



Evolution of Methodology and Quality Measures Reports at USDA-NASS

2022 FCSM
Washington, DC

Lindsay Drunasky
USDA-NASS



Overview

- Background
- Content
- Process
- Challenges
- Future



NASS Background



- Mission
 - To provide timely, accurate, and useful statistics in service to U.S. agriculture.
- Over 400 statistical releases published per year
 - Over 80 unique reports each year
 - Crops
 - Livestock
 - Economics
 - Environmental

USDA *2022 Agricultural Statistics Board Calendar* National Agricultural Statistics Service

	Monday	Tuesday	Wednesday	Thursday	Friday		Monday	Tuesday	Wednesday	Thursday	Friday	
January	3 Cotton System Fats & Oils Grain Crackings	4 State Stories	5 Breaker Hatchery	6 Dairy Products	7 Peanut Prices							
	10	11	12 Crop Production Crop Production - Ann. Grain Stocks Wheat Wheat/Grain Stocks Corn Corn Stocks Rice Stocks Poultry Hatchery	13	14 Peanut Prices Turkey Hatchery		4 HOLIDAY	5 Crop Program	6 Breaker Hatchery	7	8 Peanut Prices	
	17 HOLIDAY	18	19 Breaker Hatchery Chicken and Eggs North American Poultry	20 Livestock Slaughter	21 Cotton Ginnings Lumber Cattle Peanut Prices		11 Crop Program	12 Crop Production	13 Breaker Hatchery Turkey Hatchery	14	15 Peanut Prices	
	24 Cold Storage Milk Production Poultry Slaughter	25 State Stories	26 Breaker Hatchery Peanut Stocks and Processing	27	28 Egg Products Peanut Prices		18 Milk Crop Program	19	20 Agricultural Chemicals Fruit Breaker Hatchery Cattle Production	21 Chicken and Eggs Livestock Slaughter Milk Production	22 Eggs Lumber on Farm Cold Storage Peanut Prices	
	29 Agricultural Prices Cattle Capacity of Refrigerated Warehouses Sheep and Goats						25 Livestock Slaughter Crop Program	26	27 Breaker Hatchery Egg Products Peanut Stocks and Processing	28	29 Agricultural Prices Peanut Production Exports Peanut Prices	
February		1 Cotton System Fats & Oils Flour Milling Grain Crackings	2 Breaker Hatchery	3	4 Dairy Products Peanut Prices		1 Cotton System Fats & Oils Flour Milling Grain Crackings Crop Program	2	3 Breaker Hatchery	4 Dairy Products	5 Cash Basis - State Lumber Stocks Peanut Prices	
	7	8	9 Crop Production Lumber Breaker Hatchery	10	11 Cattle Production Peanut Prices		8 Crop Program	9	10 Breaker Hatchery	11	12 Crop Production Lumber Peanut Prices Turkey Hatchery	
	14	15	16 Breaker Hatchery Turkey Hatchery Vegetables - Ann.	17 Hemp Production Potato Stocks	18 Fats and Lard in Farms Peanut Prices		15 Crop Program	16	17 Cattle - Hogs Breaker Hatchery	18	19 Rice Stocks Lumber on Farm Peanut Prices	
	21 HOLIDAY	22 Sulfur Stocks Chicken and Eggs - Ann. Cold Storage Poultry Slaughter	23 Breaker Hatchery Milk Production	24 Cattle - Swine, Sheep Crop Values Livestock Slaughter	25 Lumber on Farm Chicken and Eggs Peanut Prices Milk Production		22 Chicken and Eggs Cold Storage Milk Production	23	24 Breaker Hatchery Poultry Slaughter U.S. and Canadian Cattle U.S. and Canadian Hogs	25 Livestock Slaughter	26 Cash Basis - County Milkstocks Peanut Prices Peanut Stocks and Processing	
	28 Agricultural Prices Cold Storage - Ann. Egg Products Tiret Production						29 Egg Products Crop Program	30	31 Agricultural Prices Breaker Hatchery			
March		1 Cotton System Cotton System - Ann. Fats & Oils Grain Crackings Grain Cracking - Ann.	2 Breaker Hatchery	3 Cattle - All Breeds U.S. and Canadian Cattle and Sheep U.S. and Canadian Hogs	4 Dairy Products Peanut Prices							
	7	8	9 Crop Production Lumber Breaker Hatchery	10	11 Peanut Prices Peanut Stocks other USDA Crop Reports Peanut Stocks After USDA Livestock Reports		5 HOLIDAY	6 Crop Program	7 Breaker Hatchery Cattle Fats	8	9 Peanut Prices	
	14 North American Cattle and Hog Cracking	15	16 Breaker Hatchery Hay Stocks Turkey Hatchery	17	18 Peanut Prices		12 Crop Production Lumber Cattle Ginnings	13	14 Breaker Hatchery Livestock Historical Tank Returns Turkey Hatchery	15 National Conservation Practice Adoption Statistics Service	16 Hay Stocks Peanut Prices	
	21 Chicken and Eggs Milk Production	22	23 Breaker Hatchery Cold Storage	24 Livestock Slaughter	25 Lumber on Farm Peanut Prices Peanut Stocks and Processing Poultry Slaughter		19 Milk Production Crop Program	20	21 Breaker Hatchery Chicken and Eggs	22 Cold Storage Livestock Slaughter	23 Lumber Ginnings Lumber on Farm Peanut Prices Poultry Slaughter Turkey Raisin	
	28	29 State Stories Egg Products	30 Hogs and Pigs Breaker Hatchery	31 Grain Stocks Prospective Plantings Dry Stocks Soybean Prices			26 Peanut Stocks and Processing Crop Program	27	28 Breaker Hatchery Egg Products Peanut Stocks	29 Hogs and Pigs	30 Grain Stocks Soybean Stocks Soybean Prices Peanut Prices	
											July	
												August
												September

