



United States Department of Agriculture
Economic Research Service & National Agricultural Statistics Service

Agricultural Resource Management Survey (ARMS)



Uses of ARMS III Data

Jonathan McFadden
USDA Economic Research Service

ARMS Phase III National Workshop
January 11, 2022

Agricultural Resource Management Survey (ARMS)



Major ERS Uses of ARMS Data

- Financial reporting & other data releases
 - On farm sector, farm businesses, farm households
 - Via ERS webinars, web data-tool, & NASS & ERS postings
- ERS reports on policy-relevant issues
 - Posted on website and available to all
- ERS custom reports (staff analyses)
 - Unpublished, for policymakers; Quick turnaround



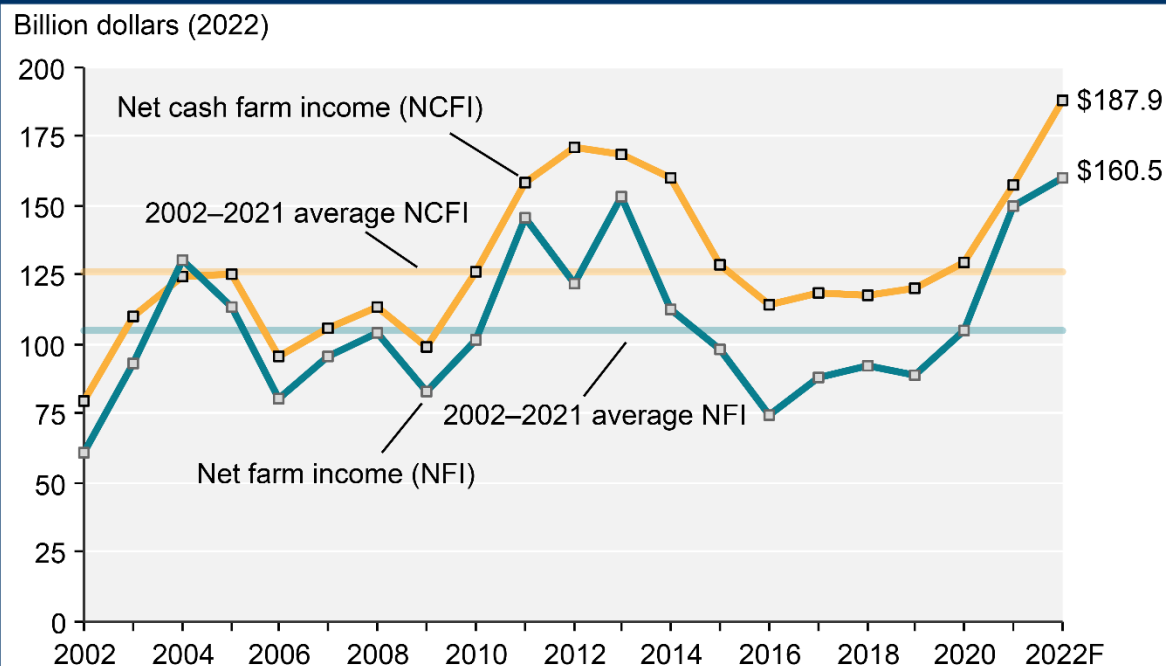
Agricultural Resource Management Survey (ARMS)



ARMS Uses: Financial reporting

Net Farm Income expected to rise in 2022

U.S. net farm income and net cash farm income, inflation adjusted, 2002–2022F



*Note net farm income vs.
net cash income*

*Net farm and net cash hit
records in 2013, fell to 2016,
and rose sharply 2020-22.*

*Supported by direct
government payments of
\$25.9 billion in 2021*

Note: F = forecast. Values are adjusted for inflation using the U.S. Bureau of Economic Analysis Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2022 by USDA, Economic Research Service.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

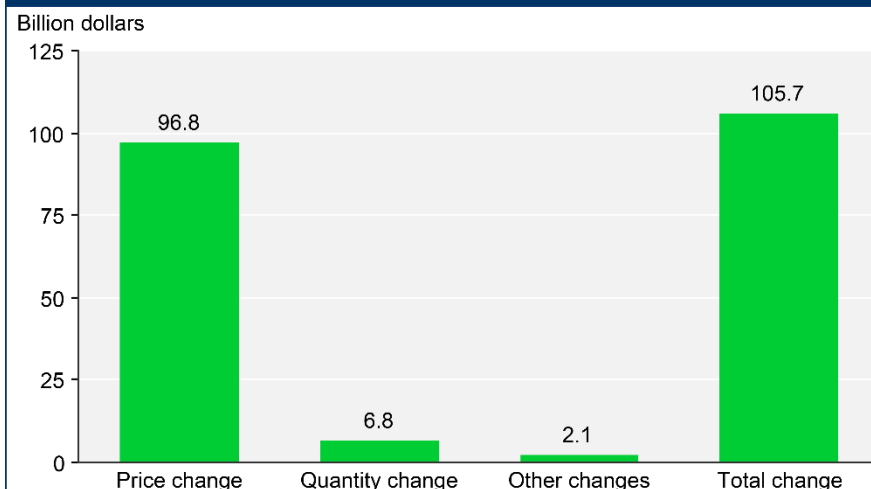
Data as of December 1, 2022.

Agricultural Resource Management Survey (ARMS)



Our Forecast Goes Into Details of Revenues and Expenses

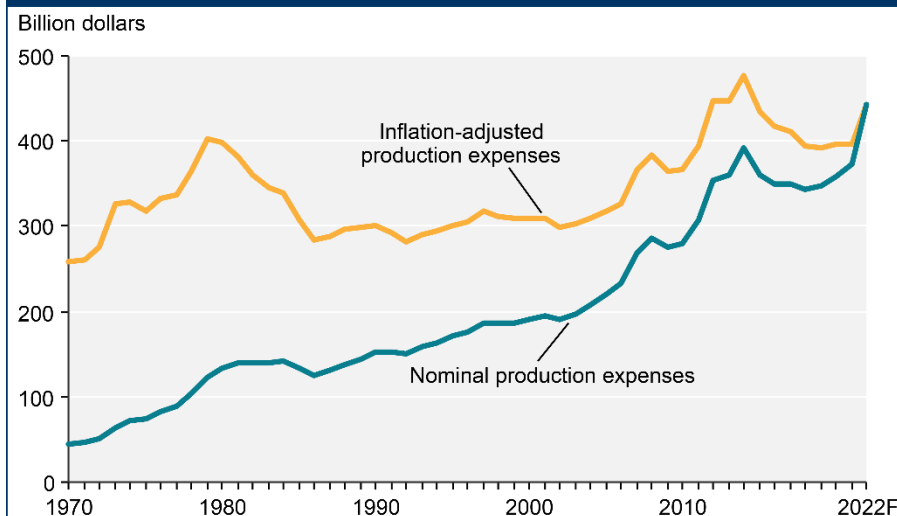
Change in U.S. farm cash receipts, 2021–2022F, by component of change



Note: F = forecast. Other changes include price/quantity changes in "all other crops" (excluding sugarcane and sugarbeets), proso millet, and miscellaneous animals/products for which data are not available. Price, quantity, and other changes may not sum to total because of rounding.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of December 1, 2022.

