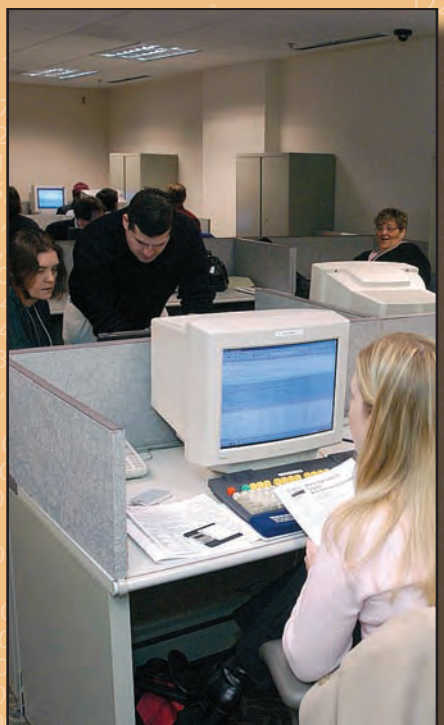
U.S. Department of Agriculture

National Agricultural Statistics Service

The Fact Finders For Agriculture



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Introduction

American agriculture is continually counted, measured, priced, analyzed, and reported to provide the facts needed by people working throughout this vast industry.

Each year, the employees of US Department of Agriculture's National Agricultural Statistics Service (NASS) conduct hundreds of surveys and prepare reports covering virtually every facet of U.S. agriculture–production and supplies of food and fiber, prices paid and received by farmers, farm labor and wages, farm income and finances, chemical use, rural development, and many other aspects of the industry. In addition, NASS's 46 field offices publish data about many of the same topics for local audiences.

NASS publications cover a wide range of subjects, from traditional crops, such as corn and wheat, to specialties, such as mushrooms and flowers; from agricultural prices to land in farms; from once-a-week publication of cheddar cheese prices to detailed census of agriculture reports every 5 years. The abundance of information produced has earned for NASS employees the title, "The Fact Finders for Agriculture."

The NASS Mission:

To provide timely, accurate, and useful statistics in service to U.S. agriculture.

The Importance of Agricultural Estimates

NASS Surveys, Estimates, and Forecasts

In contrast to the census approach, NASS sample surveys provide estimates and forecasts about agriculture based on statistically valid information collected from a cross-section of a specific group-such as cattle feedlot managers, grain elevator operators, or cherry growers.

An *estimate* is a determination of size or value and, in NASS, refers to an event that has already occurred, such as last year's wheat harvest or cattle inventory. A *forecast*, in contrast, is an approximation of what may occur by the end of the season, such as average corn yield or total production.

Forecasts are based on early and tentative information and on the assumption that average conditions will prevail through the end of the season. Although used primarily in conjunction with crops, forecasts are also prepared for other types of statistics, such as farrowing intentions of hog farmers.

Census of Agriculture

The national Census of Agriculture is conducted every 5 years. In some ways it resembles the population census with which most Americans are familiar. The census of agriculture produces a complete count of farms and agricultural production just as the population census counts and collects data about every man, woman, and child in this country.

It would be hard to overestimate the importance of NASS's work or its contribution to U.S. agriculture. Producers, farm organizations, agribusinesses, lawmakers, and government agencies all rely heavily on the information produced by NASS.

Statistical information on acreage, production, stocks, prices, and value is essential for the smooth operation of Federal farm programs. It is also indispensable for planning and administering related Federal and State programs in such areas as consumer protection, conservation and environmental quality, trade, education, and recreation.

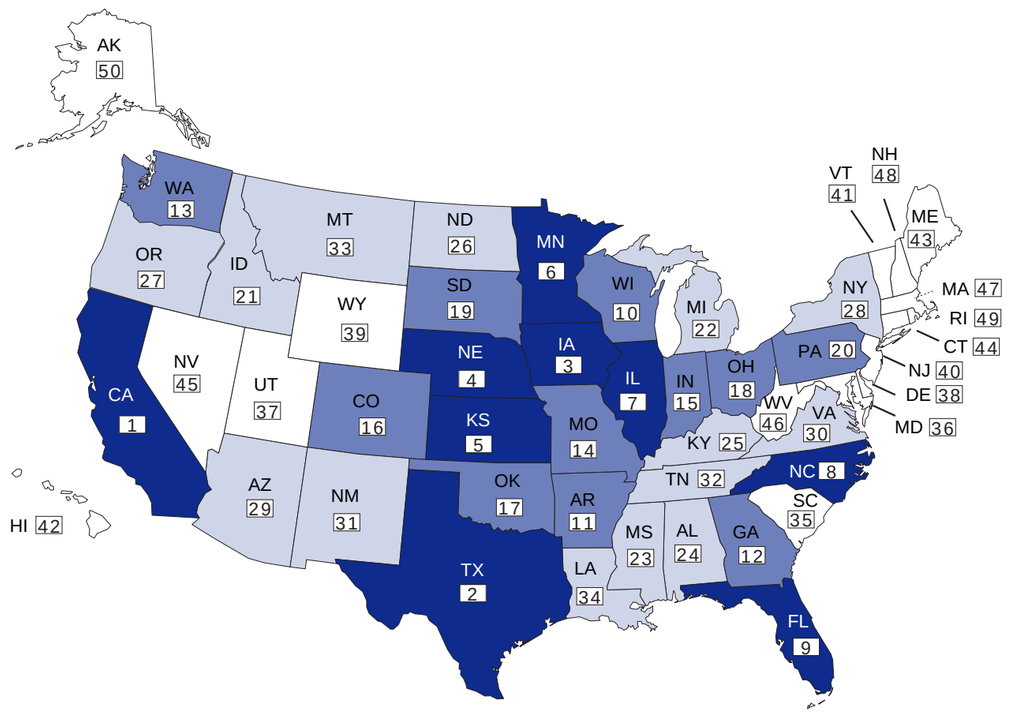
Moreover, the regular updating of information helps to ensure an orderly flow of goods and services among agriculture's production, processing, and marketing sectors. Reliable, timely, and detailed crop and livestock statistics help to maintain a stable economic climate and minimize the uncertainties and risks associated with the production, marketing, and distribution of commodities.