Background

- All federal statistical agencies required to produce survey documentation for data users
 - [OMB Standards and Guidelines for Statistical Surveys, Section 7.3](#)
- Nearly all our reports have always had a small section on methodology at the end of report
- Began publishing longer Methodology and Quality Measures (QM) reports in 2011
 - Currently publishing 28 unique QM reports
 - Several new reports added in last two years

Background

- QM reports created to:
 - Satisfy OMB Standards and Guidelines
 - Increase transparency
 - Provide additional data quality measures for published estimates
 - Publicly document our data collection instruments and survey methodology over time
 - Helps answer questions from our data users



Methodology and Quality Measures Reports

The screenshot shows the USDA National Agricultural Statistics Service website. At the top left is the USDA logo and the Agriculture Counts logo. The main header includes the text "United States Department of Agriculture National Agricultural Statistics Service" and social media icons for Twitter, YouTube, RSS, Flickr, and Facebook. A search bar labeled "Search NASS" is present. Below the header is a navigation menu with items: Data & Statistics, Publications, Newsroom, Surveys, Census, About NASS, Contact Us, and Help. The breadcrumb trail reads "You are here: Home / Publications / Methodology and Data Quality". A "Statistics by State" dropdown menu is visible. The main content area is titled "Publications" and features a sub-header "Methodology and Quality Measures" with an alphabetical index (A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z). Under the letter 'A', there are three links: "Agricultural Chemical Usage - Field Crops", "Agricultural Chemical Usage - Fruit", and "Agricultural Chemical Usage - Vegetables". Under the letter 'C', there are six links: "Cash Rents", "Catfish Production", "Cattle", "Cattle on Feed", "Chicken and Eggs", and "Cost of Pollination". Under the letter 'F', there are seven links: "Farm Computer Usage and Ownership", "Farm Labor", "Farmers Market Manager", "Farm Production Expenditures", "Farms and Land in Farms", "Farms, Land in Farms, and Livestock Operations", and "Floriculture". On the left side of the page, there are three sections: "Find NASS Publications by:" with links for State, Date, Subject, Keyword, Title/Release Day, Reports by Year, and Guide to Products and Services; "About NASS Estimates" with links for Understanding Agricultural Estimates, Methodology and Quality Measures, Advanced Topics, Request a Special Tabulation, and Citation Request; and "Also See" with links for 2022 ASB Livestream Schedule, Highlights, Research Reports, and Schedule of Release Dates for Principal Federal Economic Indicators: 2021 | 2022.

