

## U.S. AGRICULTURAL DATA COLLECTION AND SURVEY INSTRUMENTS

Data Sources use for Field to Market's National Indicator Report Field to Market (2012 V2). Environmental and Socioeconomic Indicators for Measuring Outcomes of On-Farm Agricultural Production in the United States: Second Report, (Version 2), December 2012. Available at: [www.fieldtomarket.org](http://www.fieldtomarket.org)



Data Source	Indicator	Granularity	Frequency	Collection Authority or Regulatory Mechanism
<p><b>Census of Agriculture</b> The Census of Agriculture is conducted to collect information on the number of farms, farm size, characteristics of farm operators, land in farms, land use, production expenses, yield, value of land, buildings, and farm products, market value of agricultural production sold, acreage and stocks of major crops, grains, commodities, inventory of livestock and poultry, and farm irrigation practices. <a href="http://www.agcensus.usda.gov/index.php">http://www.agcensus.usda.gov/index.php</a></p>	Land Use, Energy, Irrigation Water Applied, Socio-economic	-Mail survey -48 states -20,000 farmers randomly selected from stratified population based on Water Resource Area, State & irrigated acres to increase chance of being selected based on irrigation usage; only consistent, peer-reviewed data source on water use	5 yrs	<p><b>USDA National Agricultural Statistics Service (NASS)</b> NASS conducts hundreds of surveys each year to collect, summarize, analyze, and publish agricultural production, economics, demographic, environmental and marketing data on a wide range of items.</p> <p>Farm operators required by law to respond <u>Title 7, U.S. Code</u> <a href="http://www.law.cornell.edu/uscode/text/7/2204g">http://www.law.cornell.edu/uscode/text/7/2204g</a></p>
<p><b>Farm &amp; Ranch Irrigation Survey</b> Supplement to the Census of Ag and conducted the year following the Census. This survey provides the only comprehensive information on irrigation activities and water use across American farms, ranches, and horticultural operations.</p>	Energy Use, Irrigation Water Applied, Socio-economic	-Approximately 35,000 producers across the United States who indicated irrigation use in Census of Ag -Water sources and amount of water used, number of acres irrigated by type of system, number of wells & characteristics, irrigation amount and yield by crop, and system investments and energy costs	5 yrs	<p><b>USDA NASS</b></p> <p>Farm operators required by law to respond <u>Title 7, U.S. Code</u></p>

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<p><b>Agricultural Chemical Usage Report &amp; Program</b>            Statistics about on-farm chemical use and pest management practices farmers implement to reduce their dependence on agricultural chemicals. Program collects actual chemical use directly from growers; used by multiple public &amp; private Agencies, offices, researchers, including the U.S. Geological Survey (USGS) to assess &amp; monitor status of the nation's streams, rivers and groundwater.  <a href="http://www.nass.usda.gov/Surveys/Guide%20to%20NASS%20Surveys/Chemical%20Use/">http://www.nass.usda.gov/Surveys/Guide to NASS Surveys/Chemical Use/</a></p> <p><b>Quick Stats 2.0</b>            Quick Stats 2.0 is the tool for accessing agricultural data published by NASS.  <a href="http://www.nass.usda.gov/Quick%20Stats/">http://www.nass.usda.gov/Quick Stats/</a></p> <p><b>Quick Stats for Cotton:</b>  <a href="http://www.nass.usda.gov/Data%20and%20Statistics/Pre-Defined%20Queries/2010%20Corn%20Upland%20Cotton%20Fall%20Potatoes/index.asp">http://www.nass.usda.gov/Data and Statistics/Pre-Defined Queries/2010 Corn Upland Cotton Fall Potatoes/index.asp</a></p>	Energy, GHG Emissions	<p>-Percent acres treated, number of applications, rates of application, and total amounts applied of the primary macronutrients nitrogen (N), phosphate (P<sub>2</sub>O<sub>5</sub>), and potash (K<sub>2</sub>O) as well as (since 2005) the secondary macronutrient sulfur (S). <i>Available annually for field crops, intermittently for fruits and vegetables.</i></p> <p>-Percent acres or production treated, number of applications, rates of application, and total amounts applied of the individual active ingredients composing all registered pesticides used. Active ingredients are classified as herbicides, fungicides, insecticides, or other (regulators, desiccants, etc.), according to the pesticide product classification. Rates and amounts applied are published in the acid or metallic equivalent, as applicable. <i>Selected items available for all commodity programs.</i></p> <p>-Percent acres or production treated, and percent of total operations using a selection of pest management practices fitting under the PAMS (prevention, avoidance, monitoring, and suppression) classification. <i>Selected items available for all commodity programs except livestock.</i></p>	Selected years and crops; latest crop year available for cotton is 2010; next cotton survey occurs in 2014.	<b>USDA NASS</b>

