American agriculture is continually counted, measured, priced, analyzed, and reported to provide the facts needed by people working throughout this vast industry. The USDA National Agricultural Statistics Service’s (NASS) mission is to provide timely, accurate, and useful statistics in service to U.S. agriculture. The abundance of information produced has earned for NASS employees the title, “The Fact Finders of Agriculture.”

Participating in the factfinding process are thousands of producers and agribusinesses that are the source of NASS reports. This widespread voluntary participation in surveys, supplemented by crop observations and measurements, makes NASS a statistically sound, reliable, and frequently quoted source of agricultural data.

The agency was originally started in 1863 for the purpose of providing general production information to those interested in agriculture, chiefly on an annual basis. Today, NASS issues about 425 statistical reports from its Headquarters each year. Its State statistical offices issue some 9,000 reports and news releases annually, highlighting or expanding on information in the national reports, and the agency conducts and releases the Census of Agriculture every 5 years.

The reports cover virtually every facet of U.S. agriculture, including:
- Production and supplies of food and fiber
- Prices received and paid by farmers
- Farm labor and wages
- Farm income and finances
- Chemical use
- Demographic data

One can look back over the early history of agriculture and learn that without the regular updating of crop and livestock statistics, the usual consequences were that producers did not adequately share in the profits, especially during times of production shortages. NASS’s services have expanded over time to prevent reoccurrences when there lacked sufficient information for an orderly flow of goods and services among agriculture’s production, processing, and marketing sectors.

When agricultural statistics make the media’s headlines, the casual observer may not take note of the agency behind the scenes. The focus is usually on the latest official statistics that help to minimize the uncertainties and risks associated with the production and marketing of commodities. NASS reports are often used directly and indirectly by farmers, producer organizations, agribusinesses, researchers, policymakers, and government agencies. While the link between NASS’s services and the benefits may not always be well connected, NASS’s responsibilities will continue to evolve to meet the needs of agriculture and the Nation.

NASS customer service center provides information and assistance to the public and data users on NASS’s hundreds of reports and the Census of Agriculture.
Early History of Agricultural Statistics

USDA’s National Agricultural Statistics Service has been an evolving organization that has had expanded responsibilities and different names since its origination. For clarity, only the current name is used throughout this publication.

The history of collecting data on U.S. agriculture dates back as far as President George Washington, who kept meticulous statistical records describing his own and other farms. Concerns about what crops to plant and how to ensure a bountiful harvest dominated the agricultural scene.

First Survey. In 1791, President Washington wrote to several farmers requesting information on land values, crops, yields, livestock prices, and taxes. Washington compiled the results on an area extending roughly 250 miles from north to south and 100 miles from east to west which today lies in Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia, where most of the young country’s population lived. In effect, Washington’s inquiry was the first agricultural survey and report.

First Agricultural Census. In 1839, Commissioner of Patents Henry Ellsworth prevailed upon Congress to designate $1,000 for “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. Using the census information as a benchmark, Ellsworth used other annual data to make agricultural estimates for each year between the 10-year census cycle.

Mechanization Advances Agriculture. One of the greatest advances made in agriculture during the early 1800s was the shift from human-powered to oxen- and horse-powered labor-saving machines. Innovations such as steel plows, iron harrows, grain drills, corn and cotton planters, cultivators, reapers, and threshing machines improved production and saved labor. Railroads provided quicker and easier transportation and helped tame the West as hundreds of thousands of settlers migrated to the Great Plains, Rocky Mountains and West Coast. Driving the demand for more food and fiber was increasing exports and the growing populations in America’s towns and cities.
King Cotton’s Political Role. The Nation’s most prominent export crop for decades leading up to the Civil War (1861-1865) was cotton. Senator James Hammond of South Carolina boasted:

“Without the firing of a gun, without drawing a sword, should they [Northerners] make war upon us [Southerners], we could bring the whole world to our feet. What would happen if no cotton was furnished for three years? . . . England would topple headlong and carry the whole civilized world with her. No, you dare not make war on cotton! No power on earth dares make war upon it. Cotton is King.”