Farmers and ranchers rely on NASS reports in making various production and marketing decisions. The reports help them decide on specific production plans, such as how much corn to plant, how many cattle to raise, and when to buy or sell agricultural commodities.

NASS estimates and forecasts are greatly relied upon by the transportation sector, warehouse and storage companies, banks and other lending institutions, commodity traders, and food processors. Those in agribusiness who provide farmers with seeds, equipment, chemicals, and other goods and services study the reports when planning their marketing strategies.

Analysts transform the statistics into projections of coming trends, interpretations of the trends' economic implications, and evaluations of alternative courses of action for producers, agribusinesses, and policymakers. These analyses multiply the usefulness of NASS statistics.

States Ranked by Cash Receipts



The top 9 States comprise 49.5 percent of total cash receipts:
CA, TX, IA, NE, KS, MN, IL NC, FL

The next 11 States comprise 25.8 percent of total cash receipts:
WI, AR, GA, WA, MO, IN, CO, OK, OH, SD, PA

The next 14 States comprise 19.9 percent of total cash receipts:
ID, MI, MS, AL, KY, ND, OR, NY, AZ, VA, NM, TN, MT, LA

The remaining 16 States comprise 4.8 percent of total cash receipts:
SC, MD, UT, DE, WY, NJ, VT, HI, ME, CT, NV, WV, MA, NH, RI, AK

Source: USDA, Economic Research Service, 2005 Cash Receipts

The History of Agricultural Statistics

What is a Farm?

The farm definition has changed several times over the history of agricultural data collection. The definition of a farm was first established in 1850 and has changed nine times. Since 1974, a farm has been defined as "any establishment from which $1,000 or more of agricultural products were sold or would normally be sold during the year." The current definition was first used for the 1974 census. The farm definition used for each U.S. territory varies. The report for each territory includes a discussion of its farm definition.

USDA estimates include institutional farms, experimental and research farms, Indian reservations, and places with the entire acreage enrolled in the Conservation Reserve Program (CRP), Wetlands Reserve Program (WRP), or other government programs. They exclude public, industrial, and grazing association land. The USDA counts government payments as part of annual farm sales.

The history of collecting data on U.S. agriculture dates back at least as far as President George Washington, who kept meticulous statistical records describing his own and other farms. The 1790 census counted some 4 million Americans, 9 out of 10 of whom lived on farms: the modern distinction between producers and consumers did not then exist. At that time, concerns about what crops to plant and how to ensure a bountiful harvest dominated the agricultural scene.

In 1791, President Washington, spurred by an inquiry from an Englishman named Arthur Young, wrote to several farmers requesting information on land values, crops, yields, livestock prices, and taxes. It was, in effect, the Nation's first agricultural survey. Washington himself prepared the survey and compiled the results. Between September 24 and November 18, 1791, he sent Young three letters–in a sense, the Nation's first crop report–that provided agricultural statistics on an area extending roughly 250 miles from north to south and 100 miles from east to west. The strip ran through an area that is today Pennsylvania, West Virginia, Maryland, Virginia, and the District of Columbia, where most of the young country's population lived. But the first President met with defeat when in 1796 he proposed the establishment of a National Board of Agriculture: Congress rejected the idea.

The next major step forward in agricultural data collection came in 1839, when Commissioner of Patents Henry Ellsworth made his mark on agriculture. He prevailed upon Congress to designate $1,000 from the Patent Office Fund for "collecting and distributing seeds, carrying out agricultural investigations, and procuring agricultural statistics."

Then, in 1840, detailed agricultural information was collected through the first Census of Agriculture, which provided a nationwide inventory of production. When the 1840 census information arrived, Ellsworth was able to combine it with other information to estimate production by States and territories. His estimates, made yearly through 1844, established the general pattern of annual agricultural reports that continues to this day.

