#### **NASS Survey Training**

## 2022 Conservation Practice Adoption Motivation Survey (CPAMS)

(NRCS CPAMS Crop Practices)



United States Department of Agriculture National Agricultural Statistics Service

NOD-Training Group
May 2022





## Who are we doing this for?

## National Resource Conservation Service (NRCS)

NRCS is a USDA agency in the Farm Production and Conservation mission area

Mission: Conserve natural resources in agriculture

- Preserve agricultural productivity
- Improve environmental quality



# Why does NRCS want to do this survey?

- C Conservation
- P Practice
- A Adoption
- M Motivation
- S Survey

- NRCS Strategy: Encourage farmers to use conservation practices
  - Conservation is voluntary
  - Work with farmers to develop and support farm-specific conservation plans
  - Provide technical and financial assistance for implementing plans
  - Programs usually cover only a part of actual costs
- Understanding producer motivations is critical to NRCS success
  - Long term, sustained conservation is largely up to producers
  - How can NRCS tailor conservation assistance to support sustained conservation?



# Some things NRCS is trying to find out

- Are incentives too low for some practices, thereby depressing adoption?
- Are we paying too much for some practices that would be adopted anyway?
- Is technical assistance sufficient in some cases?
- Are some practices prone to dis-adoption when financial assistance stops?
- How important are incentives in achieving operation-wide adoption?



Each version has some unique questions pertaining to specific conservation programs or practices..... However, both versions have some matching sections or questions

#### • 2 versions:

- V1 Crop Practices
- V2 Confined Livestock

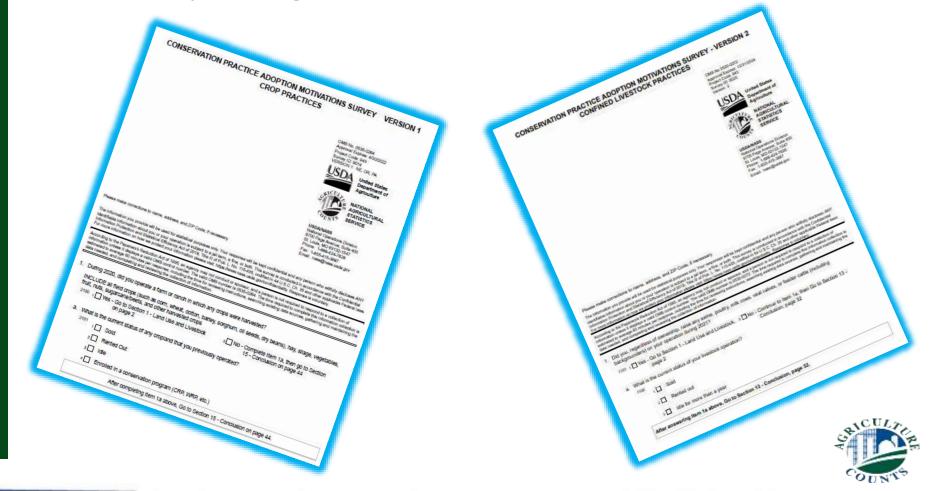
#### Similar sections across versions:

- Land use and livestock
- Technical assistance
- Demographics
- Value of sales



## General Survey Information

- Project Code: 943-NRCS CPAM
- Questionnaires:
  - Crop Practices & Confined Livestock mail May 9
- Web reporting available



#### OMB No. 0535-0272 Exp. Date 12/31/2024

## Cover Letter

Instructions of how to complete online are on the back



#### United States Department of Agriculture



May 9, 2022

#### Why am I getting this letter?

You have been selected to participate in the Conservation Practice Adoption Motivations Survey (CPAMS) of crop practices. Beginning May 30, USDA's National Agricultural Statistics Service (NASS) will collect conservation practice data from producers across the United States. Your information is important, and we know your time is valuable, so we will offer multiple options to respond.

This survey is a joint project between NASS and USDA's Natural Resources Conservation Service (NRCS) aimed at better understanding conservation practice adoption and the role of technical and financial assistance. The survey results will be used to guide the implementation of NRCS programs in the future.