Nominal and inflation-adjusted U.S. farm production expenses, 1970–2022F



Note: F = forecast. Real values are adjusted for inflation using the U.S. Bureau of Economic Analysis Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2022 by USDA, Economic Research Service.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of December 1, 2022.

Cash receipts increased by 24.3%, mostly on price increases.

Farm production expenses increased by 18.8%.

Note: Left figure, strictly speaking, doesn't rely on ARMS data, but it's useful for the discussion here about the forecast.



Agricultural Resource Management Survey (ARMS)



ERS Farm Financial Reporting

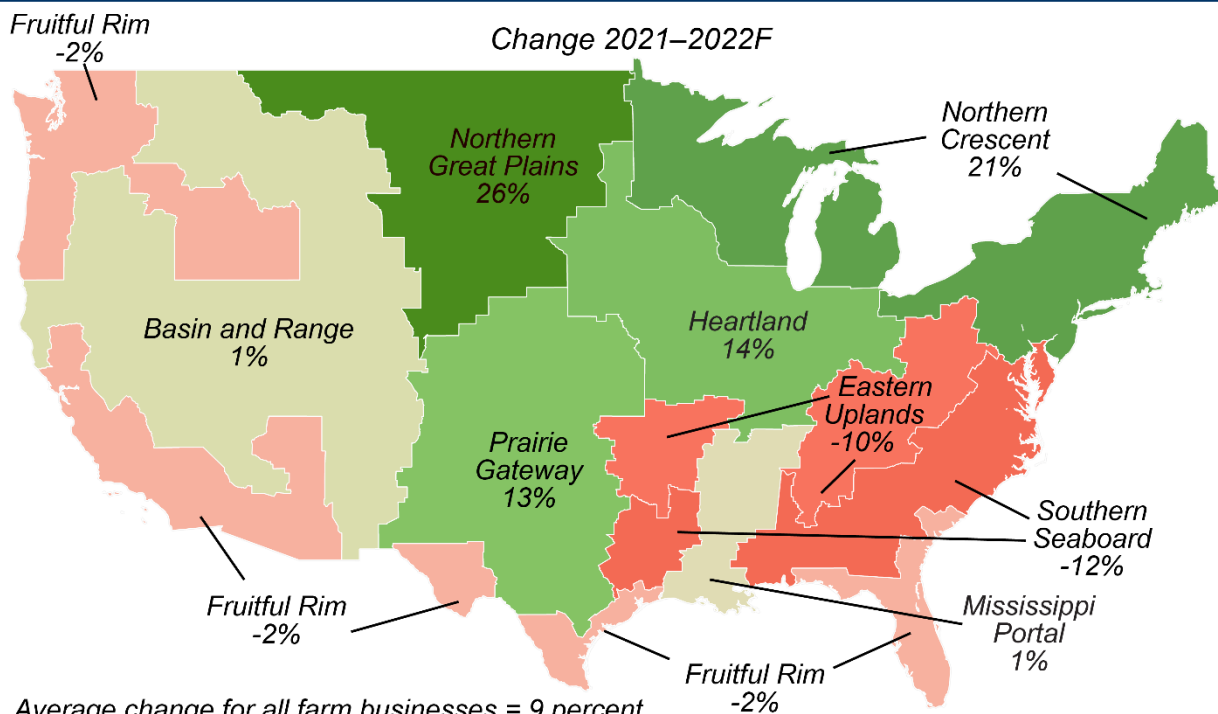
- That's the 2022 *forecast*. ERS also provides *estimates of what did happen*.
 - For the headline numbers, as well as for component expense and revenue items.
 - For farm sector, and breakouts
- ARMS provides about $\frac{3}{4}$ of the data used in the farm sector accounts.
 - Expenses, assets, and debt

Agricultural Resource Management Survey (ARMS)



ARMS Supports Regional Detail

U.S. farm business average net cash farm income by resource region, 2022F compared with 2021



Note: F = forecast. The partial budget forecast model is based on the Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. The model is static and does not account for changes in crop rotation, weather, and other location-based production impacts that occurred after the base year. Data as of December 1, 2022.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Financial results vary across the country, with differences in the mix of commodities produced in different regions.

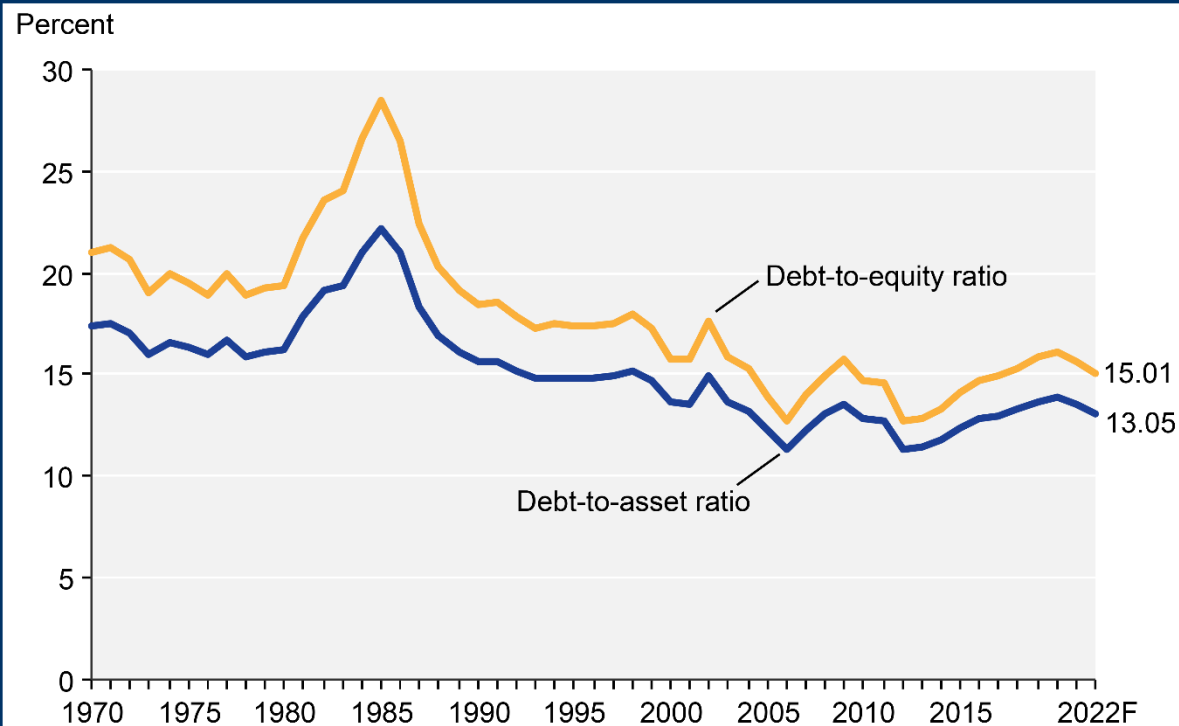


Agricultural Resource Management Survey (ARMS)