During the early days of the war, when the Union blockade was still too weak to be very effective, the Confederate government itself prohibited the export of cotton in order to seek British and French intervention.

Homestead and Land Grant Acts. As Civil War casualties mounted, the American public’s morale declined. To counteract that development, two popular pieces of legislation were passed:

• The Homestead Act of 1862 granted 160 acres of government land free of charge to any person who would farm it for at least 5 years.

• The Morrill Land Grant Act offered large amounts of the Federal Government’s land for States to sell to fund establishing “agricultural and mechanical” colleges.

USDA and Division of Statistics Established. In 1862, President Abraham Lincoln established the USDA, which he called “The People’s Department.” Trade and commodity buyers had more current and detailed market information than did the isolated farmers, which prevented farmers from getting a fair price for their goods. The new agricultural statistics program would provide sellers and buyers equal information.

With the Civil War well underway, answers to questions about crop production and livestock inventories were of vital importance in the strategy to supply the armies. In 1863, USDA established a Division of Statistics, where NASS traces its roots. On July 10, 1863, the first monthly report covering the condition of the crops was issued with a promise that a similar report will be issued on the tenth of every month. That was an ambitious goal considering the many difficulties—irregularities in the mail service, lack of experience in tabulation, compiling weather data, and including foreign statistics. Later, the reports included information about the number and condition of livestock, including the presence of hog cholera.
From Civil War Shortages to Post-War Excesses. The relatively high wartime agricultural prices collapsed in the following decades. The September 1866 Monthly Report stated that Texas was swarming with cattle that had accumulated because of the lack of markets during the war.

“Immense numbers of cattle are already collected for driving or shipping to a market. It has been estimated that $1 million worth of stock is ready to go to market from Texas at the present time. Beef (old English plural for beef) may be had for $15 per head and steers at $4 to $5.”

Texas longhorn cattle were driven along the Chisholm Trail, the major route north. The cattle boom accelerated settlement of the Great Plains and sometimes fueled range wars between farmers and ranchers.

The amount of land under cultivation between 1870 and 1890 expanded from 408 million to 840 million acres. New machines such as the steam tractor were introduced. With larger acreages and better machinery, the production of corn, wheat, cotton, tobacco, and other crops continued to increase tremendously. Factors other than surplus production that kept agricultural profits low included increasing transportation costs, a restricted supply of currency, and an unrestrained international market.

More Farm Tenants. After the Civil War, sharecropping in the South replaced the slave plantation system. Between 1880 and 1900, tenant farmers increased from 25 to 35 percent of all farmers. It was especially high throughout the South where hundreds of thousands of farmers had little prospect of ever owning a farm or making a decent living. The 1900 Census showed agricultural workers earned an average of $260 annually compared to $622 for nonagricultural workers.

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<th>1865</th>
<th>1867-1872</th>
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<td>Civil War ends: 620,000 killed in battle, disease killing twice as many.</td>
<td>Chisholm Trail cattle drives</td>
<td>Sod houses become popular on the prairies</td>
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Expanding Corps of Reporters. The earliest statistical work was based on schedules completed by thousands of voluntary reporters consisting of county correspondents, township correspondents, individual farmers, special cotton correspondents, bankers, and merchants. Field Agents reported for territories covering several States. One of the duties of the part-time State Statistical Agents was to recruit a corps of knowledgeable correspondents.

Dispersion of Agricultural Statistics Broadened. Under the leadership of Chief Statistician John Hyde in 1897, new ways were developed to keep farmers more quickly informed of the latest agricultural conditions so they would not be fleeced by speculators. The Western Union Telegraph and Postal Telegraph Cable companies transmitted reports to the press and commodity exchanges. Abbreviated reports were printed on cards and mailed to 77,000 post offices for public display. Details of all reports released during a month were included in the 8-page monthly *Crop Reporter* mailed to more than 100,000 interested parties.