#### What should I do when I receive my survey?

Complete your survey in one of the following ways:



Online at agrounts usda gov.

Online reporting is fast and secure. All you need is the survey code on the enclosed form to begin.



By mail or fax. Complete the survey and mail it back in the prepaid envelope provided or fax it to 855-415-3687.

Once you receive your survey, we recommend you respond online using NASS's new Respondent Portal at agcounts.usda.gov. On the portal, you can complete your surveys, access data visualizations and reports of interest, link to other USDA agencies, get a local weather update and more.

Survey results will be published on NASS's website in a report and in the Quick Stats database September 15, 2022.

The information you provide will be used for statistical purposes only. In accordance with federal law, your responses will be kept confidential.

Thank you for your participation and support of U.S. agriculture. If you have any questions, please contact us at 888-424-7828.

Sincerely.

Joseph L. Parsons

Chair, Agricultural Statistics Board



# Interviewer's Manuals for each version

Read! Know! Keep Handy!

#### Purpose

 Provide you with the tools to successfully administer the NRCS CPAM Survey

#### Contents

- Terms and definitions
- Detailed background information and objectives
- Enumerator procedures
- General question formats and responses
- Specific instructions for particular questions



## **Version 1 – Crop Practices**

- Screening During 2021 did you operate a farm or ranch in which any crops were harvested?
  - If "No", What is the current status of any cropland you previously operated? (sold, rented out, idle, enrolled in a conservation program like CRP, WRP, etc.)
    - Then skip to the conclusion
- If no crops were harvested in 2021, the operation does not qualify for the survey





- The purpose of this section is to collect operational data in order to classify the operation later for comparison of operations of different sizes and types.
  - Land use
  - Conservation programs
  - Livestock inventories
  - Organic production





- Total acres operated
  - Same as other surveys (owned + rented rented out)..... Except... in this survey we want to include acres rented on an animal unit month (AUM) basis
    - Animal unit month (AUM) the amount of forage required by an animal unit for one month. An animal unit is generally one mature cow of approximately 1,000 pounds and a calf as old as 6 months, or their equivalent.





Total acres operated broken down by land use:

Cropland

(How many of these acres were under an easement against development for non-ag uses in 2021?)

Grazing Land

(How many of these acres were under an easement against conversion to crop production or non-ag use in 2021?)

- + Woodland (not pastured)
- + Other land
- = Total acres operated (This should be equal to Item 2)
- Of the total acres operated, how many were under a permanent or long-term easement or enrolled in a land retirement program in 2021?
  - Does include CRP, WRP, CREP, FWP, etc.
  - Exclude land in 3ai or 3bi





- Total number of livestock and poultry, broken out by type, on December 31, 2021
  - Beef cows, milk cows, other cattle and calves, all hogs and pigs, all poultry, all other livestock





- During 2021, did this operation produce products according to USDA's National Organic Program (NOP) standards or have acres transitioning (Yes or No)
- Did the operation participate in a sustainable sourcing contract that requires specific farming practices (Yes or No)







## Section 2 – General Approach to Conservation

- This section asks some general questions about the operation's approach to (or thoughts on) conservation practices
  - Item 1 has 7 questions (answers = Agree, Neither Agree or Disagree, or Disagree)
    - Example: I seek out information about conservation practices and their implementation
  - Item 2 Thinking in general about the conservation practices that you have used in your farm operation, what are your objectives when deciding to use conservation practices? (check all that apply – 10 items)





## **Section 3 – Technical Assistance**

- This section is devoted to finding out which sources of technical assistance (TA) the operation has used in the past.
- Technical Assistance Direct consultation with the farmer, rancher, or landowner that may include developing a conservation plan for the operation or the planning, design, and layout for structures (such as grassed waterways, terraces, waste storage facilities, fences, and livestock water facilities in pastures) and management practices (such as nutrient management, irrigation water management, grazing management, and forest stand improvement). Technical assistance does not include community workshops, internet resources, farm shows and conventions, and information not directly specific to the operation.