ARMS Data Also Underlie ERS Balance Sheet Analyses

U.S. farm sector solvency ratios, 1970–2022F



Note: F = Forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Data as of December 1, 2022.

Rising debt ratios since 2013 are starting to decline.

Compare to the 1980s farm crisis, this is far less serious.

But debt stress varies widely across types of farms, and ARMS allows for detailed analyses of where risks may be most pronounced.



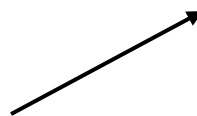
United States Department of Agriculture
Economic Research Service & National Agricultural Statistics Service

Agricultural Resource Management Survey (ARMS)



ARMS has supported ERS
financial reporting since
1996.

Analyses of long-term trends
in farm incomes, expenses,
government support, and
balance sheets place
current forecasts and
estimates in perspective





Agricultural Resource Management Survey (ARMS)



Use in Policymaking

- We live in volatile times for agriculture
 - Even before the pandemic
 - Accurate information is crucial for policymaking
- Congress, USDA, and others use ARMS-based data
 - Including National Corn Growers, American Soybean Association, National Pork Producers, American Farm Bureau, and other farm groups
 - Easy access to fundamental & detailed finance data
 - ERS reports are widely available; Congress and USDA also ask for custom reports



Agricultural Resource Management Survey (ARMS)



Who Else Wants This Information? Not Just Policymakers

- Input providers
 - Cash income drives equipment purchases. What will equipment/chemical/seed/feed demand look like?
- Lenders & Investors
 - What are the risks? What guidelines should I use?
 - Poor information is worse than pessimistic info
- Extension and farm advisors
 - They are how information and advice get to farmers

Agricultural Resource Management Survey (ARMS)



Recent ARMS Uses by Various Groups (Partial List)

Organization	Data Use	Year(s)
Ag Fax Newsletter	Distribution of farms by farm type, value of production, operating margins	2020
Agricultural Economic Insights	Net farm income, total farm debt, government payments, property tax expenses, income from farm sources and off-farm sources	2019-2021F
American Farm Bureau Federation	Returns to operator and production expenses, total farm assets, land/machinery/other share of assets, net farm income, net cash income, cash receipts for livestock and crops, off-farm income	1996-2021F
American Farmland Trust	Participation in federal crop insurance and compliance	2009
American Soybean Association	Net farm income, net cash income, debt-to-asset ratios	2013-2019
FAPRI – University of Missouri	Net farm income, fuel and fertilizer expenses	2012-2020
Farm Doc Daily – University of Illinois	Farm operator debt	2003-2016
Iowa Farm Bureau	Net farm income, net cash receipts	2017
Iowa State University – working paper	Hog production costs	2004
Kansas City Federal Reserve Bank	Net farm income of livestock operations and crop operations	2010-2021F
Kansas State University Extension	Dairy production costs	2010
Louisiana State University – Ag Center	Return on equity, return on assets	1991-2010
National Milk Producers Federation	Farm financial well-being	2016
Oklahoma State University Extension	Royalty payments by operator's age, income, experience, and farm size (GCFI)	2013
Portland Cement Association	Net farm income and farm debt for the central US	2000-2019
Purdue University – Research Issue	Balance sheet information	1986-2020
South Dakota State University Extension	Effective property tax rate (ratio of property taxes paid to reported market value of land and buildings)	2003-2012
Tennessee State University – working paper	Net farm income and assets of small farms	2010
The Ohio State University	Solvency, liquidity, assets, debts, equity, expenses	2004-2019
University of California-Davis – Rural Migration News	Milk costs and returns, labor costs	2016
University of Georgia Extension	Net farm income, separately for Georgia and total US, by production specialty	1996-2015
University of Wisconsin-Madison Extension	Share of farm household income from off-farm sources by farm size and operator age	2016-2020
Washington State University research	Off-farm income	2010



Agricultural Resource Management Survey (ARMS)



Uses: ARMS in National Economic Accounts

- ERS farm income estimates enter into:
 - National Economic (GDP) accounts
 - State Personal Income & Local Area Income estimates
- GDP estimates used for national economy measurement and policymaking
- Farm income is small share of national GDP
 - But an important source of year-to-year variation



Agricultural Resource Management Survey (ARMS)



ARMS Uses: State & Local Income Estimates

- Formula allocation of federal funds
 - Medicaid, Supplemental Security Income
 - Agricultural research & extension, USDA ag lending
- Local planning of public investment
 - Public utilities, highways, hospitals
- Private investment
 - Local retail & wholesale facilities

Agricultural Resource Management Survey (ARMS)



ARMS Uses: NASS Reports

- Farm Production Expenditures report
- Field Crop Chemical Use data
- TOTAL Land Use report



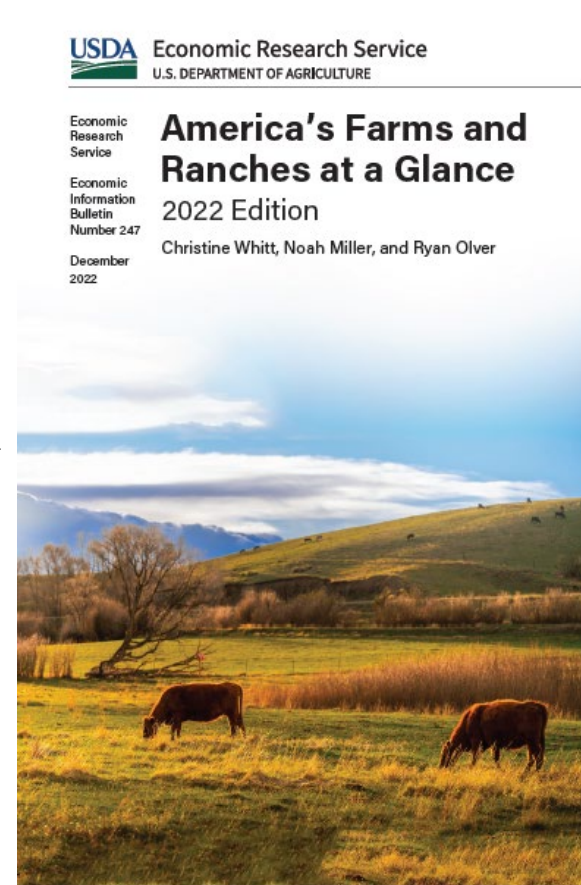
Agricultural Resource Management Survey (ARMS)