Content

- Methodology and Quality Measures report
- Report Form



The screenshot shows the USDA National Agricultural Statistics Service website. The header includes the USDA and Agriculture Counts logos, the text "United States Department of Agriculture National Agricultural Statistics Service", and social media icons for Twitter, YouTube, RSS, and Facebook. A search bar is located in the top right corner. The main navigation menu includes "Data & Statistics", "Publications", "Newsroom", "Surveys", "Census", "About NASS", "Contact Us", and "Help". The breadcrumb trail reads "You are here: Home / Publications / Methodology and Data Quality / Small Grains". The page title is "Publications" and the sub-section is "Methodology and Quality Measures". The content is organized by date, with "Oct. 1, 2021" and "Sept. 1, 2021" sections. Each section lists two items: "Methodology and Quality Measures" and "Report Form". A sidebar on the left provides navigation options for finding publications and about NASS estimates. The page is last modified on 09/01/2021.

USDA AGRICULTURE COUNTS United States Department of Agriculture National Agricultural Statistics Service

Subscriptions: [National](#) | [State](#) | [News](#)

Search NASS

Data & Statistics Publications Newsroom Surveys Census About NASS Contact Us Help

You are here: [Home](#) / [Publications](#) / [Methodology and Data Quality](#) / [Small Grains](#) Statistics by State

Find NASS Publications by:

- [Statistics by State](#)
- [Date](#)
- [Subject](#)
- [Keyword](#)
- [Title/Release Day](#)
- [Reports by Year](#)
- [Guide to Products and Services](#)

About NASS Estimates

- [Understanding Agricultural Estimates](#)
- [Methodology and Quality Measures](#)
- [Advanced Topics](#)

Publications

Methodology and Quality Measures

Small Grains

Oct. 1, 2021

- [Methodology and Quality Measures](#)
- [Report Form](#)

Sept. 1, 2021

- [Methodology and Quality Measures](#)
- [Report Form](#)

Last Modified: 09/01/2021



Report Form



Section 2 - Crops

Now I would like to ask about crops grown during the 2021 crop year.

- Please report for all land you operate, including land you rent from others.
- If harvest is not complete, make your best estimate of acres and total production.
- Report crops grown for any purpose for the 2021 crop year, even if the crop has been grazed off, plowed under, or abandoned.
- EXCLUDE prevented planted acreage (originally intended crop that was unable to be planted).
- Acres for all other purposes: Acres of the crop used for hay, pasture, cover crop, abandoned, etc.

1. Corn: (EXCLUDE popcorn and sweet corn.)

- a. Acres planted for all purposes?.....
- b. Acres harvested and to be harvested for grain? (EXCLUDE seed corn.).....
- c. Total grain production? (EXCLUDE seed corn.).....
OR
- d. Yield per acre of grain harvested? (EXCLUDE seed corn.).....
- e. Acres harvested and to be harvested for seed corn?.....
- f. Total seed corn production? (Report actual total production. Do not report the settlement account bushels.).....
OR
- g. Yield per acre harvested for seed corn? (Report the actual yield per acre. Do not report the payment yield.).....
- h. Acres cut for silage?.....
- i. Total silage production?.....
OR
- j. Yield per acre of silage cut?.....
- k. Acres of corn for all other purposes?.....

Corn	
Acres	530
Acres	400
Bushels	401
Bu/Ac	704
Acres	398
Bushels	399
Bu/Ac	391
Acres	373
Tons	376
Tons/Ac	393
Acres	379

Content

- Survey Methodology
 - Scope and Purpose
 - Timeline
 - Sampling
 - Data Collection
 - Survey Edit
 - Analysis Tools
 - Nonsampling Errors
 - Estimators
 - Estimation



Grain Stocks Methodology and Quality Measures

ISSN: 2167-3225

Released January 28, 2022, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

Scope and Purpose: Estimates of grain stocks and capacity are derived from the Agricultural Survey and the Off-Farm Grain Stocks (OFGS) survey. The Agricultural Survey is a quarterly survey (March, June, September, and December) conducted in all States, except Hawaii, which collects on-farm grain stocks and storage each quarter. Reports received from individual farmers and ranchers remain confidential and are used only in combination with other reports to arrive at State and National estimates. The OFGS survey is conducted quarterly in all States, except Alaska, Connecticut, Hawaii, Nevada, and Rhode Island. For the OFGS survey, elevators, warehouses, and processing facilities are contacted to determine how much of a commodity is being stored at a certain point in time. Published estimates for the off-farm grain stocks are used in combination with the on-farm grain stocks estimates to get a complete picture of the amount of grain stored across the country.