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<b>Annual Crop Production Report</b> <a href="http://www.usda.gov/wps/port al/usda/usdahome?navid=CROP_PRODUCTION">http://www.usda.gov/wps/port al/usda/usdahome?navid=CROP_PRODUCTION</a>	Land Use, Socio-economic	Crop acreage, yields, areas harvested, and other production information.	Annually	<b>USDA NASS</b>
<b>USDA Agricultural Resource Management Survey (ARMS)</b> - USDA's primary source of information on the financial condition, production practices, and resource use of US farm businesses and the economic well-being of US farm households; ARMS provides observations of field-level farm practices, the economics of the farm businesses operating the field (or dairy herd, green house, nursery, poultry house, etc.), and the characteristics of farm operators and their households (age, education, occupation, farm and off-farm work, types of employment, family living expenses, etc.	Energy Use, GHG Emissions, Socio-economic	-ARMS is a series of interviews with farm operators about their farm business and household. -Conducted in three phases over the course of the survey year, which runs from June through April. The ARMS data collection starts during the fall when production practice and cost data are collected, and finishes in the spring when a follow-on interview collects data about whole-farm costs like overhead, interest, and taxes. Includes survey of genetically-engineered crops. <a href="http://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/documentation.aspx#.UoozSGso7cs">http://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/documentation.aspx#.UoozSGso7cs</a> and <a href="http://www.ers.usda.gov/data-products.aspx">http://www.ers.usda.gov/data-products.aspx</a>	Annually	<b>USDA Economic Research Service (ERS)</b> Primary source of economic information and research in the U.S. Department of Agriculture. Conducts ARMS survey, one among numerous surveys
<b>Farm Service Agency (FSA) Conservation Reserve Program (CRP) statistics</b>	Land Use, Socio-economic	County, State <a href="http://www.apfo.usda.gov/FSA/web app?area=home&amp;subject=copr&amp;topic=cpr-st">http://www.apfo.usda.gov/FSA/web app?area=home&amp;subject=copr&amp;topic=cpr-st</a>	Monthly, Annual	<b>USDA Farm Service Agency (FSA)</b> Administers & implements farm conservation and regulatory programs; there are more than 2,346 state and county offices are the primary distributors of FSA programs in the 48 continental states. FSA is also represented in Hawaii and Puerto Rico.

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<p><b>U.S. Geological Survey (USGS)</b>            2009. Summary of estimated water use in the United States in 2005.  <a href="http://pubs.usgs.gov/fs/2009/3098/pdf/2009-3098.pdf">http://pubs.usgs.gov/fs/2009/3098/pdf/2009-3098.pdf</a></p>	<p>Irrigation Water Applied</p>	<p>National Water Information System (NWIS) is the U.S.'s principal repository of water resources data. It includes data from more than 1.5 million sites</p>		<p><b>U.S. Geological Survey (USGS)</b>            The Nation's largest water, earth, and biological science and civilian mapping agency</p> <p>Collects, monitors, analyzes, and provides scientific understanding about natural resource conditions, issues, and problems. 10,000 scientists, technicians, and support staff in more than 400 locations throughout the U.S.</p>
<p><b>National Resource Inventory (NRI) Reports</b>            -Implemented by NRCS in conjunction with Iowa State Univ. Center for Survey Statistics and Methodology (ISU-CSSM)  <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/nri/">http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/nri/</a>            -U.S. Department of Agriculture. 2013. <i>Summary Report: 2010 National Resources Inventory</i>, Natural Resources Conservation Service, Washington, DC, and Center for Survey Statistics and Methodology, Iowa State University, Ames, Iowa.  <a href="http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprd_b1167354.pdf">http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprd_b1167354.pdf</a></p>	<p>Soil Erosion</p>	<p>--300, 000 primary sample units of ½ mi sq., county level with ~800,000 sample points            -Field visits, remote sensing, aerial photography, county office records, soil survey maps, etc.            -Data collected: Soil characteristics, land cover, type of erosion, type of tillage, vegetative cover (prairie, wetland), habitat diversity, potential for cropland conversion</p>	<p>Annually since 2000; every 5 years with special surveys as determined since 1982.</p>	<p><b>USDA Natural Resources Conservation Service (NRCS)</b>            -Administers conservation programs that offer producers a range of options for assistance with conservation efforts            -NRCS has soil maps and data available online for more than 95 percent of the nation's counties            -NRCS is mandated (through the <i>Rural Development Act of 1972</i>, the <i>Soil and Water Resources Conservation Act of 1977</i> and other supporting legislation) to assess the status, condition and trends of soil, water and related resources on the U.S.'s non-Federal lands</p>

