Pennsylvania Farm
Conservation Practices Inventory

Instructions

Thank you for agreeing to participate in this inventory of conservation practices on Pennsylvania farms. Please have the individual with the best knowledge of the conservation practices used in your operation complete the inventory. If you are a farm landowner who does not farm, you should give this survey to the farm operator. Farm operators may fill out one survey for all of their acreage within their home county. If you operate acreage in more than one county, please fill out a separate survey for each county. A consultant may also work with a client farmer to fill this out.

You may recall receiving a survey like this in the winter of 2016. If you filled out that survey, we thank you and ask you to fill out this year's survey in order to provide an update on your conservation practices. This provides you with the opportunity to report whether practices previously reported are still in place, report annual practices for 2021, and report any new practices that you have installed since you filled out the last survey. When you complete this year's survey, please report all practices on your farm, even if you reported them in 2016.

The inventory will be used to determine the amount of conservation practice adoption on Pennsylvania farms. Cumulative results from this survey will be provided to Pennsylvania's Chesapeake Bay Office to document the practices that Pennsylvania farmers are using to conserve soil and water, and protect water quality. Ten percent of the participants in this inventory will be randomly selected for farm visits by Penn State Extension to assess inventory results and to come to a mutual understanding of each practice.

Please be assured that your responses will be kept completely confidential, and your responses will never be associated with your name or locational information. The results reported from this survey to the Chesapeake Bay Office will be provided in summary form and will not include any names or locations of inventory participants.

Please answer each question to the best of your knowledge. Where the question asks you to fill in a circle, please fill the circle in completely. Where the question asks you to write an answer, please print legibly.

The first page of this inventory asks basic questions about your farming operations. The rest of the inventory asks whether you are using certain conservation practices in your farming operations, and then asks some additional questions about each practice. Some of the practices listed may not be applicable to your operation. If you do not use a practice, answer "No" and continue to the next question.

Please mail your completed inventory to the Penn State Agriculture and Environment Center **by April 1, 2022**, using the prepaid first-class envelope provided as part of the survey packet.

If you do not have a prepaid first-class envelope, please mail the survey to: Penn State Agriculture and Environment Center, 111 Ferguson Building, University Park PA 16802.

As a "thank you" for completing the survey, we will mail you a complementary Penn State soil test kit.

First, We Would Like to Learn About Your Farming Operations

1. Please provide your name, phone number, email, and the physical address of your farming operation.

Name: _____ Farm Name (if applicable): _____

Home Farm Address: _____

_____ Home County: _____

Phone Number: _____ Email: _____

2. How many acres within your home county is your farming operation? For purposes of answering this question and filling out the remainder of the survey, your farming operation includes all land within your home county which you manage for agricultural activities that are part of your operation, including owned ground and rented ground.

Number of acres

3. What crops did you grow in 2021?

Crop	Acres Planted	If any of your acres were part of a double crop, indicate total double crop acres here.
Corn Grain		
Corn Silage		
Soybeans		
Wheat		
Rye		
Barley		
Alfalfa		
Grass Hay		
Other: _____		

4. Do you raise animals as part of your farming operation?

○ No → **Please proceed to question 5.**

○ Yes → **4a. For the calendar year 2021, please indicate the total annual head of each animal type you had.**

Animal (#)	Animal (#)	Animal (#)	Animal (#)	Animal (#)	Animal (#)
Broilers _____	Ducks_____	Sows_____	Dairy Heifers_____ (younger than 12 mo)	Beef Cattle_____	Other:_____ _____
Layers _____	Nursery Pigs_____	Boars_____	Dairy Heifers_____ (12 mo & older)	Horses_____	Other:_____ _____
Turkeys_____	Finisher Pigs_____	Veal Calves_____	Cows_____ (milking and dry)	Other:_____ _____	Other:_____ _____

In the Remaining Questions, We Will Ask About Your Conservation Practices

Nutrient Management

5. Do you apply nutrients to your land?

○ No → **Please proceed to Question 7.**

○ Yes → **5a. Please indicate what type of nutrients you apply to your land (check all that apply):**

- ○ Manure
- ○ Commercial (inorganic/synthetic) fertilizer
- ○ Biosolids (sewage sludge)
- ○ Food processing residual (FPR)
- ○ Mushroom compost/substrate
- ○ Other (describe:) _____

6. If you applied manure in 2021, did you inject or incorporate the manure?

○ No → **Please proceed to Question 7.**

○ Yes → **6a. Please indicate the total acres for each manure injection or incorporation method with each timing of manure incorporation, and when you first implemented the practice:**