The use of crop acreage, production, and stocks information is extensive and varied. It helps producers find the best market opportunities for their commodities. Often, recommendations and forecasts presented in agricultural magazines, news releases, etc. are based on data from the Agricultural Survey and the OFGS surveys found in NASS reports. Uses of data by farm organizations, financial institutions, insurance companies, agribusinesses, State and National farm policy makers, and buyers of agricultural products may range from maintaining a basic data series to preparing marketing campaigns and determining needs and rates on farm loans and insurance policies. Government agencies at various levels are important users of statistics. Federal farm programs require information on acreage, production potential, stocks, prices, and income. Agricultural statistics are used to plan and administer Federal and State programs in areas such as consumer protection, conservation, foreign trade, education, and recreation.

Timeline: The reference date for the stocks portion of both surveys is the first of the month (March, June, September, and December) with a data collection period of approximately 15 calendar days. Regional Field Offices (RFOs) may begin data collection two days prior to the reference date. Data collection continues until a scheduled ending date, and RFOs have about 4 or 5 business days to complete editing and analysis, execute the summary, and interpret the survey results. The Agricultural Statistics Board (ASB) conducts the National review, reconciles State estimates to the National estimates, and prepare the official estimates for release in 5 or 6 business days. The Grain Stocks report is released at the end of each specified month above except for December. The December 1 stocks estimates are published in early January. The publication contains quarterly U.S. and State level data for grain stocks for all wheat, barley, corn, Durum wheat, oats, sorghum, and soybeans. Certain months of the publication contain annual grain stocks data for canola, mustard seed, rapeseed, rye, and safflower. Additionally, biannual grain stocks data are published for chickpeas, dry edible peas, and lentils in June and December, and for sunflower in March and September.

Sampling: The target population for the Agricultural Survey is farms with cropland and/or storage capacity. NASS uses a dual frame approach, consisting of list frame and area frame components, to provide complete coverage of this target population.

The list frame includes all known farms. Crop acreages and storage capacity of each farm is maintained on the list frame to allow NASS to define list frame sampling populations for specific surveys and to employ efficient sampling designs. Only list frame records with positive planted acres or storage capacity of the desired commodities are included in the list frame population. A lower boundary, such as 50 acres of total cropland or 1,000 bushels of grain storage capacity, is used for some States to establish the list frame population.

Content

- Sample size and survey response rate
 - Follow OMB Standards and Guidelines for Statistical Surveys ([Guideline 3.2.2](#))
 - Matches what is submitted for OMB docket renewal

Trout Survey Sample Size and Response Rates – United States: 2021-2022

	2021		2022	
	Sample size (number)	Response rate (percent)	Sample size (number)	Response rate (percent)
Arkansas	5	100.0	5	80.0
California	25	60.0	24	83.3
Colorado	33	72.7	35	80.0
Georgia	10	70.0	10	60.0
Idaho	20	85.0	19	78.9
Michigan	22	59.1	18	77.8
Missouri	12	91.7	12	91.7
New York	21	66.7	18	83.3
North Carolina	30	80.0	27	77.8
Oregon	10	60.0	10	60.0
Pennsylvania	43	27.9	35	57.1
Utah	19	94.7	18	100.0
Virginia	19	84.2	17	64.7
Washington	20	60.0	20	70.0
West Virginia	19	100.0	18	88.9
Wisconsin	33	75.8	32	78.1
Other States	79	84.8	75	70.7
United States	420	72.6	393	75.6

Content

- Weighted item response rate
 - Proportion of the survey estimate that is reported and expanded by original sampling weight
 - Measures all types of nonresponse adjustment (imputation, reweighting, calibration, etc.)
- Coefficient of Variation (CV)
 - Ratio of standard error to survey estimate expressed as %
 - Many surveys are a census so no sampling error