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<p><b>National Crop Residue Management (CRM) Survey</b>                      -The only survey in the U.S. to measure the type of tillage used by crop. Tillage methods tracked are: no-till, mulch-till, reduced-till, and conventional tillage; conducted by the CTIC and is a partnership effort between NRCS, conservation districts and Extension                      -In place since 1982; was required to be collected until 2004 by NRCS; now voluntary but many States still report.</p>	<p>Energy Use, GHG Emissions</p>	<p>-County, state and regional level data from 1989-2008                      -Total number of acres represented by the 2007 Survey is 73.5 million acres, which is 27 percent of all cropland acres in the U.S.</p>	<p>Annually</p>	<p><b>Conservation Tillage Information Center (CTIC)</b>                      A national, nonprofit 501(c)(3) public-private partnership organization supported by the U.S. Environmental Protection Agency (EPA), NRCS and other public entities.                      -Conducts Crop Residue Management Survey (CRM)  <a href="http://www.ctic.purdue.edu/">http://www.ctic.purdue.edu/</a></p>
<p><b>The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET)</b>  <a href="http://greet.es.anl.gov/">http://greet.es.anl.gov/</a></p>	<p>Energy Use, GHG Emissions</p>			<p><b>U.S. Dept. of Energy (DOE) Argonne National Laboratory, Transportation Technology R&amp;D Center Research</b>                      One of the DOE's lead laboratories for research in hybrid powertrains, batteries, and fuel efficient technologies  <a href="http://www.transportation.anl.gov/about.html">http://www.transportation.anl.gov/about.html</a></p>

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<p><b>US EPA Inventory of US GHG Emissions and Sinks</b> EPA tracks total annual U.S. emissions and removals by source, economic sector, and greenhouse gas going back to 1990. <a href="http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html">http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html</a></p>	Energy Use, GHG Emissions	Fuel consumption for transportation; covers the years 1990-2010	Annual	<b>US EPA</b>
<p><b>West, TO and G Marland. 2002.</b> A synthesis of carbon sequestration, carbon emissions, and net carbon flux in agriculture: comparing tillage practices in the United States. <i>Agriculture, Ecosystems, and Environment</i> 91:217-232.</p>	Energy Use, GHG Emissions	Peer-reviewed scientific publication on Life Cycle Analysis of agricultural tillage systems , and by the	N/A	<b>US DOE</b> Center for Research on Enhancing Carbon Sequestration in Terrestrial Ecosystems, and Office of Science, Biological and Environmental Research, Oak Ridge National Laboratory
<p><b>Snyder, CS, Bruulsema, TW, Jensen, TL and PE Fixen. 2009.</b> Review of greenhouse gas emissions from crop production systems and fertilizer management effects. <i>Agric. Ecosyst. Environ.</i> 133: 247–266.</p>	GHG Emissions	<p><b>-NuGIS</b> creates county-level estimates of N, P and K applied to the soil in fertilizer and livestock manure, and removed by harvested agricultural crops. Geospatial techniques are used to estimate balances for 8-digit hydrologic units using the county-level data.</p> <p><b>-AgriStats</b> manages a global dataset on fertilizer use by crop.</p>	Literature Review	<b>International Plant Nutrition Institute</b> -IPNI is comprised of companies that are basic producers of one or more of the major plant nutrients (nitrogen, phosphate, potash, and sulfur) for agricultural purposes.

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<p><b>Intergovernmental Panel on Climate Change (IPCC)</b>                      IPCC. 2007a.                      Intergovernmental Panel on Climate Change: Fourth Assessment Report: Climate Change 2007 (AR4).  <a href="http://www.ipcc.ch/publications_and_data/publications_and_data_reports.htm#1">www.ipcc.ch/publications_and_data/publications_and_data_reports.htm#1</a></p>	<p>GHG Emissions</p>	<p>Working groups assess the physical scientific aspects, vulnerabilities and mitigation strategies using primary data from numerous global resources &amp; modelling. Produces and makes available methodologies, databases, reports, etc.</p>	<p>Regular intervals</p>	<p>The IPCC is a scientific body under the auspices of the United Nations (UN) It was established by the <u>United Nations Environment Programme (UNEP)</u> and the <u>World Meteorological Organization (WMO)</u> in 1988 IPCC is the leading international body for the assessment of climate change</p>
<p><b>U.S. Bureau of Labor Statistics</b>  <a href="http://www.bls.gov/iif/oshwc/cfoi/cftb0243.pdf">http://www.bls.gov/iif/oshwc/cfoi/cftb0243.pdf</a>  <a href="http://www.bls.gov/iif/oshsum.htm">http://www.bls.gov/iif/oshsum.htm</a></p>	<p>Socio-economic</p>	<p>The Survey of Occupational Injuries and Illnesses (SOII) and the Census of Fatal Occupational Injuries (CFOI) are the largest occupational injury and illness surveillance systems in the country, providing injury and illness counts and rates for a variety of employer, employee, and case characteristics based on a sample of over 230,000 establishments. Figures are calculated nationally and for 44 participating states and territories (including the District of Columbia), allowing for detailed analyses of the magnitude, patterns, and trends in occupational injuries and illnesses.</p>	<p>Annual; based on North American Industry Classification System (NAICS)</p>	<p><b>Occupational Safety and Health Administration (OSHA)</b></p>