Manure Injection/Incorporation Method	Timing of Incorporation		When did you first implement this practice?
	Within 24 hours after application	Within 1-3 days after application	
Low-disturbance incorporation (using, for example, vertical tillage or rolling tine aerators)	_____ Acres	_____ Acres	_____ Year
High-disturbance incorporation (using any other tillage system, which may include chisel plow, moldboard plow, aggressive disking, etc.)	_____ Acres	_____ Acres	_____ Year
Immediate injection (using, for example, shallow disk or narrow shank injectors)		_____ Acres	_____ Year

7. Do you have a nutrient management or manure management plan for your farming operations?

○ No → **Please proceed to Question 14 (PAGE 6).**

○ Yes → **Please answer questions 7a through 7g.**

7a. What type of plan do you have?

- ○ Act 38 Nutrient Management Plan
- ○ Manure Management Plan
- ○ NRCS 590 Plan or Comprehensive Nutrient Management Plan (CNMP)
- ○ Nutrient Balance Sheets for imported manure
- ○ Nutrient Balance Sheets with no manure
- ○ Other: _____

7b. What year was your plan written or last updated?

7c. Number of cropland acres covered in your plan:

					Acres

7d. Were any county, state or federal government funds used develop your plan?

- ○ No
- ○ Yes

7e. Is your plan a nitrogen-based plan, or both a nitrogen and phosphorus-based plan?

- ○ A nitrogen-based plan
- ○ A nitrogen and phosphorus-based plan

7f. Do you follow your plan annually when you apply nutrients to your land?

- ○ No
- ○ Yes

7g. Do you keep nutrient application records annually in accordance with your plan?

- ○ No
- ○ Yes

Application of Nitrogen to Cropland

8. In calendar year 2021, did you use any of the following practices that affect the *rate* of your nitrogen applications? If yes, indicate number of acres and the year you first implemented the practice.

Practice Description	Did you use practice?	Acres in 2021	Year first implemented
A. Total nitrogen application rates were lower than those recommended in the Penn State Agronomy Guide and basic nutrient balance recommendations for nitrogen (found in your Manure Management Plan, Nutrient Balance Sheets, etc.).	○ No ○ Yes		_____ Year
B. Nitrogen was applied by crop by multiple lower rate split applications made throughout the growing year, for example corn side-dress, small grain split applications, etc.	○ No ○ Yes		_____ Year
C. Nitrogen was applied at variable rates at the sub-field level based on variable crop response data from historical records or Pre-side dress Nitrate Test (PSNT), chlorophyll meter, NDVI sensor, plant sampling, nitrogen modeling, etc.	○ No ○ Yes		_____ Year

9. In calendar year 2021, did you follow any of the practices described below that affect the *placement* of your nitrogen applications? If yes, indicate number of acres and the year you first implemented the practice.

Practice Description	Did you use practice?	Acres in 2021	Year first implemented
A. Injection or incorporation of inorganic nitrogen fertilizer within 24 hours of application.	○ No ○ Yes		_____ Year
B. Setbacks: If fertilizer or manure is applied to fields near a water feature, maintaining a setback of 100 feet from any wellheads or springs used for drinking water and 100 feet (or 35 feet if there is a permanent vegetative buffer) from any streams, lakes, ponds or sinkholes. *When reporting acreage, only count those field units where setbacks were implemented but count entire crop acreage of those fields (including crops grown within and outside of setbacks).*	○ No ○ Yes		_____ Year

10. In calendar year 2021, did you follow any of the practices described below that affect the *timing* of your nitrogen applications? If yes, indicate number of acres and the year you first implemented the practice.

Practice Description	Did you use practice?	Acres in 2021	Year first implemented
A. Nitrogen was applied by crop by multiple lower rate split applications made throughout the growing year, i.e., corn side-dress, small grain split applications, etc.	○ No ○ Yes		_____ Year
B. Nitrogen was applied through multiple applications based on recommendations from Pre-side dress Nitrate Test (PSNT), NDVI sensor, chlorophyll meter, plant sampling, nitrogen modeling, etc.	○ No ○ Yes		_____ Year

Application of Phosphorus to Cropland

11. In calendar year 2021, did you follow any of the practices described below that affect the *rate* of your phosphorus applications? If yes, indicate number of acres and the year you first implemented the practice.

Practice Description	Did you use practice?	Acres in 2021	Year first implemented
A. Total phosphorus application rates were lower than those recommended in the Penn State Agronomy Guide and basic nutrient balance recommendations for phosphorus (found in your Nutrient Balance Sheets, etc.).	○ No ○ Yes		_____ Year
B. Applications of manure were based on annual crop removal of phosphorus rather than nitrogen.	○ No ○ Yes		_____ Year
C. Phosphorus was applied at variable rates at the sub-field level based on variable crop response data from historical records or tools like optical crop sensors.	○ No ○ Yes		_____ Year

12. In calendar year 2021, did you follow any of the practices described below that affect the *placement* of your phosphorus applications? If yes, indicate number of acres and the year you first implemented the practice.