Reporting: ARMS Provides an Accurate and Objective Picture of US Farming to the Broad Public

“America’s Farms and Ranches at a Glance”

- Previously: “America’s Diverse Family Farms”
- Released each December
- Data drawn from the prior (2021) ARMS
- Farm sector organization: farm sizes; who produces what; who gets USDA support; family farms; household income

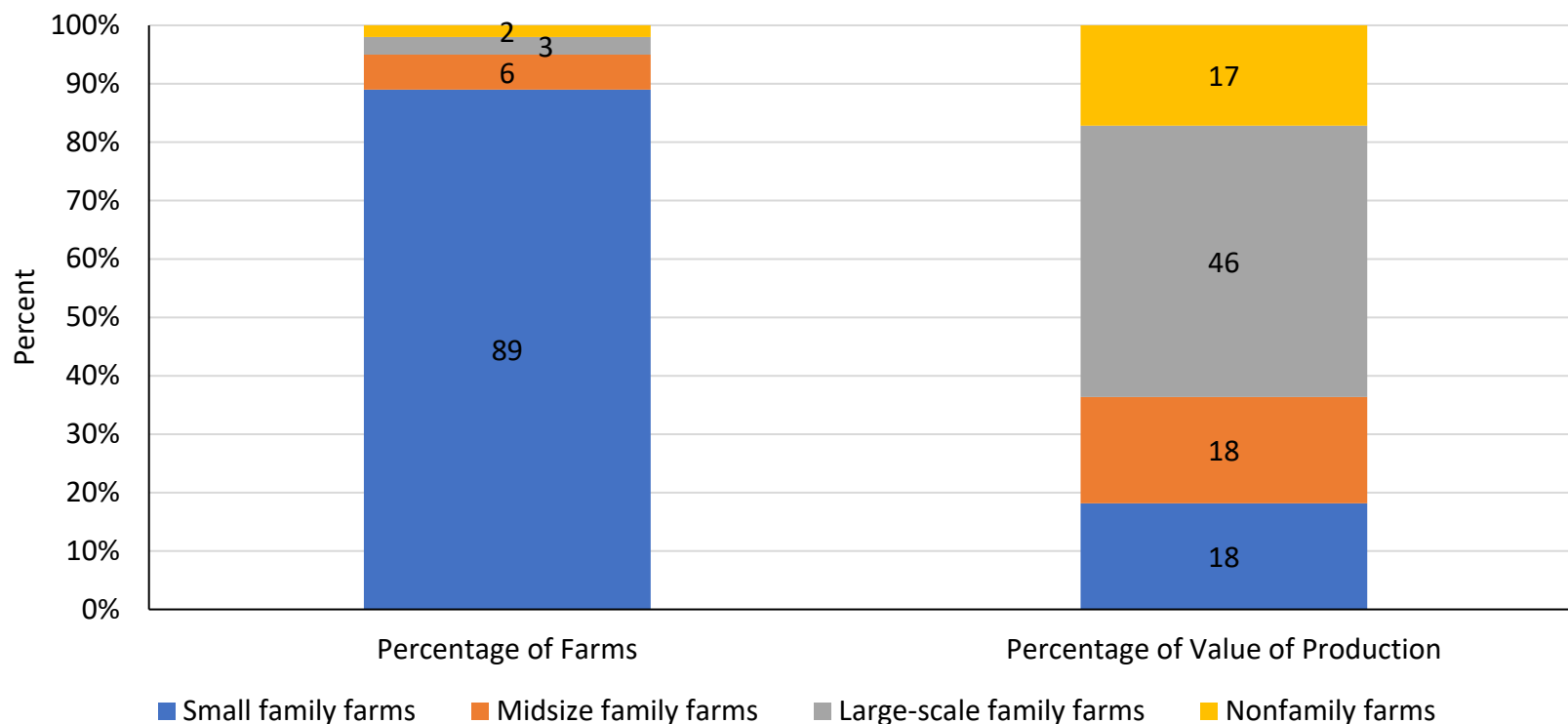


Agricultural Resource Management Survey (ARMS)



Here's an Example: Small, Midsize, and Large Family Farms

Here, the share of US farms, and farm production, falling into each of four categories



America's Farms and Ranches at a Glance:

Family farms are 98% of US farms and 83% of farm production.

Who is this news to?



Agricultural Resource Management Survey (ARMS)



Farms vary a lot; detail, provided by ARMS, matters

Farm Type	Share of all farms (%)	Median household income – all sources	Mean household income -- all sources	Mean household income from farming
Small farms (sales < \$350,000)	89.0			
Operator is retired from farming	11.4	63,900	74,877	5,052
Primary occupation is non-farm	37.4	114,200	141,761	-315
Primary occupation is farming				
Sales < \$150,000	34.8	62,600	83,584	-334
Sales of \$150,000-\$349,999	4.9	125,600	128,255	62,354
Midsize farms (sales of \$350,000-\$999,999)	5.6	210,700	239,971	152,442
Large scale farms	3.2			
Sales of \$1,000,000-\$4,999,999	2.9	464,900	556,974	461,413
Sales > \$4,999,999	0.3	1,144,200	1,744,401	1,662,892
All family farms	97.9	92,200	135,281	30,821

Source: 2021 ARMS Phase III

Note the role of off-farm income (all sources minus from farming)

