 12, 1983).
- (27) U.S. Department of Treasury, Internal Revenue Service. *Agricultural Employer's Tax Guide—Circular A*. Pub. 51. 1983.
- (28) _____. *Farmer's Tax Guide*. Pub. 225. Revised Oct. 1982.
- (29) Whitener, Leslie A. "A Statistical Portrait of Hired Farmworkers," *Monthly Labor Review*. Vol. 107, No. 6 (June 1984) pp. 49-53.
- (30) _____. "The Migrant Farm Work Force: Differences in Attachment to Farmwork," *Rural Sociology*, Vol. 50, No. 2 (Summer 1985) pp. 161-78.

Appendix—Standard Industrial Classification (SIC)

The SIC was developed for classifying establishments by type of activity in which they are engaged; for the purpose of facilitating the collection, tabulation, presentation, and analysis of data relating to establishments; and for promoting uniformity and comparability in the presentation of statistical data collected by various agencies of the Federal Government and others. The structure of the classification makes it possible to tabulate and analyze data in a 2-digit, a 3-digit, or a 4-digit industry classification category. The SIC categories for the agricultural industry are identified at the 2, 3, and 4-digit levels as follows:

- 01 Agricultural production—crops
 - 011—Cash grains
 - 0111 Wheat
 - 0112 Rice
 - 0115 Corn
 - 0116 Soybeans
 - 0119 Cash grains, not elsewhere classified
 - 013—Field crops, except cash grains
 - 0131 Cotton
 - 0132 Tobacco
 - 0133 Sugar crops
 - 0134 Irish potatoes
 - 0139 Field crops, except cash grains, not elsewhere classified
 - 016—Vegetables and melons
 - 0161 Vegetables and melons
 - 017—Fruit and tree nuts
 - 0171 Berry crops
 - 0172 Grapes
 - 0173 Tree nuts
 - 0174 Citrus fruits
 - 0175 Deciduous tree fruits
 - 0179 Fruit and tree nuts, not elsewhere classified
 - 018—Horticultural specialties
 - 0181 Ornamental floriculture and nursery products
 - 0182 Food crops grown under cover
 - 0189 Horticultural specialties, not elsewhere classified
 - 019—General farms, primarily crop
 - 0191 General farms, primarily crop
- 02 Agricultural production—livestock
 - 021—Livestock, except dairy, poultry, and animal specialties
 - 0212 Beef cattle, except feedlots
 - 0213 Hogs
 - 0214 Sheep and goats
 - 0219 General livestock, except dairy, poultry, and animal specialties
 - 024—Dairy farms
 - 0241 Dairy farms
 - 025—Poultry and eggs
 - 0251 Broiler, fryer, and roaster chickens
 - 0252 Chicken eggs
 - 0253 Turkey and turkey eggs
 - 0254 Poultry hatcheries
 - 0259 Poultry and eggs, not elsewhere classified
 - 027—Animal specialties
 - 0271 Fur-bearing animals and rabbits
 - 0272 Horses and other equines
 - 0279 Animal specialties, not elsewhere classified
 - 029—General farms, primarily livestock
 - 0291 General farms, primarily livestock
- 07 Agricultural services
 - 071—Soil preparation services
 - 0711 Soil preparation services
 - 072—Crop services
 - 0721 Crop planting, cultivating, and protection
 - 0722 Crop harvesting, primarily by machine
 - 0723 Crop preparation services for market, except cotton ginning
 - 0724 Cotton ginning
 - 0729 General crop services
 - 074—Veterinary services
 - 0741 Veterinary services for livestock, except animal specialties
 - 0742 Veterinary services for animal specialties
 - 075—Animal services, except veterinary
 - 0751 Livestock services, except services for animal specialties
 - 0752 Animal specialty services
 - 076—Farm labor and management services
 - 0761 Farm labor contractors and crew leaders
 - 0762 Farm management services
 - 078—Landscape and horticultural services
 - 0781 Landscape counseling and planning
 - 0782 Lawn and garden services
 - 0783 Ornamental shrub and tree services

Source: (13).





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