Practice Description	Did you use practice?	Acres in 2021	Year first implemented
A. Injection or incorporation of inorganic phosphorus fertilizer within 24 hours of application.	○ No ○ Yes		_____ Year
B. Setbacks: If fertilizer or manure is applied to fields near a water feature, maintaining a setback of 100 feet from any wellheads or springs used for drinking water and 100 feet (or 35 feet if there is a permanent vegetative buffer) from any streams, lakes, ponds or sinkholes. *When reporting acreage, only count those field units where setbacks were implemented but count entire crop acreage of those fields (including crops grown within and outside of setbacks).*	○ No ○ Yes		_____ Year

13. In calendar year 2021, did you follow any of the practices described below that affect the *timing* of your phosphorus applications? If yes, indicate number of acres and the year you first implemented the practice.

Practice Description	Did you use practice?	Acres	Year first implemented
A. Phosphorus was applied in seasons of lower risk for phosphorus loss.	○ No ○ Yes		_____ Year
B. The P Index assessment was followed to change manure application to a time of year when there is a lower risk for phosphorus loss.	○ No ○ Yes		_____ Year
C. Split applications of phosphorus fertilizer were made throughout the growing year.	○ No ○ Yes		_____ Year

Manure Storages

14. Do you have any animal waste storage systems (manure storages) for your farming operations?

○ No → **Please proceed to question 15 (NEXT PAGE).**

○ Yes → **Please answer question 14a.**

14a. For each manure storage you have, indicate the type of manure it stores (both animal type and whether it is dry or liquid), the year it was constructed, the months of storage it provides, whether any government funds were used to construct it, whether it was based on a certified engineer design, and whether runoff from the storage is being controlled.

Storage #1: Manure Type

○ Dairy ○ Dry (stackable)
○ Beef ○ Liquid
○ Swine
○ Poultry
○ Other: _____

Year Constructed: | | | | |

Months of storage provided: | | |

Were county, state or federal funds used to construct your storage? ○ No ○ Yes

Certified engineer design? ○ No ○ Yes

Is runoff controlled from your storage system? ○ No ○ Yes

Storage #2: Manure Type

○ Dairy ○ Dry (stackable)
○ Beef ○ Liquid
○ Swine
○ Poultry
○ Other: _____

Year Constructed: | | | | |

Months of storage provided: | | |

Were county, state or federal funds used to construct your storage? ○ No ○ Yes

Certified engineer design? ○ No ○ Yes

Is runoff controlled from your storage system? ○ No ○ Yes

Storage #3: Manure Type

○ Dairy ○ Dry (stackable)
○ Beef ○ Liquid
○ Swine
○ Poultry
○ Other: _____

Year Constructed: | | | | |

Months of storage provided: | | |

Were county, state or federal funds used to construct your storage? ○ No ○ Yes

Certified engineer design? ○ No ○ Yes

Is runoff controlled from your storage system? ○ No ○ Yes

Storage #4: Manure Type

○ Dairy ○ Dry (stackable)
○ Beef ○ Liquid
○ Swine
○ Poultry
○ Other: _____

Year Constructed: | | | | |

Months of storage provided: | | |

Were county, state or federal funds used to construct your storage? ○ No ○ Yes

Certified engineer design? ○ No ○ Yes

Is runoff controlled from your storage system? ○ No ○ Yes

Barnyard Runoff Controls

15. Do you have a barnyard where livestock is kept?

○ No → **Please proceed to question 16.**

○ Yes → **15a. Do you have any barnyard runoff controls on the barnyard? (This includes practices that divert clean water from entering the barnyard, provide stabilized surfaces in the barnyard, and control runoff from barnyard areas.)**

○ No → **Please proceed to question 16.**

○ Yes → **15b. Indicate what kind of runoff control practices you have, the year they were constructed, and whether any government funds were used to construct them.**

Runoff Control Practice	Do you have this practice?	Were county, state or federal funds used to construct the practice?
Diversions to direct clean water runoff away from barnyard (such as roof gutters, downspouts, and outlets to send runoff away from barnyard)	○ No ○ Yes → Year Constructed: ☐☐☐☐	○ No ○ Yes
Stabilized barnyard surface with concrete, stone aggregate or other suitable materials	○ No ○ Yes → Year Constructed: ☐☐☐☐	○ No ○ Yes
System to catch barnyard runoff and discharge it to storage or stabilized vegetated filter area	○ No ○ Yes → Year Constructed: ☐☐☐☐	○ No ○ Yes

Grazing Management

16. Do you have any pastures where you graze animals?

○ No → **Please proceed to question 17 (NEXT PAGE).**

○ Yes → **16a. Do you have and follow a grazing management plan?**

○ No → **Please proceed to question 17 (NEXT PAGE).**

○ Yes → **Answer questions 16.b through 16.h.**

16b. What type of grazing plan do you have?