Note the huge range in income from farming

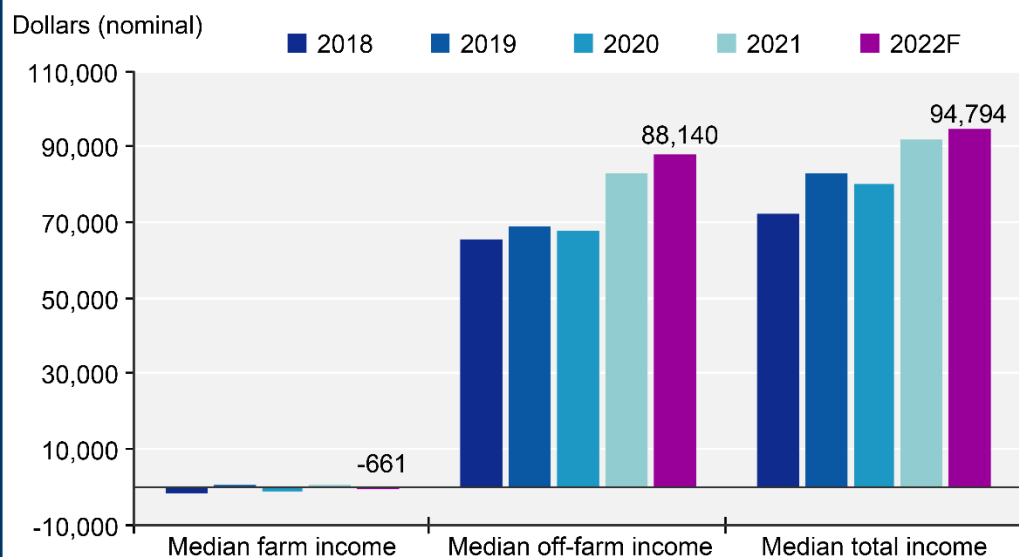


Agricultural Resource Management Survey (ARMS)



ARMS is used to estimate and track farm household income over time

Median farm income, off-farm income, and total income of farm households, 2018–22F



Note: F = forecast. The median is the income level where half of all households have lower incomes and half have higher incomes. Because farm and off-farm income are not distributed identically for every farm, median total income will generally not equal the sum of median off-farm and median farm income.

Source: USDA, Economic Research Service and USDA, National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of December 1, 2022.

*Net of farm expenses, and
Includes income from off-farm
sources*

*Provides a direct measure of
how farmers are doing, not
just farm businesses*

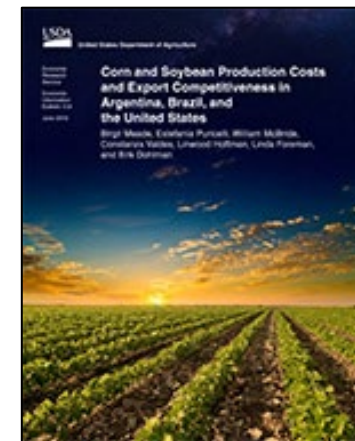
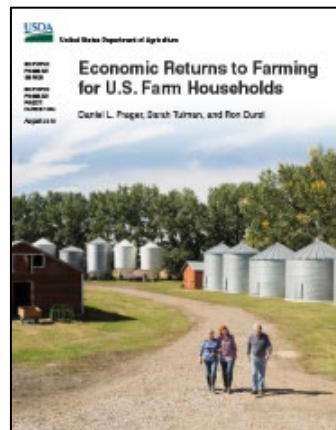
Household income needed to assess:

- 1) How tax proposals work*
- 2) Full impacts of farm policies*
- 3) How changes in the farm
economy—from crop prices,
drought, an export boom—
affect farm households*

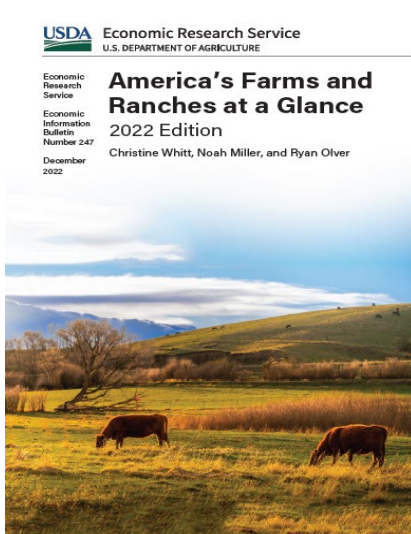


United States Department of Agriculture
Economic Research Service & National Agricultural Statistics Service

Agricultural Resource Management Survey (ARMS)



ARMS Supports ERS Analyses of Key Issues





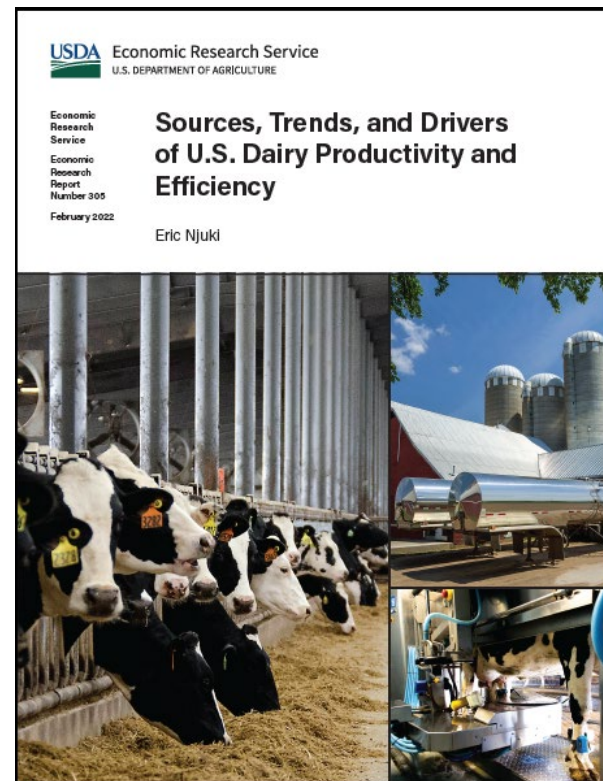
Agricultural Resource Management Survey (ARMS)



ARMS supports timely, objective, and reliable analyses of important productivity issues facing the farm sector

Phase III ARMS surveys of dairy producers in 2000, 2005, 2010, and 2016 allowed ERS to calculate “total factor productivity” for the dairy sector over time. From ARMS, we know dairy output, milk-cow inventories, feed, and many other important inputs.

From 2000-20, milk output increased by 1.53% annually, on average. Overall (TFP) growth was 2.51% per year, on average. Much of this was driven by improvements in technology.



Agricultural Resource Management Survey (ARMS)



What's New This Year?