President Theodore Roosevelt Promotes Competition and Agriculture. Following the assassination of President William McKinley in 1901, President Theodore “Teddy” Roosevelt took office to restrain monopolies, promote economic competition at home and abroad, and protect consumers. During the Spanish-American War, Roosevelt had seen more troops lost from spoiled canned meats and disease than enemy fire. The following landmark legislation passed during Roosevelt’s administration:

- Pure Food and Drug Act prohibited the sale of fraudulent labeled foods and drugs.
- Meat Inspection Act required sanitary regulations and inspections in meat packing facilities.
- Conservation laws created Federal irrigation projects, national parks and forests.

The Nation’s agriculture was settling into regional patterns. Northeast producers concentrated on dairying, poultry raising, and producing fruits and vegetables for the growing urban markets. Midwest farms raised corn, oats, and barley, which supported the thriving hog and cattle production. The Great Plains, stretching from Texas to Canada, became the country’s breadbasket with wheat production, supplemented by a strong livestock economy. On the West Coast, wheat was the principal grain, but fruits, vegetables, and nuts were also valuable crops.

Alabama family living in one room log house.
Scandal Results in the Agricultural Statistics Board (ASB). Prior to 1905, only three employees were delegated a great deal of responsibility for the crop forecasts. There were allegations that advanced knowledge of the forecasts was leaking out, despite the fact that the room where the final estimates were prepared was always locked until the official release time.

Unfortunately, the allegations proved to be true. An employee, E.S. Holmes, Jr., connived with New York cotton speculator Louis Van Riper to use advance information about the cotton crop for personal gain. Holmes used a system of subtly adjusting a window shade to signal to his accomplice outside whether the production forecast would be above or below a predetermined benchmark number. The scheme collapsed in June 1905 when after Holmes had made his signal, the co-workers decided another review was necessary and the cotton forecast was changed. Van Riper, who had already acted on the early signal, lost about $25,000 in trading that day.

In retaliation, Van Riper made an allegation that the June agricultural report had been falsified and boasted how he had access to the information ahead of time. Holmes was dismissed and fined $5,000—the maximum allowed by law at the time. President “Teddy” Roosevelt, thoroughly outraged by the affair, and James Wilson, Secretary of Agriculture, asked the 59th Congress to pass appropriate legislation to make premature disclosure of agricultural statistical reports a criminal offense.

The scandal had the positive impact of changing the way the agency did business. The Crop Reporting Board (now called the Agricultural Statistics Board) was created and its responsibilities extended beyond physical security of the data to doing more detailed analysis by commodity experts. The Board would evolve to include a permanent chairperson and secretary, State and field agents, and numerous other USDA staff members chosen to participate in the preparation of a specific report based on their knowledge of a particular commodity or issue.

**1900-1910**
George Washington Carver finds new uses for crops

**1908**
Model T Ford paves the way for mass production

**1909**
Laws passed making premature disclosure of crop estimates a crime
Between 1900 and the end of World War I, the demand for farm commodities increased, land values rose, and during part of the period, farm prices went up faster than nonfarm prices. The first two decades of the twentieth century became known as the golden age of American agriculture.

Golden Age of Agriculture. Between 1900 and the end of World War I, the demand for farm commodities increased, land values rose, and during part of the period, farm prices went up faster than nonfarm prices. The first two decades of the twentieth century became known as the golden age of American agriculture.

State Offices Established. In 1914, State Statistical Agents became full-time employees with an annual salary averaging $1,740, but had to secure office space without funds for rent. Frequently, the postmaster in the headquarters town provided a room and a desk, but some agents worked from their homes. Often the agent’s family members were pressed to help with mailing the monthly questionnaires and tabulating the returns by hand. By 1917, addressing machines, envelope sealers, mimeographs, and telephones became common. Also, a number of Federal-State cooperative agreements were signed to share staff, eliminate confusion caused by conflicting reports, halt duplication of effort, and reduce costs.