## **Section 3 – Technical Assistance**

- TA can come from:
  - Federal agencies
  - State or local agencies
  - Private sources (free or paid)
- Nine questions/statements about TA
  - NA, Agree, Neither Agree nor Disagree, or Disagree
    - Technical assistance is available to me
    - I am comfortable using free technical assistance from federal gov't employees
    - Etc., Etc., Etc......





# Now on to Practices Particularly Associated with Cropland

- Lee Norfleet
  - NRCS Resource Assessment Branch Modeling Team
     Leader Cropland







#### **Practices**

- Cover Crops
- Nutrient Management
- Pest Management
- Tillage
- Drainage Water Management
- Runoff Management (Terraces, Waterways, Grade Stab., Water & Sed. Basins, Contour Farming)
- Edge of Field Structures (Field Borders, Filter Strips, Riparian Buffers)
- Wetland Conservation Practices (Creation and Enhancement)
- Irrigation Management and System Improvements



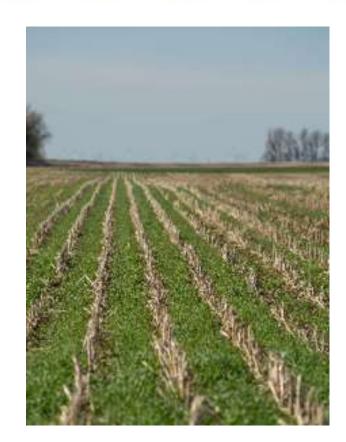






### **Section 4. Cover Crops**

- Cover crops provide cover between crops, often over winter
- Primarily for managing soil fertility, soil quality, and controlling weeds, pests and diseases.
- Cover crop use
  - Cover crops on roughly 5% of cropland (2017 Ag Census)
  - NRCS financial assistance to ~3.7% of crop operations, ~2.7% crop acres (since 1997).
  - Some states also assist farmers with cover crops
- Screen: Have you ever used cover crops?
- Ask about cover crop detail if used in 2021



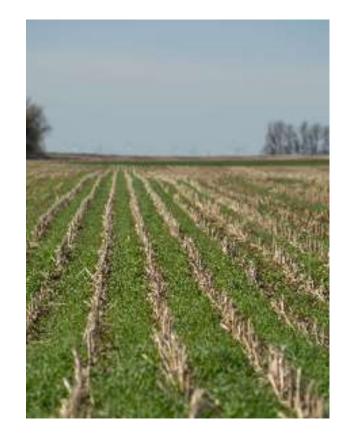






## **Cover Crops**

Did ye	ou use cover crops in 2021?	13
a. W	hat percentage of your cropland had cover crops in 2021? (0-100%)	212 %
L	What type of cover crop was used in 2021? Select all that apply.  Single species or seed type  Mix of 2 to 5 seed species  Mix of more than 5 seed species  Other	3.0
II.	What crops were planted before and after the 2021 cover crop?  INCLUDE every crop planted before or after a cover crop  217  Before  218  After	
iii	Which of the following were used to terminate the 2021 cover crop? Check all that apply.  Herbicide  Tillage  Roller/Crimper or other rolling method  Winter kill	
iv	Did you use any cover crops for grazing, forage or other on farm use in 2021? 1	∐Yes ₃ ∏ No
V.	Did you harvest any cover crops for grain in 2021?	☐ Yes ₃ ☐ No



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### **Section 5. Nutrient Management**

- A nutrient management plan guides the amount, source, placement, and timing of the application of nutrients and soil amendments
  - minimize the loss of nutrients to surface water, groundwater and air
  - maintain physical, chemical, and biological condition of the soil
  - meet crop yield goals
  - Plan typically developed with assistance from a technical expert
- NRCS financial assistance for 81,000 operators for plans covering 29.9 million acres (since 1997; some acres covered will not be cropland)
- Ask all producers about nutrient management practices
- Screen: Have you ever followed a written nutrient management plan?