USDA itself was established by Abraham Lincoln in 1862. He called it "the people's department," and its first crop report appeared in July 1863. NASS traces its roots all the way back to 1863, when USDA established a Division of Statistics.

During the Civil War, USDA collected and distributed crop and livestock statistics to help farmers assess the value of the goods they produced. At that time, commodity buyers usually had more current and detailed market information than did farmers, a circumstance that often prevented farmers from getting a fair price for their goods. Producers in today's marketplace would be similarly handicapped were it not for the information provided by NASS.

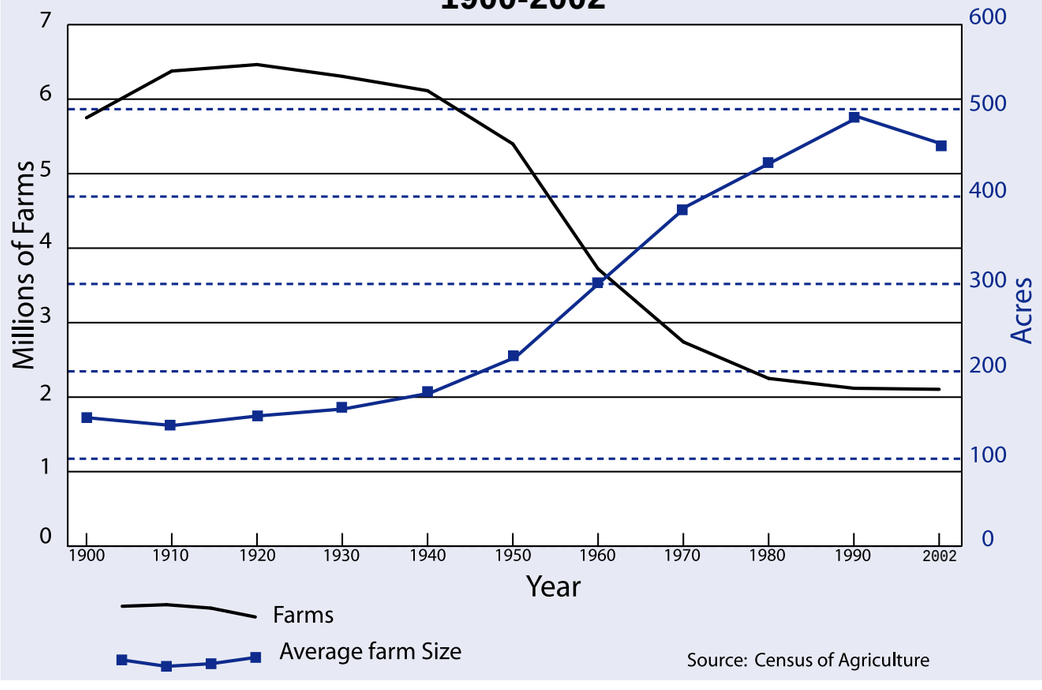
The creation of USDA's Crop Reporting Board in 1905 (now called the Agricultural Statistics Board) was another landmark in the development of a nationwide statistical service for agriculture. A USDA reorganization in 1961 led to the creation of the Statistical Reporting Service, known today as the National Agricultural Statistics Service, of which the Agricultural Statistics Board is a part.

The Agricultural Statistics Board prepares and releases the NASS reports. It consists of a permanent chairperson and secretary, and other NASS staff members chosen to participate in the preparation of a specific report based on their detailed knowledge of a particular topic.

Land in Farms

Land in farms consists of agricultural land used for crops, pasture, or grazing. It also includes woodland and wasteland not actually under cultivation or used for pasture or grazing, provided it was part of the farm operator's total operation. Land in farms includes acres in the Conservation Reserve and Wetlands Reserve Programs.

Number of Farms and Average Farm Size
1900-2002



Source: Census of Agriculture

Cooperative Agreements: The Foundation of Surveys

NASS carries out its many surveys with the support of State departments of agriculture, land-grant universities, and the agricultural industry, details of which are outlined in a series of cooperative agreements. The agreements provide financial support from State governments and sectors of the agricultural industry, enabling NASS to collect detailed data on commodities important to local economies, county estimates, and other items not covered by Federal funds. Through its network of field offices, NASS works closely with producer organizations in the States.

The cooperative programs enhance the effectiveness of agricultural estimates in the States and, even more important, prevent duplication of effort in acquiring data from operators and in setting estimates of States' agricultural production.

This tradition of cooperation has served U.S. agriculture well. Cooperative agreements generate a great deal of information at minimal cost, lighten the burden on survey respondents, and help maintain consistency in the estimates produced by different public agencies.

NASS Surveys: The Foundation of Estimates

The primary sources of information for NASS reports are those who know the most–farmers and ranchers, livestock feeders, slaughterhouse managers, grain elevator operators, and other agribusinesses–who also make extensive use of forecasts and estimates. Their cooperation is absolutely vital to a workable and meaningful estimating program. NASS relies on survey respondents to voluntarily supply data for most reports.