World War I Demands for More Statistics. World War I created an urgent demand for statistical information on practically all phases of agriculture. The War Trade Board, the War Industries Board, the Military Intelligence Office, and other departments of Federal and State Governments requested expanded information about production, consumption, surpluses and deficiencies, commodity prices, and prices paid for equipment, machinery, and supplies. Following the armistice in 1918, the estimation program had doubled as the U.S. took on the position as the food basket for war-torn Europe.

Post World War I Recession. Farm prices had been high during World War I because of European demand and government price fixing. By 1920, the European demand dropped and farm prices were determined by a free market. The urban economy was strong between 1922 and 1929, but agriculture did not share in the Nation’s general prosperity. Farm income increased from $10 billion annually in 1919 to about $44 billion in 1921, and then plummeted and leveled off at about $7 billion a year from 1923 through 1929.
New Procedures to Measure Agriculture’s Changes.
The 1921 hog production was marketed without adequate data to predict an impending short supply. When the prices packers were willing to pay soared, farmers did not benefit because they had sold at the customary low prices. This revelation led to the agency developing more sophisticated livestock analysis and reports. To expand the amount of hog data, a cooperative agreement was signed with the postal service. Rural mail carriers left a card of inquiry in every tenth mailbox on their route. Additional information from livestock buyers, railroad records of shipments, and inspection records led to the development of annual balance sheets of number born, number shipped, slaughtered, and death losses.

Over time, statisticians’ cars were equipped with crop meters. A crop meter was mounted on the car’s dashboard and connected to the speedometer. The device had numerous keys that the statistician operated as he drove down country roads. When the car was abreast of a field of corn, the corn key was depressed. If the next field was cotton, the cotton key was depressed, and so on for other crops or land use. This device provided the first objective measurement of the trends in crop acreage from year to year.

Better Machinery and Science Advance Agriculture.
Agriculture continued to make strides through advances in technology and the application of science to farming. The gasoline tractor, smaller and more versatile than the steam tractors, came into use in the 1920s and 1930s. The development of bigger and better machines, like the grain combine harvester and the mechanical cotton picker, continued to reduce the amount of labor needed in agriculture. New seed corn hybrids improved yields.

The Great Depression. Disaster struck with the stock market crash of October 1929, which touched off the longest and most severe depression the Nation ever experienced. Prices received by farmers declined and by 1932 had plummeted to the lowest level since 1899. The price of wheat dropped from a previous high of $2.16 in 1919 to a low of 29 cents a bushel in 1931 and 1932. From 1929 to 1933, farm income dropped 55 percent.
Roosevelt’s New Deal Legislation. In 1933, the Depression continued its toll on banks that could not collect their loans or meet the demands for withdrawals. Nearly 11,000 banks failed before newly elected President Franklin D. Roosevelt stemmed the tide with his New Deal legislation, which included establishing the Federal Deposit Insurance Corporation (FDIC) to insure individual deposits. Other legislation passed to ease the rural crisis:

- **The Federal Farm Loan Act** consolidated all farm credit programs into the Farm Credit Administration to make low-interest loans.
- **The Commodity Credit Corporation** was established to make loans to corn and cotton farmers against their crops so they could hold them for higher prices.
- **The Farm Bankruptcy Act** allowed farmers to defer foreclosure while they obtained new financing.
- **The Tennessee Valley Authority (TVA)** built dams to stop flooding and soil erosion, improve navigation, and generate hydroelectric power. It also conducted demonstration projects for farmers and engaged in reforestation.

**Agricultural Production Reduction Programs.** Following a conference in Washington, D.C., of farm leaders, the Agriculture Department drafted the 1933 Agricultural Adjustment Act. The legislation would pay subsidies to producers to reduce production, with the goal of restoring agricultural prices at a level that would give agricultural commodities the same purchasing power as during pre-Depression years. The programs would also encourage soil conservation and subsidize exports. These market and environmental goals continued in subsequent “Farm Bill” programs and exist to this day.