## Section 5. Nutrient Management—Practices

-	Whit	ch of	the following nutrient or fertility management practices did you use in 2021? Check all that apply.
	301		Follow recommendations from a soil test or tissue test
	302		Incorporate nutrients through tillage or injection
	303		Apply nutrients no more than 30 days in advance of planting
	304		Split application (applying nutrients after the crop is already growing)
	305		Precision nutrient management (applying nutrients according to site specific recommendations for GPS- referenced sampling points)
	306		Precision lime application
	307		Adaptive nutrient management (using test plots and consulting with a nutrient management expert to adapt nutrient applications (rate, source, timing, placement) based on nutrient use efficiencies)







### **Section 6. Pest Management**

- A written pest management plan is a site-specific combination of pest prevention, avoidance, monitoring, and suppression strategies
  - Reduce pest pressure (weeds, insects, mites, slugs, nematodes, or disease)
  - Mitigate risks to soil, water, air, plants, animal, and humans
  - Plan typically developed with assistance from a technical expert
- NRCS financial assistance for 51,000 operators for plans covering 23.1 million acres (since 1997; some acres covered will not be cropland)
- Ask all producers about pest management practices
- Screen: Have you ever followed a written pest management plan?









## Section 6. Pest Management—Practices

1.	Whic	ch of t	he following pest management practices did you use in 2021? Check all that apply.
	401		Activities to reduce potential drift, runoff, leaching, etc.
	402		Scouting for pests and using economic thresholds to decide when to apply pesticides
	403		Use of precision technology such as GPS, variable rate application, or smart sprayers
	404	30	Artificial intelligence techniques such as weed sensing or autonomous robotics
	405		Measures to reduce injury to beneficial organisms and pollinators
	406		Prevention and avoidance techniques such as planting resistant varieties/cultivars, cleaning equipment mulching, creating beneficial insect habitat







### **Section 7. Tillage Practices**

- Tillage practices manage crop residue on the soil surface year-round by limiting soil-disturbing activities
  - No-till is planting crops without tilling the soil.
  - Strip-till means tilling only in-row narrow band over row
  - Reduced tillage means reducing the number and type of yearly tillage operations.
- Tillage practice adoption
  - No-till (continuous): 103 million acres (33% of cropland)
  - Reduced tillage (Mulch-till): 107 million acres (34% of cropland)
  - NRCS financial assistance on ~12.7 million acres (since 1997)
- Screen: Have you ever used no-till, strip-till, or reduced till?
- Ask detail if one of these practices was used in 2021



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## Section 8. Drainage Water Management

- A written drainage water management plan guides management of drainage volume and water table by regulating flow from a surface or subsurface drainage system.
  - Water control structures include flashboard risers, check dams, division boxes, pipe drop inlets, and others
  - Plan typically developed with assistance from a technical expert
- NRCS has contracted with ~690 operations on ~86,000 acres
- Ask about water control structures for all farms that have drainage
- Screen: Have you ever followed a written drainage water management plan developed with assistance from a technical expert?









## Section 8. Drainage Water Control—Details

Do	you h	ave a	drainage system (tile, ditch, etc.)?			
600	1 🗆	Yes -	Continue 3 No - Go to Section 9 - Runoff Management	Practices,	page	28
a.	Wha	t propo	ortion of your cropland has drainage?		658	%
b.	In wh	nat yea	ar was the current drainage system installed or last upgraded?	yea	2461	
C.		The second second second second	ever received financial assistance from the federal government, state 2 nt, or drainage district to improve your drainage system?	462 1 🔲	Yes	3 🗌 No
d.	ls yo	ur drai	inage system regulated by your state or local government?	463 1 🔲	Yes	3 🗌 No
e.	Does	this d	drainage system have surface inlets?	464 1 🔲	Yes	з 🗌 No
f.	Whe	re doe	es this system empty?			
	2465	1 🗆	An open, single stage ditch			
		2 🗌	A natural waterbody			
		3 🗌	A saturated buffer			
		4 🗌	A retention pond			
		<b>Б</b> П	Another type of receiving system			



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### Section 9. Runoff Management

- Runoff management practices slow the movement of water over land, reduce erosion, protect or improve water quality, or store runoff for moisture conservation.
  - Terraces
  - Grass Waterways
  - Grade Stabilization
  - Water and Sediment Basins
  - Contour farming
- Practices on ~20-25% of cropland
  - Many practices may have been installed by earlier owners
  - For structures installed by respondent, TA is typical, FA is common
- Screen: In 2021, were any structural practices for runoff management in use on land owned or leased by this operation?