The success of this cooperative relationship can be attributed to respondents' recognition of the importance of the survey results and to the confidential treatment NASS accords all data on individual operations.

The information for NASS surveys is gathered in a variety of ways: mail surveys, telephone interviews, electronic data reporting (EDR) face-to-face interviews, and field observations.

Probability Surveys

Most estimates are based on data collected from a sample of a given population. The samples are designed so that the chance, or probability, of including a particular operation in the sample is known before the survey is carried out. The sample data can be used to measure how much the survey estimates could differ from the population values. This measure of variability, due to selecting a sample rather than collecting data from each member of the population, as in a census, is called the sampling error.

The data from a probability-based sample can then be used to make precise inferences about the population. This survey technique has distinct advantages over a census: it takes less time, costs less, and can actually be more accurate because fewer errors are made in reporting and handling the smaller quantities of data. Also, the results of the survey stand alone; they do not depend on relationships to other sets of data, such as the Census of Agriculture.

NASS employs two basic techniques to sample farmers, ranchers, and agribusinesses: area frame sampling and list frame sampling.

Area Frame Samples

In area frame sampling, NASS relies on satellite imagery, aerial photos, and maps to divide the U.S. land area into small segments. An average segment might be about 1 square mile, and each has unique and identifiable boundaries outlined on aerial photographs or maps. An area frame sample is a random selection of these segments drawn onto aerial photos. Field investigators called enumerators visit the segments and record information about agricultural activity within the segment boundaries.

The area frame technique can be used to collect information about crops, operator households, animals, grain storage facilities, environmental factors, and so on.

In most States, the segments in the area frame are classified for sampling purposes into four broad categories: land intensively cultivated

for crops; land used primarily for livestock production; residential and business areas in cities and towns; and areas devoted to parks, military installations, and other uses.

The area frame sample provides continuous coverage of all agricultural activity in the United States, regardless of changes in farm boundaries and management. This sampling technique guards against omission or duplication in the statistics.

List Frame Samples

NASS also uses list frame sampling for many of its survey programs. Samples are drawn from a list containing names, addresses, telephone numbers, and other descriptive data on producers and agribusinesses. Using these descriptive data, list samples can be targeted to the producers of the commodities of interest for a survey. List frame samples can be more efficient and precise than area frame samples if the list frame information is relatively accurate, especially for surveys on rare commodities. A survey using a list frame sample can cost less than an area frame survey since the data can be collected by mail or telephone. Area frame sampling requires face-to-face interviews, which are more costly.

NASS keeps the list frame as complete as possible, especially for the larger producers, by obtaining records for new or omitted operations from other USDA lists, producer association lists, and other sources.

Multiple Frame Samples

NASS often combines data from list frame and area frame samples to provide estimates for a survey program. Although NASS attempts to maintain a complete and up-to-date list frame, it is still incomplete. In a multiple frame survey, the area frame data are used to account for the incompleteness of the list frame. The operators identified in the area frame sample are name-matched against the list frame. Data are then collected from the area frame operators who are not found on the list frame. These area frame data are combined with the list frame sample data to provide multiple frame estimates for each survey item.

Annual Multiple Frame Survey Programs

Each June, NASS conducts an area frame survey, in which farmers located in area frame segments are visited by enumerators to get a first-hand accounting of their agricultural activities. This survey collects data on crop acreage, grain stocks, number of farms and land in farms, livestock inventories, pigs farrowed, calves born, farm labor, and other items for State, regional, and national estimates.

The area frame sample for June contains about 10,000 area segments–roughly 0.5 percent of the total land area in the 48 contiguous States–which translates into interviews with roughly 39,000 farm operators. After locating each area frame operator, the enumerator explains the purpose and importance of the survey and asks a number of questions. The enumerator carefully records all of the operator's answers. Questionnaires are then sent to the local NASS field office, where they are checked for completeness and consistency. Data are combined from the list frame and area frame samples to provide multiple frame estimates for numerous survey items.

Surveys at other times of the year combine data from area frame operators who are not on the list frame with list frame sample data to provide survey estimates of crop acreage, crop production, and livestock inventories.

Quality controls have been built into the data collection process to ensure the accuracy of survey results. These safeguards include careful selection and training of enumerators, use of detailed instruction manuals, careful field supervision, questionnaire checks, comparison of reported acreages with those measured on the aerial photographs, and follow-up visits to some segments.

Objective Yield Surveys

During the growing season, crop conditions and yields are monitored in thousands of fields by enumerators who count the number of plants and, later in the season, count and measure ears, pods, bolls, and so on. The crop development data gathered through these objective yield surveys are used to forecast yields and/or project production for corn, wheat, cotton, soybeans, potatoes, burley tobacco, onions, and a variety of fruits and nuts.

With the farmer's permission, an enumerator walks a randomly chosen number of paces into a selected field and marks off a small sample plot–no matter what the condition of the crop at that location. This practice minimizes selection bias that could skew the final estimate.