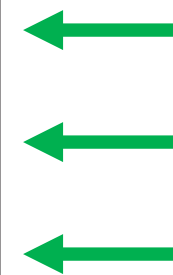
- A Wheat version
- Adds to prior ARMS wheat surveys in 1996, 1997, 1998, 1999, 2000, 2004, 2009, and 2017.
 - Provides baseline for ERS annual estimates of wheat costs and returns
 - Additional information collected in **Section 32: Operating & Capital Expenditures** and **Section 39: Wheat Drying**
 - Develops information to address pressing industry issues

Agricultural Resource Management Survey (ARMS)



We ask about operation-level expenses solely for the wheat enterprise in several places

SECTION 32 OPERATING & CAPITAL EXPENDITURES	
In 2022, how much was spent for each item by the PRODUCER(S) and PARTNER(S): (<i>Include only expenses related to this operation. Exclude expenses NOT related to this farm/ranch; expenses of performing custom work FOR others, if this is a separate business; and expenses on land rented to others.</i>)	
OPERATING EXPENSES in 2022	
	<div> <div>Mark "X" if None</div> <div>Dollars</div> </div>
1. seeds, sets, plants, seed cleaning and treatments, transplants, trees and nursery stock? (<i>Include technology or other fees, seed treatments, and seed cleaning cost. Exclude items purchased for resale without additional growth.</i>) 0600	<div> <input type="checkbox"/> <div>\$.00</div> </div>
a. Of the (Item 1) dollars, how much was for the WHEAT enterprise? 0603	<div> <input type="checkbox"/> <div>\$.00</div> </div>
2. nutrients, fertilizer, lime, and soil conditioners? (<i>Include cost of custom application and organic materials. Exclude potting mixes, vermiculite, and sterilized soil.</i>) 0606	<div> <input type="checkbox"/> <div>\$.00</div> </div>
a. Of the (Item 2) dollars, how much was for the WHEAT enterprise? 0609	<div> <input type="checkbox"/> <div>\$.00</div> </div>
3. agricultural chemicals and biocontrols for crops, livestock, poultry, and general farm use? (<i>Include biological pest controls and custom application costs.</i>) 0612	<div> <input type="checkbox"/> <div>\$.00</div> </div>
a. Of the (Item 3) dollars, how much was for the WHEAT enterprise? 0615	<div> <input type="checkbox"/> <div>\$.00</div> </div>
4. livestock purchases of –	



Here, in Section 32 on Operating & Capital Expenditures

Agricultural Resource Management Survey (ARMS)



Continued throughout on Operating & Capital Expenditures

(Continued) In 2022, how much was spent for each item by the PRODUCER(S) and PARTNER(S):

	Mark "X" if None	Dollars
11. purchased water for irrigation? <i>(Include irrigation assessments and fees.)</i> 0696	<input type="checkbox"/>	\$.00
a. Of the (Item 11) dollars, how much was for The WHEAT enterprise? 0699	<input type="checkbox"/>	\$.00
12. all other utilities, such as the farm share of telephone service, water purchased other than for irrigation, and Internet access? 0872	<input type="checkbox"/>	\$.00
13. farm supplies, marketing containers, hand tools and farm shop power equipment? . 0702	<input type="checkbox"/>	\$.00
14. repairs, parts and accessories for motor vehicles, machinery and farm equipment? . 0708	<input type="checkbox"/>	\$.00
a. Of the (Item 14) dollars, how much was for the WHEAT enterprise? 0711	<input type="checkbox"/>	\$.00
15. maintenance and repair for the upkeep of all farm buildings, houses other than the producer's, land improvements, and all other farm/ranch improvements? 0714	<input type="checkbox"/>	\$.00
a. Of the (Item 15) dollars, how much was for specialized livestock production facilities such as dairies, feedlots, poultry houses, and swine buildings? 0717	<input type="checkbox"/>	\$.00
b. Of the (Item 15) dollars, how much was for maintenance and repair of irrigation equipment and pumps? 0720	<input type="checkbox"/>	\$.00
(i) Of the (Item 15b) dollars, how much was for the WHEAT enterprise? 0723	<input type="checkbox"/>	\$.00
16. maintenance and repair of the producer's house if it was owned by the operation? 0726	<input type="checkbox"/>	\$.00
17. fees and any buy-up coverage for the Dairy Margin Coverage Program, including the \$100 administrative fee? 2702	<input type="checkbox"/>	\$.00
18. insurance for the farm business? 0729	<input type="checkbox"/>	\$.00
a. Of the (Item 18) dollars, how much was for Federal crop insurance? 0732	<input type="checkbox"/>	\$.00
(i) Of the Federal crop insurance (Item 18a) dollars, how much was for the WHEAT enterprise? 0735	<input type="checkbox"/>	\$.00



Agricultural Resource Management Survey (ARMS)



And the section on Wheat Drying (39)

SECTION 39		WHEAT DRYING													
1. Did the operation harvest wheat for grain for the 2022 crop year?															
1895	<input type="checkbox"/> Yes - Complete this section		<input type="checkbox"/> No - Go to SECTION 40												
		<table border="1"> <thead> <tr> <th colspan="2">Month (MM)</th> </tr> </thead> <tbody> <tr> <td>1826</td> <td></td> </tr> </tbody> </table>		Month (MM)		1826									
Month (MM)															
1826															
2. In what month was the majority of the 2022 wheat crop harvested?		1826													
3. How much of the 2022 wheat crop was															
		<table border="1"> <thead> <tr> <th>Bushels</th> <th>OR</th> <th>Percent</th> </tr> </thead> <tbody> <tr> <td>1864</td> <td>1865</td> <td>%</td> </tr> <tr> <td>1870</td> <td>1871</td> <td>%</td> </tr> <tr> <td>1876</td> <td>1877</td> <td>%</td> </tr> </tbody> </table>		Bushels	OR	Percent	1864	1865	%	1870	1871	%	1876	1877	%
Bushels	OR	Percent													
1864	1865	%													
1870	1871	%													
1876	1877	%													
a. custom dried?															
b. dried by this operation?															
c. not dried?															
		a + b + c = 100%													
[NOTE: If any of the 2022 wheat crop was custom dried (Item 3a), go to Item 4; else go to Note above Item 5.]															
4. How much was spent for custom drying the 2022 wheat crop?		1829													
		<table border="1"> <thead> <tr> <th>Dollars & Cents per Bushel</th> <th>OR</th> <th>Total Dollars</th> </tr> </thead> <tbody> <tr> <td>1830</td> <td>1830</td> <td>\$.00</td> </tr> </tbody> </table>		Dollars & Cents per Bushel	OR	Total Dollars	1830	1830	\$.00						
Dollars & Cents per Bushel	OR	Total Dollars													
1830	1830	\$.00													
[NOTE: If any of the 2022 wheat crop was dried by this operation (Item 3b), go to Item 5; else go to SECTION 40.]															