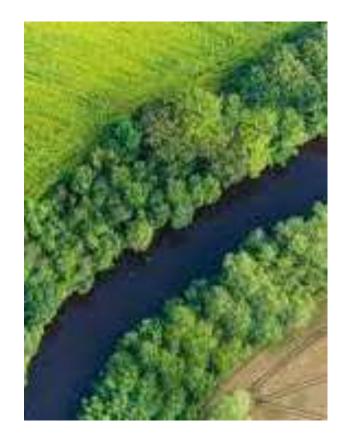






### Section 10. Edge of Field Structures

- Edge of field structures establish permanent vegetation at field borders, adjacent to waterways, or in sensitive areas to reduce erosion, improve water or air quality, manage pests, or provide wildlife habitat.
  - Field Borders
  - Filter Strips
  - Riparian Buffers
- One or more practices on ~10 percent of cropland
  - Many practices may have been installed by earlier owners
  - For structures installed by respondent, TA is typical, FA is common
- Screen: In 2021, were any edge of field structures in use on land owned or leased by this operation?



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### **Section 11. Wetland Conservation Easements**

- Ask all respondents about wetland easements or contracts.
  - NRCS easements = 2.99 million acres (WRP and ACEP)
  - USFWS = 350,000+ acres

Wetland mitigation bank?

Other state or local wetland program?

1.		portion of your operation (owned or leased) subject to any of the following easements or contracts to protect ids? Select all that apply.
	906	Permanent wetlands reserve easement?
	907	30 year wetlands reserve easement?
	908	Conservation Reserve Program (CRP) contract?
	909	☐ EQIP Contract?



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910

911



## Section 11. Wetland Conservation—Restore, Create

- Screen: Have practices ever been installed on your operation to conserve or increase wetlands?
  - FSA = 2.3 million acres (CRP)
  - NRCS = 167,000 acres (EQIP and other programs)
- Have either of the following practices ever been installed on your operation to conserve or increase wetlands?Complete the table below, then follow the instructions at the end of the table.

	t	and Owned		Land Leased
Restored or enhanced existing wetlands	962	1 Yes 3 No	963	1 ☐ Yes 3 ☐ No
Created new wetlands	964	1 Yes 3 No	965	1 ☐ Yes 3 ☐ No







## Section 12. Irrigation Management and System Improvements

- A written irrigation water management plan lays out the process of determining and controlling the volume, frequency and application rate of irrigation water
  - improve water use efficiency, minimize soil erosion, reduce energy use
  - protect surface and groundwater resources
  - manage salts in the crop root zone
- NRCS contracted with ~32,800 operations on ~8.5 million acres
  - ~13 percent of irrigated operations, ~17 percent of irrigated cropland
- Ask all respondents with irrigation about irrigation management practices
- Screen: have you ever followed a written irrigation water management plan developed assistance from a technical expert?







## Section 12. Irrigation Management and System Improvements

١.	Ha	ve you	use	d any irrigation equipment to irrigate any portion of your land at any time?		
	100	1 1 🗆	Yes	- Continue 3 No - Go to Section 13 - Conservation Stewardship Prog	ram, page	41
	a.	What	prop	ortion of your total cropland was irrigated during 2021?	1002	%
	b.	Which	of t	he following irrigation management practices do you use? Check all that apply.	ne <b>t</b> oo renkas w	
		1150	22	Soil moisture sensing devices (moisture block, tensiometers, capacitance or other electro		5)
		1005		Plant moisture-sensing devices such as pressure (chamber) bombs or infrared (IR) therm	ometer	
		1003		Irrigation scheduling service, including commercial and government		
		1006		Consulting reports on daily crop-water evapo-transpiration (ET) use (Internet, newspapers or email)	s, radio, TV	, fax
		1151		Computer simulation models (not from a commercial service)		