At the designated field location, the enumerator counts the number of plants and measures the distance between rows to determine plant population per acre. Then the enumerator counts immature and mature fruit, such as cotton blooms and bolls; soybean branches, nodes, and pods; wheat heads and spikelets; or ears of corn; and records the crop's stage of development. With the data on plant population per acre and projected yield per plant, statisticians can forecast yield per acre at the State level. All objective yield surveys except potatoes require enumerators to repeat their visits to the sample plots several times during the growing season. When the crop reaches maturity, they harvest a portion of each plot by hand, and send samples to a laboratory for weight and moisture analysis. When the farmer harvests fields containing the plots, enumerators make their final visits to the sample plots to determine harvesting losses and estimate net yields.

Remote Sensing

Information gathered by satellites supplements that collected by enumerators. There are several types of satellites circling the globe in continuous polar orbits, collecting and transmitting information about the Earth's resources and weather. These satellites measure

Objective Yield Surveys for Major Field Crops

Crops	States	Sample Plots	%U.S. crop*
Corn	10	2,090	84
Winter Wheat	10	1,410	72
Soybeans	11	1,865	84
Cotton	7	1,310	79
Potatoes	7	1,380	83

*Percent of total U.S. production in Objective Yield States

energy reflected by the Earth's surface or atmosphere at the unit of measurement called a picture element or pixel. The pixel size varies greatly from satellite to satellite. The pixels create a map of a particular area which can be used to assess weather patterns, crop progress, or crop acreage.

The National Oceanic and Atmospheric Administration's weather satellites supply NASS with one type of data. These satellites use the advanced, very-high-resolution radiometer (AVHRR) sensor. The U.S. Geological Survey prepares vegetation vigor indices based on the AVHRR sensor readings; NASS statisticians compare the indices over time to monitor crop development and stress.

Inference on crop condition can be derived by subtracting one year's index from the next year's index and making a determination about how it compares with crop development in a typical year: much lower, lower, essentially the same, higher, or much higher than average. USDA policymakers used such data to help assess the impact of the massive Midwest flood of 1993 and the mid-Atlantic drought of 1999.

The limitations of the AVHRR data are primarily related to pixel size; each pixel represents approximately 230 acres. The data cannot yet be reliably turned into crop-specific yields, but are excellent for timely views of large areas that are behind or ahead of previous seasons, or areas that are under stress due to drought, excessive moisture, or disease. Every 2 weeks, products based on AVHRR data are loaded to the NASS web site and provide a valuable view of the Nation's vegetation for crop analysts, statisticians, and the general public.

The Landsat satellites provide another type of data. These satellites record reflected energy in seven different wavelengths of light, three in the visible wavelengths and four in the infrared wavelengths. Each pixel represents about one quarter of an acre, so detailed information can be obtained. NASS statisticians combine the information gathered by enumerators from the area frame sample with imagery from the Landsat satellites to produce remote sensing based estimates of planted acres in several States. The current satellite technology applied to crop estimation has certain limitations. In particular, the satellite imagery can be rendered ineffective by cloud cover.

NASS produces a Cropland Data Layer as a by-product of the remote sensing based estimation program. This data layer is suitable for input into most commercially available geographic information systems software. The data layer provides crop-specific land cover information that can be used for a variety of agriculturally related activities.

The Census of Agriculture

The Census of Agriculture is conducted every 5 years to take a snapshot of America's agriculture. This picture, when compared to earlier censuses, helps to measure trends and new developments in the agricultural sector of our Nation's economy. The census is critical because it provides the only source of comparable and consistent detailed data about agriculture at the county level.

Census History

The 1997 Census of Agriculture has historical significance because it was the first conducted by the USDA's NASS. The 1997 Appropriations Act shifted responsibility for the Census of Agriculture from the U.S. Bureau of the Census, where all previous Censuses of Agriculture were conducted, to NASS.

The first Census of Agriculture was taken in 1840 as part of the sixth decennial population census. The census remained a part of the decennial census through 1950, with separate mid-decade Censuses of Agriculture taken in 1925, 1935, and 1945. As time passed, census years were adjusted until the reference year coincided with the economic censuses covering other sectors of the Nation's economy. Currently, the agriculture census is conducted for years ending in 2 and 7.

Unique Qualities of the Census

Response to the census is required by law. However, NASS prefers to seek the willing cooperation of farmers and ranchers rather than to enforce the mandatory reporting requirement. That same law protects the privacy of respondents by requiring that all individual reports be kept strictly confidential–responses cannot be shared with any individual or entity, whether government or private. Data from the census may only be published in aggregated statistical totals that do not reveal individual information.

A distinctive aspect of the census is that it is the only attempt to enumerate every farm and ranch operation in the United States. This goal is conscientiously pursued through mailings, telephone calls, and, in rare instances, personal visits from enumerators. Only with complete and accurate responses can NASS produce quality results.

A farm is defined as a place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year. This farm definition has changed nine times throughout history. This current definition has been in effect since 1974.

Determining Census Content

The Advisory Committee on Agriculture Statistics provides regular comments and recommendations on issues ranging from census and survey content and methodology to data items for inclusion in the published results. The committee includes representatives from farm organizations and associations, universities, trade and industrial associations, and State and Federal agencies. This group traditionally provided advice and review regarding the census. However, the committee's scope has been expanded to cover other NASS surveys and issues.