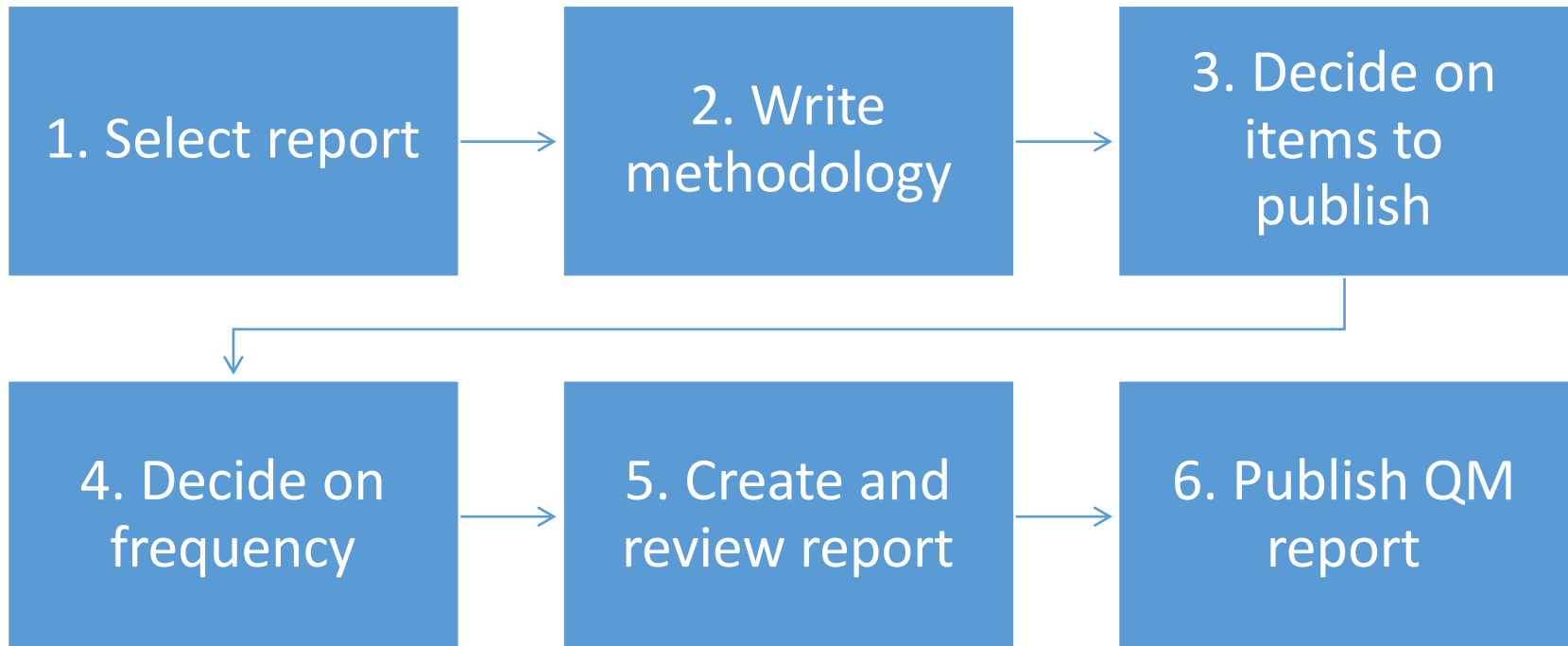
Content Example



Quality Metrics for Mink Pelts Produced and Females Bred – Selected States and United States: 2020-2022

State	Weighted item response rate			
	Pelts produced		Females bred to produce kits	
	2020	2021	2021	2022
	(percent)	(percent)	(percent)	(percent)
Idaho	66.0	54.3	62.0	46.4
Illinois	91.8	100.0	92.3	100.0
Iowa	90.8	73.3	92.2	70.5
Michigan	100.0	100.0	100.0	100.0
Minnesota	72.4	73.6	73.3	73.7
Oregon	73.6	44.9	73.1	40.8
Pennsylvania	77.1	100.0	75.6	100.0
Utah	66.9	69.2	65.5	65.9
Washington	75.1	75.5	76.4	74.7
Wisconsin	94.0	72.8	94.4	70.5
Other States	46.9	89.2	47.4	88.7
United States	74.6	71.1	75.1	68.8

Process



Challenges

- One NASS report contains information from multiple surveys
 - Grain Stocks
 - Annual Crop Production
- What is collected on survey is not directly published
 - Chicken and Eggs
- Keeping report standardized but also customized

- What's next?
 - Expand to more reports
 - Implement more automation to make report generation easier
 - Follow decisions made by Dissemination team for all NASS reports
 - Most likely QM not in static reports



Questions?