## **Section 12. Irrigation Systems**



- What irrigation systems are in use on operation?
  - Systems on owned, rented land
  - Installed or upgraded by operation during past 15 years?
- Which of the following irrigation systems are in use on your cropland? Complete the table below, then follow the instructions at the end of the table.

	Land Owned	Land Leased	Installed New by this operation in the last 15 years	Upgraded by this operation in the last 15 years
Micro or Drip	1055 1 Yes	1056 1 ☐ Yes	1057 1 Yes	1058 1 ☐ Yes
	3 No	3 ☐ No	3 No	3 ☐ No
Sprinkler	1059 1 Yes	1060 1 ☐ Yes	1061 1 ☐ Yes	1062 1 ☐ Yes
	3 No	3 ☐ No	3 ☐ No	3 ☐ No
Gravity or Flood	1063 1 Yes	1064 1 Yes	1065 1 ☐ Yes	1066 1 ☐ Yes
	3 No	3 No	3 ☐ No	3 ☐ No
Sub Irrigation	1067 1 Yes	1068 1 ☐ Yes	1069 1 ☐ Yes	1070 1 Yes
	3 No	3 ☐ No	3 ☐ No	3 No



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# Section 13 – Conservation Stewardship Program (CSP) Participation

- The Conservation Stewardship Program (CSP) helps farmers and ranchers build on or enhance already existing conservation efforts
- Payments and activities differ from other conservation programs
  - Practice enhancements—tied to conservation practices
  - Enhancement bundles—multiple enhancements, applied together
- Which practices were enhanced?
  - Acreage where enhancements were applied
  - Percent of cost covered by CSP payment





# Section 13 – Conservation Stewardship Program (CSP) Participation

 Now Roger Claassen with NRCS will till us more about CSP in the Crop Practices questionnaire.

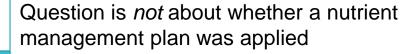






 Please fill out the table for the number of acres where you received financial assistance through CSP for applying an enhancement on any of the following practices.

Enhanced Practice Enrolled in CSP	Acres	Percent of Cost Covered by CSP Payment
	1122	1123
Cover Crops		%
	1124	1125
Nutrient Management		%
	1126	1127
Pest Management Conservation System		%
	1128	1129
No-Till		%
	1130	1131
Reduced Tillage		%
	1132	1133
Irrigation Water Management		%
	1134	1135
Field Border		%
	1136	1137
Filter Strip		%
	1138	1139
Riparian Buffers		%

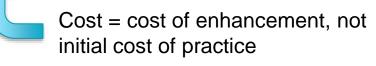


Question is: Was a nutrient management enhancement applied? Basic plan should already be in place

#### Enhancement examples:

- Precision application using variable rate equipment
- Increase nutrient use efficiency (enhanced efficiency fertilizer, Ninhibitor, soil/plant tissue testing, split application, application max 30 days before planting...and others).

Acres = Area where any enhancement was applied





## **Section 14 Demographics Section 15 Value of Sales**

- A few general demographics questions much like many of our other surveys
- Gross value of sales in 2021 and what the largest portion of gross income came from

Demographics and value of sales are just used to classify farms for comparison purposes.





## **Things To Remember**

- A fairly lengthy survey, but there are several skips if the operation did not participate in some programs
- Several Yes/No questions and pick from the list opinion questions. Not many questions that will require the use of farm records





Why should a producer participate?

Information gathered through this study will be used by NRCS to help guide conservation programs used by American farmers and ranchers through improved technical and financial assistance



## Conclusion

- Read the Interviewer's Manual (IM) and keep it handy
- Comments, Concerns, Questions?
- Practice Exercises
- Have a good survey!