Structure and Data Topics

NASS provides census data tabulated for all counties, States, and the Nation. Selected items are published at the Congressional district and ZIP code levels. Statistics provided include:

- land use and ownership
- crop acreages, quantities harvested, and value of sales
- irrigation
- livestock and poultry inventories and sales
- organizational structure
- operator characteristics
- number of hired workers and migrant workers
- production expenses
- machinery and equipment
- farm program participation
- production contracts/landlord shares
- market value of land and buildings
- fertilizer and chemical use
- income from farm-related sources
- grain storage capacity
- organic farming
- computer/Internet use

Methodology

Report forms are mailed to all known or potential farm and ranch operators in late December of the census year. The report forms include a toll-free number for respondents who have questions or need help. Nonrespondents are sent additional requests by mail. Those who do not return a completed report by mail are called and, if necessary, visited in person to obtain their response. NASS also measures the completeness of the farm counts based on data obtained from the June Area Survey in the reference year.

Special Studies

NASS conducts additional studies in conjunction with the census. Depending on needs, funding, and changes in the agricultural sector, these may include a farm And Ranch Irrigation Survey, Census Of Horticultural Specialties, and Aquaculture Census.

Comparison With Other NASS Surveys

The census is used as a benchmark for current NASS surveys which are repeated at more frequent intervals. Although the census is conducted once every 5 years, NASS's current estimates are prepared more often, such as annually, seasonally, monthly, and even weekly. By definition, the census is designed to enumerate every farm and ranch operation, while other NASS surveys are based on scientifically valid samples.

The Estimating Programs

To prepare its reports, NASS collects information from several sources, of which the sample surveys are extremely important. Statisticians then interpret the information to prepare estimates and forecasts.

Crops

The crop estimating program reports on farmers' planting intentions, estimates of acreage actually planted and expected to be harvested, and forecasts of yield and production during the growing season. During the marketing year, on- and off-farm stocks estimates are determined for the major crops. Each January, NASS publishes an annual report summarizing production for major crops over the past 3 years and the following month publishes another report showing values for major crops for the same period.

Through the midyear and other quarterly probability surveys, information is collected on acreage, yield, production, and grain stocks on-farms. Surveys conducted between quarters are used to gather information on crop condition and yields. Off-farm grain stocks are measured quarterly using a sample consisting of primarily commercial grain storage facilities.

Livestock

The estimating program for livestock measures several major categories: inventory numbers and value, breeding and farrowing intentions, production, slaughter, stocks, dairy product prices, and feeding operations.

The majority of livestock, dairy, and poultry estimates are based largely on probability surveys. However, the cattle on feed survey is a census of 1000+ capacity feedlots, and the dairy products prices survey is a census of all plants selling at least 1 million pounds of cheese, butter, nonfat dry milk or dry whey a year. Near-total counts are made for some items, such as slaughter, cold storage, hatching data, and other specialty items. Data are collected through mail surveys as well as face-to-face and telephone interviews.

County Estimates

County estimates are the result of data collection programs at both the Federal and State level. The success of State-level cooperative agreements is due in large part to the county estimates program. States are willing to cooperate with NASS in exchange for data that describe their agricultural economies at the county or district (multi-county) level. These can include commodities particularly important to the State and local economies.

The many sectors that make up the agriculture industry depend on county estimates when pinpointing production shifts and concentrations, determining sales areas and markets, and locating new processing plants. These estimates are enhanced through detailed data available through the 5-year Census of Agriculture.

NASS prepares and publishes annual crop data to support the USDA Farm Programs. County data are prepared and published for additional crop commodities through cooperative programs with local

State departments of agriculture and land grant universities. These cooperative programs also support creation of selected annual livestock inventory estimates by county. The availability of county-level data varies among States, depending on the importance of the commodity and the level of support provided by cooperators.

Most county estimates are prepared from surveys mailed to a large sample. The samples for these surveys accomplish several important things. Many respondents are included in the sample from one year to the next, so that year-to-year changes can be measured. Farm operation changes detected in the county estimates program are used to update the list frame. Most operators in the sample have not been surveyed earlier in the year, so the individual operator's response burden is minimized. Data from the census of agriculture are used in setting livestock county estimates for census years.

The current system for county estimates merges the procedures and data with those of other surveys (cattle, sheep, and quarterly agricultural surveys, to name a few). This approach helps to distribute the larger operations within the county estimates, thereby strengthening their validity. The county estimates are also employed in weighting other NASS reports back to the districts to ensure that the reports from a particular district are accorded their proper weight, or significance; those districts with the highest acreage, for instance, receive the greatest weights.

Chemical Use

In 1989, NASS began surveying the use of pesticides and commercial fertilizers on farms in support of the President's Water Quality Initiative and USDA's Food Safety Initiative.