This section isn't in Version 1 of the CRR

Agricultural Resource Management Survey (ARMS)

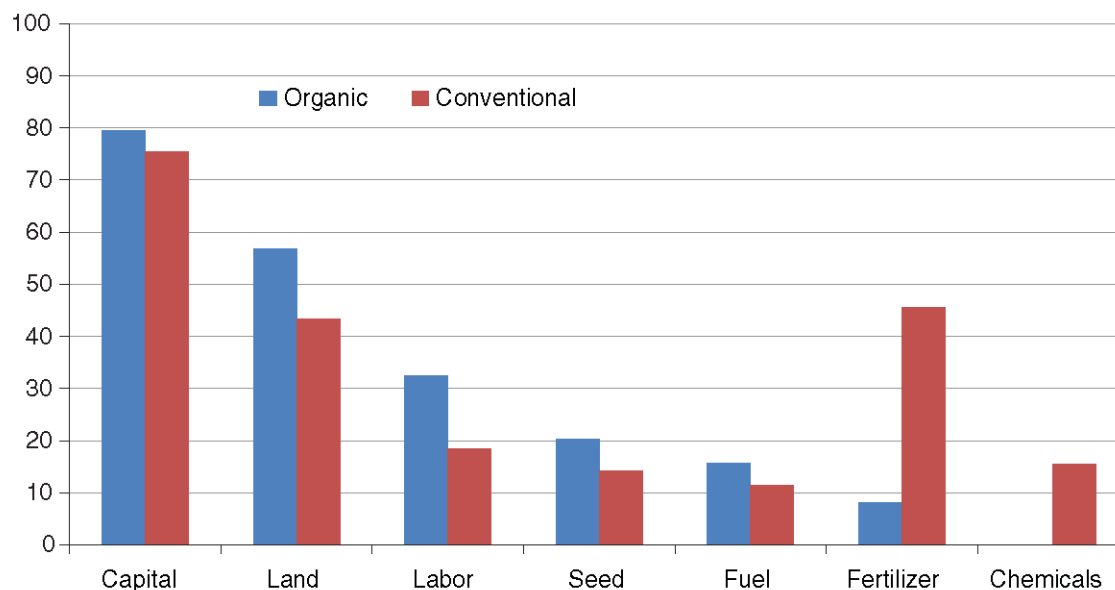


One Focus: Organic Agriculture

Figure 9

Costs per acre of organic and conventional wheat production by input, 2009

Dollars per acre



Note: Organic input costs are ordered from highest to lowest. Labor includes hired labor and unpaid labor costs.
Source: USDA, Economic Research Service and USDA, National Agricultural Statistics Service, 2009 Agricultural Resource Management Survey.

Here, organic agriculture:

- We can track across various crops/years
- In 2009, the wheat sample consisted of 3,699 farms; roughly 483 samples targeted organic operations.

These estimates can impact policy, as well as extension and consultant Advice.

Agricultural Resource Management Survey (ARMS)



Profitability of Organic Wheat compared to Conventional Wheat in 2009

Table 6

U.S. corn, wheat, and soybean crops: Organic compared with conventional economic costs and returns, by estimator¹

Crop/cost item	Estimator		
	Mean difference	Propensity-score matching	Regression w/ endogenous treatment-effects
<i>\$ per acre</i>			
Corn			
Gross value of production	148.18	148.18	148.18
Total economic costs	64.50	82.56	97.61
Net value of production	83.68	65.62	50.57
Wheat			
Gross value of production	53.06	53.06	53.06
Total economic costs	49.42	54.60	62.44
Net value of production	3.64	-1.54	-9.38
Soybeans			
Gross value of production	146.56	146.56	146.56
Total economic costs	98.08	105.92	124.96
Net value of production	48.48	40.64	21.60

¹Estimates show the difference in costs (including organic transaction and certification cost estimates) and returns of crop production between certified organic producers and conventional producers using each type of estimator. The difference in gross value of production was computed using the difference in mean yield and prices received for each crop. The difference in total economic costs is that estimated with each estimator times the difference in mean yield per acre for each crop.

Source: USDA, Economic Research Service and USDA, National Agricultural Statistics Service, Agricultural Resource Management Survey: 2010 for corn, 2009 for wheat, and 2006 for soybeans.

Here,

Difference in Net Value =
[Organic VoP – Conventional VoP] –
[Organic Costs – Conventional Costs]

Agricultural Resource Management Survey (ARMS)



Updated Production Cost/Ac Estimates, 2017 ARMS

	2021	2020	2019	2018	2017
Gross value of production					
Primary product, grain	282.33	238.41	247.11	253.43	219.36
Secondary product, silage/straw/grazing	6.49	4.99	5.53	4.84	5.25
Total, gross value of production	288.82	243.39	252.63	258.28	224.61
Operating costs					
Seed	14.86	14.47	14.51	14.79	14.11
Fertilizer ¹	50.39	42.95	48.17	44.61	42.52
Chemicals	15.79	15.56	16.60	16.88	16.74
Custom services	14.33	13.70	13.72	13.61	13.53
Fuel, lube, and electricity	13.00	9.79	11.44	12.03	10.73
Repairs	27.51	25.73	25.37	24.69	23.83
Other variable expenses ²	0.80	0.79	0.75	0.78	0.79
Interest on operating inputs	0.04	0.24	1.35	1.32	0.64
Total, operating costs	136.72	123.23	131.91	128.71	122.89
Allocated overhead					
Total, allocated overhead	216.57	196.82	194.34	193.73	183.87
Costs listed					
Total, costs listed	353.29	320.05	326.25	322.44	306.76
Net value					
Value of production less total costs listed	-64.47	-76.66	-73.62	-64.16	-82.15
Value of production less operating costs	152.10	120.16	120.72	129.57	101.72

Agricultural Resource Management Survey (ARMS)



What Else is New This Year?

- Most of the Phase III CRR questionnaire is aimed at farm finances
 - Building income statements, balance sheets
 - And so changes little each year
- But part is aimed at pressing current issues



Agricultural Resource Management Survey (ARMS)



We continue to track COVID-related items

d. Did you receive any COVID-19 **related** assistance for this farm business in 2022?

5922 1 ☐ **Yes** - Continue 3 ☐ **No** - Go to item e

	Mark "X" if None	Dollars
(i) Any USDA COVID-19 pandemic assistance 5920	<input type="checkbox"/>	\$.00
(ii) Other federal, state, or local COVID-19 pandemic assistance. 5923	<input type="checkbox"/>	\$.00

e. All other Federal, State, or local program payments?
*Please **exclude** Economic Injury Disaster Loans (EIDL) and
instead report those in Section 34 Farm Debt on page 27. 0545*

	Mark "X" if None	Dollars
	<input type="checkbox"/>	\$.00

21812201

Here, in Section 29 on Government Payments & Other Farm
Related Income

Agricultural Resource Management Survey (ARMS)



As well as in Section 38 on Principal Producer Household – Income, Assets, & Debt

(If a loss was incurred, please indicate with a negative sign).	0981	—	
h. income from private pensions and private disability payments?	0939	<input type="checkbox"/>	
i. income from public sources? <i>(Include Social Security, military and other public retirement, veteran's benefits, public disability, unemployment, or other public assistance, including COVID-19 related unemployment.</i>	0998	<input type="checkbox"/>	
j. other off-farm sources of income?	0993	<input type="checkbox"/>	
HOUSEHOLD SPENDING – (Please see VALUE CODES above.)		Mark "X"	Value Code



Here, income from public sources includes COVID-19 related unemployment benefits

Agricultural Resource Management Survey (ARMS)



We also track conservation and precision agriculture

How widely are cover crops & no-till used? Is that changing?