**Agricultural Statistics for Farm Programs.** The new programs had a permanent impact on the future of the crop and livestock estimating work. Everyone agreed that the agency’s official State and county crop and livestock numbers would be the base of the allotment program, because it would take too much time to do an up-to-date census.

Under this program, the 1933 cotton acreage was drastically reduced by 10 million acres as farmers plowed under about one-fourth of the crop. In 1934, farmers planted between 55 and 65 percent of their county base acreage. The Corn-Hog program required growers to reduce their acreage and hog inventory by at least 25 percent. Ultimately, commodity reduction programs did result in price increases, but tenants and sharecroppers were displaced when landowners took land out of cultivation.
Statistics for Drought Assessment. To add to the Depression woes of low prices, a severe and prolonged drought in the 1930s covered the Corn Belt and southern Great Plains. In 1934 the average corn yield of 16 bushels per acre was the lowest on record. Conditions improved somewhat in 1935, but 1936 was almost a duplicate of 1934. In large areas, crops were wiped out and pasture conditions were critical, creating a problem of saving livestock. Weekly and semi-monthly reports were called for to answer questions about how much feed was available and where and how many cattle and hogs were involved. The Drought Relief Act appropriated disaster-type loans to farmers for planting crops or feeding livestock, but in actual practice some of the money went for family living expenses.

World War II Challenges the Nation. World War II erupted in Europe in 1939, and the U.S. officially entered the war in 1941, one day after the attack on Pearl Harbor. The mobilization of the U.S. economy during the war resulted in new economic priorities and forced the U.S. economy out of the prolonged depression; the period from 1940 to 1944 witnessed the largest expansion in industrial production in U.S. history. The war period was difficult for the agency when many experienced statisticians were drawn into the armed services.

Agricultural Data for Resource Rationing. During the wartime, rationing became a way of life—stamp books were required for meat, sugar, coffee, shoes, rubber, auto parts, and gasoline. Special farm surveys were required to estimate the number of tractors on farms, requirements for repair parts, and need for steel for farm implements. This information helped prioritize distribution of raw materials. Two examples of highly valued reports included the agency’s weekly butter and cheese reports and farm labor supply reports.

Gas and tire rationing necessitated discontinuance of some field surveys.
Post-War Modernization of Agriculture. Post-war rising farm production was the result of many things, including the increasing use of improved mechanical equipment and introduction of improved varieties of crops and breeds of livestock. Modernization required the amount of capital to engage in farming to increase greatly. Prudent management became more dependent upon reliable statistics for market planning and operational decisions. Advantages of specialization became evident first by the chicken broiler industry where individual farm operations were replaced by chick hatcheries, feed processors, specialized housing, and poultry dressing plants.

More Frequent, Detailed Agricultural Reports. The most significant development in the reporting program of agricultural estimates during the 1940s and 1950s was the increased demand for more frequent, accurate, and detailed reports. Weekly broiler reports were started in 1948 and weekly reports for turkeys were started in 1954. Quarterly reports of cattle on feed were started in 1955 and evolved to be monthly reports for some key States.

Objective Yield Procedures Developed. The 1951 cotton crop was estimated at 17.3 million bales on September 1, but within 2 months the forecast dropped dramatically by 1.5 million bales. A continuing drought, shedding of bolls, and bollworm damage had wreaked havoc late in the year.

In reaction to the unprecedented decline in the cotton forecast, the House of Representatives' Agriculture Committee investigated the agency’s procedures. The verdict was that the agency’s procedures were sound, but the value of funding research into more scientific measures was recognized. By the mid-1950s, pilot programs for conducting field measurements to forecast yields of cotton, corn, and wheat were well underway.

Weekly Weather and Crop Bulletins. Some analysts, agricultural editors, businesspeople, and producers voiced that a 10-day data collection and dissemination period for monthly crop reports was too long. To fulfill the need for taking the pulse of agriculture more frequently, the Weather Bureau and the Extension Service worked with the agency to provide a weekly narrative on the farm and weather developments. This enabled the data users to note significant changes occurring in the interim between monthly reports. By 1958, all States were producing this weekly update.