Before the program was instituted, statistically reliable and readily available information on the amount and types of chemicals used in agriculture was quite limited. Consequently, neither USDA nor other concerned parties could respond adequately to questions of agricultural chemical use and its possible effects on food safety and water quality.

Since 1996, the Agricultural Resource Management Survey has been conducted in cooperation with the Economic Research Service (ERS). It has further enabled NASS to publish accurate chemical use statistics, provided ERS the ability to conduct economic analyses relating to field crop chemical usage and farm financial data, and enhanced both agencies' estimation programs by building environmental and economic databases. The chemical use database is proving an invaluable tool to Federal agencies in assessing the benefits and risks of pesticide use, and to State agencies in determining how well actual agricultural practices accord with environmental quality standards. Moreover, the database is essential to the sound evaluation of existing and proposed programs and policies that could affect food production, consumer prices, and farm income.

Chemical use statistics on field crops are published each year, while information on either fruits or vegetables is released in alternate years.

Labor

Multiple frame sample surveys are used to collect data on the number and types of agricultural workers and wage rates. These data series are generally compatible with employment and wage series compiled by other Federal agencies.

The total agricultural workforce includes self-employed workers, unpaid workers, and hired employees. Hired workers are classified by the principal type of work they do–field, livestock, supervisory, or other activities.

Farms and Land in Farms

Each year, NASS issues a report showing number of farms and land in farms by State. These estimates reflect data collected in the midyear and end-of-year surveys, and the census of agriculture.

Prices, Costs, and Returns

Each month, NASS estimates the prices farmers receive for certain agricultural commodities. The estimates reflect sales of all classes and grades of each commodity and are used to compute cash receipts and value of production. Those who administer Federal farm programs use the series to establish payments for the various programs.

Prices paid for production inputs (fuel, electricity, seeds, pesticides, fertilizers, and so forth) are collected quarterly from merchants and dealers selling to farmers and ranchers. The data are used to determine the index of prices paid, an indicator of changes in production costs caused by fluctuations in prices.

Index, price, and expenditure data provide the core of information used to determine farm income, costs of production, and the general economic vigor of U.S. agriculture. The series plays a critical role in the decisions and actions of agricultural policymakers in the public and private sectors.

Estimate Revisions

Estimates are revised periodically to provide a better foundation for current and future estimates. Revisions are made when sufficient data become available to check the accuracy of the original estimates. For example, end-of-year estimates of livestock inventories are compared with records of livestock slaughtered under Federal inspection and other data in the following year; if necessary, the original estimates are revised. Similarly, additional data about crops after harvest may mean production estimates have to be adjusted. Estimates are re-evaluated and revised to determine the most accurate benchmark against which to weigh current survey data: new data must be compared with accurate historical data to produce the most reliable estimates.

The Integrity of Estimates

A number is no better than the reputation of the organization that stands behind it. The public must be able to depend on the timeliness and reliability of the data and the integrity of the organization issuing it. NASS strives to preserve a relationship of mutual respect and trust with those who supply and those who use its information. It provides meaningful, credible, and impartial statistics that can be relied upon in evaluating programs and policies. It is, therefore, essential that NASS be free of political influence and policy advocacy.

In addition, NASS must fulfill its responsibility to individual respondents by taking precautions to ensure that their survey answers remain confidential, by informing them of the ways in which the data will be used, and by adhering to those specified uses. Finally, NASS must release its information in as public a manner as possible so that all interested parties have equal access to the data at the same time.

Throughout the year, farmers, business people, and officials base decisions involving billions of dollars on the agricultural estimates of NASS. Their willingness to do so reveals the extent to which both the private and public sectors have come to depend on NASS information.

The laws, regulations, and procedures governing the operation of NASS's Agricultural Statistics Board, which issues the reports, clearly reflect this overriding need for integrity, reliability, and impartiality. The Titles and Sections of the United States Code specifically addressed to crop and livestock estimates decree the security procedures, confidentiality of reported data, and exact timing of the release of major reports.

Federal statutes and regulations have long prohibited employees from discussing data reported by individuals. Penalties can be imposed on any employee who discloses any information before the release of a report, or who trades speculative commodities. An employee committing such an offense is guilty of a class E felony and subject to a $250,000 fine and/or 5 years in prison. Similarly, an employee who deliberately issues false information faces a fine or 5 years in prison, or both.

The Food Security Act of 1985 bolstered USDA's ability to protect the confidentiality of information provided by producers, agribusinesses, and others participating in the surveys. It states that data can be used only for statistical purposes and must be converted into statistical or aggregate form before being made public. As soon as the data are converted, the NASS survey forms are destroyed. Copies of the forms kept by survey participants are immune from mandatory disclosure, including legal process.

Report Procedures

The Agricultural Statistics Board exemplifies the care NASS exercises to safeguard the integrity of the estimates.

Production forecasts for corn, wheat, cotton, soybeans, and oranges are defined by law as speculative because they are traded on commodity markets. Anyone having early access to this information would have an obvious advantage in trading, so the Agricultural Statistics Board goes to great lengths to prevent it.