How widely are precision farming technologies being used?

SECTION 5		LAND USE PRACTICES	
1.	During 2022, considering the total acres on this operation, how many acres –	Mark "X" if None	Number of Acres
a.	Were drained by tile? 4583	<input type="checkbox"/>	
b.	Were artificially drained by ditches? 4584	<input type="checkbox"/>	
c.	Were under a conservation easement? 4585	<input type="checkbox"/>	
2.	During 2022, considering the cropland acres on this operation, [on] how many acres –		
a.	Were no-till practices used? 4586	<input type="checkbox"/>	
b.	Were conservation or reduced tillage, excluding no-till, practices used? 4587	<input type="checkbox"/>	
c.	Were intensive or conventional tillage practices used? 4588	<input type="checkbox"/>	
d.	Were planted to a cover crop? (Cover crops are planted primarily for managing soil fertility, soil quality, and controlling weeds, pests, and diseases.) Exclude CRP acres 4589	<input type="checkbox"/>	
3.	At any time during 2022, did this operation use precision agriculture practices to manage crops or livestock? This would include the use of global positioning (GPS) guidance systems, GPS yield monitoring and soil mapping, variable rate input applications, use of drones for scouting fields or monitoring livestock, electronic tagging, precision feeding, robotic milking, etc. 1169	1 <input type="checkbox"/> Yes 3 <input type="checkbox"/> No	



Agricultural Resource Management Survey (ARMS)



In this year, we are also tracking agricultural activity within American Indian reservations

SECTION 31 AGRICULTURAL ACTIVITY WITHIN THE BORDERS OF AMERICAN INDIAN RESERVATIONS, PUEBLOS, AND SERVICE AREAS

1. Did this operation use any land for livestock or cropland within the borders of an American Indian Reservation, Pueblo, or Service Area at any time during 2022? Include owned, deeded, tribal, or allotted land.

4599 1 ☐ Yes - Complete this section 3 ☐ No - Go to SECTION 32

2. Enter the name and state of the American Indian Reservation, Pueblo, or Service Area where the agricultural activity occurred.

Reservation, Pueblo, or Service Area Name	State
4600	4601

3. How many total acres did this operation use for livestock or cropland within this Reservation, Pueblo, or Service Area in 2022? Exclude land used on a per head or animal unit month (AUM) basis. 4602

a. How many of these acres were harvested cropland? 4603

4. In 2022, did this operation have any livestock within the borders of an American Indian Reservation, Pueblo, or Service Area? Include livestock on land used on a per head or animal unit month (AUM) basis.

4604 1 ☐ Yes - Continue 3 ☐ No - Go to SECTION 32

- a. On **December 31, 2022**, what percent of this operation's livestock was on this Reservation, Pueblo, or Service Area?

4605 1 ☐ None 3 ☐ 26 - 50 percent 5 ☐ 76 - 99 percent
2 ☐ 1 - 25 percent 4 ☐ 51 - 75 percent 6 ☐ 100 percent (all livestock)

Agricultural Resource Management Survey (ARMS)



How ARMS Circles Back to Producers

“My team at The Fertilizer Institute is responsible for our 4R Nutrient Stewardship efforts focused on fertilizer application practices tied to the right source at the right rate, the right time and in the right place. The ARMS supports our discussions with agronomic retailers when we want to point to the additional opportunities for practice adoption, and allows us to better understand trends in practice adoption by state. We are particularly interested in recent data to help us evaluate the impact of our amplified outreach efforts on fertilizer application practices.”

Lara Moody
Vice President, Stewardship and Sustainability
The Fertilizer Institute

Agricultural Resource Management Survey (ARMS)



A Summary: Major Uses/Users of ARMS data are ...

- **Farm Financial (Net Farm Income)** reporting and forecasts
- **Custom Reports** for policy makers who affect farmers everyday
- **Special Reports** that answer questions on current hot topics
- Major information source for **Farm Bills and Ag Policy**
- Agricultural Component of **GDP**
- Part of Formulas to **Allocate Tax Dollars**
- **Crop Insurance and Disaster** damage estimates
- **Lenders, Manufacturers, Suppliers, & Retailers** decisions
- Farm **Commodity groups**, for analysis and advocacy
- **Data Summaries Available** to all through the web tool



Agricultural Resource Management Survey (ARMS)



Why is ARMS Valuable?

- It's Representative, Comprehensive, Objective
- Links Enterprise, Whole Farm, & Household
- Tracks Income Statement & Balance Sheet Items
 - Links to production and marketing decisions



Agricultural Resource Management Survey (ARMS)



Policy Decisions Will be Made with or Without ARMS



- Policymakers...
 - Some have farm backgrounds, most don't
 - Those that do can't just rely on background, experience
 - They're all busy, so they rely on others for information
- ARMS provides accurate data on U.S. agriculture
 - Farmers: ARMS is your chance to tell the story of American Agriculture
- Better information makes for better decisions

Agricultural Resource Management Survey (ARMS)



That Value Comes from a Large Team

- ERS
 - Objective analyses & economic expertise
- NASS
 - Survey design, management, & production expertise
- NASDA enumerators
 - Producer cooperation & guidance, ground truthing
- Producers
 - Time, knowledge, thoughtfulness



Agricultural Resource Management Survey (ARMS)



Additional Information

- The Phase III Interviewers Manual
- ERS website: www.ers.usda.gov
- Charts of Note: read and sign up for free distribution at
 - <https://www.ers.usda.gov/data-products/charts-of-note/>
- America's Farms and Ranches at a Glance
 - <https://www.ers.usda.gov/publications/pub-details/?pubid=105387>
- Farm Sector Income Forecast:
 - <https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/highlights-from-the-farm-income-forecast/>



United States Department of Agriculture
Economic Research Service & National Agricultural Statistics Service

Agricultural Resource Management Survey (ARMS)



Thank you!
Questions?

Jonathan McFadden

jonathan.mcfadden@usda.gov