Corn Objective Yield measurements.
Overvalued Land Creates Crisis. For a number of years in the 1970s, American landowners saw the prices of farmland increase in value beyond the capacity of the land to produce adequate income to pay for the loans. However, through refinancing purchased land, producers were able to buy even more farmland. When inflation slowed, overleveraged producers and the rural banks that had made the loans faced a financial crisis. By 1987, farmland values bottomed out after a 6-year decline.

Detailed Financial Survey. In light of the 1980s farm financial crisis, NASS responded with what is now known as the Agricultural Resource Management Survey. It’s the data source for annual estimates of the financial health of farming households and cost-of-production estimates for major agricultural commodities. The data are critical to the research and analysis mission of USDA’s Economic Research Service, and are a key input for evaluating and revising Farm Bill programs.

Advanced Technology Keeps U.S. Producers Competitive. Farmers have continued to adopt technology to maximize returns. In the 1970s, farmers reduced tillage to save fuel and machinery costs while leaving protective crop residues to combat erosion. Modern machinery have computer-monitoring systems, GPS locators, and other technology to be less wasteful in the use of fuel, seed, or fertilizer. In the 1990s, the first weed- and insect-resistant biotech crops—soybeans and cotton—became available commercially and are now widely used. Biotechnology and genetic engineering have played a big part in increasing crop and livestock production and meeting consumers’ desires.

Rural Way of Life. Throughout U.S. history, farming has not only been an important economic activity, but also a distinctive way of life. The traditions and values associated with farming and the rural way of life still prevail in a society that has become predominantly urban.

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<th>1970s</th>
<th>Minimum and no-till tillage popularized</th>
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<td>1978</td>
<td>Hog cholera officially eradicated</td>
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<td>1980s</td>
<td>European grain and animal exports become more competitive with U.S. products</td>
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<tr>
<td>1990s</td>
<td>More farms turn to production and market contracts and increase vertical integration</td>
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<td>1990s</td>
<td>First weed- and insect-resistant crops—soybeans and cotton—become available</td>
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Cooperative Statistical Programs. NASS carries out its many surveys with the support of many State departments of agriculture, land-grant universities, and agricultural industries. Through its network of state offices, NASS works closely with its partners to collect detailed data on commodities important to local economies, county estimates, and other items not covered by Federal funds. 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.

The National Association of State Departments of Agriculture (NASDA). NASDA provides grassroots support for the NASS mission by employing part-time field and office enumerators to collect survey data by telephone or in person. This partnership allows the NASDA staff to focus on its specialty—data collection, while NASS staff concentrates on survey integrity and data analysis. All NASDA employees are sworn to the same confidentiality pledge as NASS employees.

Partnering with the World Agricultural Outlook Board (WAOB). The WAOB, a unit of USDA’s Office of the Chief Economist, was created to provide world supply and demand forecasts for major commodities by integrating information from NASS crop and livestock reports with a number of other sources. A forecast is in the form of balance sheets that matches supply—beginning stocks added to the anticipated crop—with demand—how much will be consumed at home, exported, or remain as ending stocks. When the WAOB convenes, interagency teams review and approve the commodity estimates and issue them as the monthly World Agricultural Supply and Demand Estimates report.
NASS values its history, because it helps to understand the present and appraise the future. The statistics program evolved most during times of crisis for the Nation and agriculture’s producers—wars, droughts, the Depression, and financial setbacks.

The agency has in its history a misfortune—the 1905 inside trading scandal—that laid the cornerstone for creating the Agricultural Statistics Board. Today all survey data and summaries are controlled on a strict need-to-know basis and secured when not in use. Not even the Secretary of Agriculture or an Under Secretary will know a report’s contents until entering the lockup area to sign it just before release.

The organization’s most important asset has always been its people—those who developed this complex and efficient statistical service in the past and those who maintain and improve it today.
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