The NASS field offices transmit data and comments on speculative commodities to the Secretary of the Agricultural Statistics Board through the NASS computer system using special encoding equipment. Upon transmission, the encoded data are saved on diskettes, which are placed in pouches and locked in a safe. The files are then purged from the system.

NASS employees prepare the official estimates in an area that is kept locked and guarded by officers stationed outside in the hallways. Opaque vinyl shades with steel reinforcers are drawn over windows and sealed to prevent unauthorized observation. All telephones are disconnected, and computer systems are secured against tampering. The "lockup" area is monitored to detect the presence of electronic surveillance equipment. Anyone entering the area is prohibited from leaving or contacting anyone outside until the report has been released. Copies of the report are printed within the lockup area.

After the lockup area has been secured, the diskettes are removed from the safe and files decrypted. Analysts review the survey data and field office recommendations to determine national and State estimates.

To maintain tight security while permitting quick public access to statistical data, special procedures have been established for news services. Work stations have been installed within the lockup area so that news services can access reports an hour ahead of release and prepare their tables and narratives. Telephone communications are restored at release time and they can electronically transmit their material.

NASS also observes strict security precautions for reports dealing with nonspeculative commodities. The analysts work on these reports in restricted areas, and only those directly involved in report preparation are permitted access to the information.

No unauthorized person has access to the data or analysis in a report before it is issued. Not even the Secretary of Agriculture knows a report's details until entering the lockup area to sign it just before release.

The Agricultural Statistics Board presents its reports in printed and electronic form to the waiting public and press, adhering to a schedule announced before the beginning of each year.

International Programs

NASS technical support is not confined to the domestic sphere. Through the agency's International Programs work, NASS has been helping to establish and improve agricultural statistics programs in countries around the world since the end of World War II.

Hunger, shortfalls in regional food production, and lack of reliable information on the agricultural sector are major concerns in many countries. Improved agricultural data systems can provide more and better information to address these issues.

NASS specialists provide technical assistance and training on a reimbursable basis in all aspects of statistical surveys and data systems. The aim is to develop stronger statistical organizations and increase the skills of individual employees. Emphasis is on continuity and the consistent use of statistically sound procedures, so that more reliable and timely agricultural information can be provided at less cost.

The benefits of such assistance extend beyond serving the interests of the various countries. By helping other countries improve their agricultural statistics systems, USDA's ability to assess world food and fiber production is also improved. Establishing strong working relationships with other agricultural statisticians around the world allows NASS staff to gather and develop new ideas for improving the U.S. agricultural statistics system, while exposure to other cultures and work situations enhances NASS employees' abilities to solve problems.

NASS's international projects have covered the globe and a wide array of statistical activities, including:

- Review of sample survey and census programs;
- Development of sampling frames, both area and list;
- Design of more efficient survey samples;
- Testing and implementation of new and improved survey methods;
- Introduction of new methods for analyzing survey data;
- Development of objective crop yield forecasting and estimating programs; and
- Delivery of short-term seminars and training programs.

Most recently, NASS has been instrumental in assisting Ecuador, Ethiopia, Kazakhstan, Mexico, South Africa, the People's Republic of China, Russia, and Ukraine to develop and improve their agricultural statistics programs to better provide information needed for those developing and emerging market economies. NASS is also responsible for conducting agricultural censuses in the U.S. territories of Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands.

Assistance to Other Organizations

In addition to the many statistical activities directly related to its mission, NASS conducts surveys for and lends technical expertise to other Federal agencies, State governments, and private organizations. NASS provides support and assistance in the areas of: questionnaire and sample design; data collection and editing; analysis of survey results; and training. However, services provided to other organizations are not allowed to interfere with the performance of NASS's fundamental duties. Moreover, the services must provide useful data not available elsewhere. Finally, NASS must be fully reimbursed for all such work.

Among its more notable projects, NASS conducted farm injury surveys for the National Institute for Occupational Safety and Health; carried out a pilot study on Native American contributions to agriculture for the Intertribal Agriculture Council; and surveyed producers' sources of agricultural information for USDA's Office of Communications.

NASS field offices have become increasingly involved in performing special surveys in cooperation with land-grant universities and State departments of agriculture. Data have been collected on such diverse subjects as: specialty fruits and vegetables; nursery products; waste management in rural communities; and producers' opinions of farm bill proposals.

NASS Contacts

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For a complete catalog of information products available from NASS, contact the U.S. Department of Agriculture, Agricultural Statistics Board, Customer Service, Room 5038, South Building, Washington, DC 20250-2000.

NASS reports, including the census of agriculture, are available in printed and electronic formats. For more information, visit the NASS Web site at http://www.nass.usda.gov or call (800) 727-9540 or (202) 720-3878.

For more information on how to receive particular reports, call our order desk toll free at (800) 999-6779 in the United States, Canada, and Mexico. Other areas, please call (703) 605-6220.

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NASS Field Offices

Local NASS Field Offices often have additional data breakouts not found in national publications. For information about a particular State, call the following offices, or e-mail at NASS-**@NASS.USDA.GOV. Replace ** with the State abbreviation.

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