○ NRCS Grazing Management Plan (aka Prescribed Grazing or 528 Plan) → **16c. Do you keep records in accordance with your NRCS 528 Plan?** ○ No ○ Yes

○ Other type of grazing plan → **16d. Does your plan allow for movement of animals to maintain at least 3 inches and 75% perennial grass cover, exclude animals from surface waters, and ensure animals have clean drinking water?**

○ No ○ Yes

16e. What year was your plan written or last updated?

☐☐☐☐

16f. Were any county, state or federal government funds used develop your plan?

○ No ○ Yes

16g. Are you implementing your plan?

○ No

○ Yes → **16h. On how many acres of pasture are you implementing your plan?**

☐☐☐☐ Acres

Agricultural Erosion and Sediment Control/Conservation Plans

17. Do you have any Agricultural Erosion & Sedimentation Control Plans (Ag E&S Plans) or NRCS Conservation Plans for your farming operations?

○ No → **Please proceed to question 18 (NEXT PAGE).**

○ Yes → **17a. For each plan you have, indicate the type of plan, year it was written or last updated, whether any government funds were used to develop your plan, whether you are on schedule for implementing your plan, and the acres covered by your plan:**

Plan #1

Year Written or Updated: | | | | |

Plan Type: ○ Ag E&S Plan ○ NRCS Conservation Plan

Were county, state or federal funds used to develop your plan? ○ No ○ Yes

Are you on schedule for implementing your plan? ○ No ○ Yes

Acres covered by plan: Row Crops: | | | | | Hay: | | | | | Pasture: | | | | |

Plan #2

Year Written or Updated: | | | | |

Plan Type: ○ Ag E&S Plan ○ NRCS Conservation Plan

Were county, state or federal funds used to develop your plan? ○ No ○ Yes

Are you on schedule for implementing your plan? ○ No ○ Yes

Acres covered by plan: Row Crops: | | | | | Hay: | | | | | Pasture: | | | | |

Plan #3

Year Written or Updated: | | | | |

Plan Type: ○ Ag E&S Plan ○ NRCS Conservation Plan

Were county, state or federal funds used to develop your plan? ○ No ○ Yes

Are you on schedule for implementing your plan? ○ No ○ Yes

Acres covered by plan: Row Crops: | | | | | Hay: | | | | | Pasture: | | | | |

Plan #4

Year Written or Updated: | | | | |

Plan Type: ○ Ag E&S Plan ○ NRCS Conservation Plan

Were county, state or federal funds used to develop your plan? ○ No ○ Yes

Are you on schedule for implementing your plan? ○ No ○ Yes

Acres covered by plan: Row Crops: | | | | | Hay: | | | | | Pasture: | | | | |

No Till/Minimum Till

18. Did you practice no till or minimum till in calendar year 2021?

○ No → **Please proceed to question 19.**

○ Yes → **18a. Indicate how many acres meet the following amounts of residue left in field at time of planting in 2021. Also indicate the year you first began to meet the applicable residue amounts:**

Amount of residue left in field at time of planting	Acres meeting residue amounts	Year residue amounts were first met
60% or Greater		
30% to 59%.		
15% to 29%		

Cover Crops

19. Did you plant cover crops or winter crops in calendar year 2021?

○ No → **Please proceed to question 20 (PAGE 11).**

○ Yes → **19a. Fill out the charts below to indicate what species you planted, how many acres of each, the month in 2021 you planted them, in what year you first started planting them, method of planting, whether they received a fall manure nutrient application, whether they will receive a spring 2022 nutrient application, and whether you will harvest any acres in spring 2022 for forage, hayledge, or grain (spring grazing of cover crops is also considered "harvesting" of such crops).**

Please pick a cover crop species or mixture that you planted in 2021 (choose only one)

○ Rye
○ Wheat
○ Barley
○ Oats (Winter Hardy)
○ Oats (Winter Killed)
○ Annual Ryegrass
○ Annual Legumes
○ Brassica (Winter Hardy)
○ Triticale
○ Forage Radish
○ Mixture: Forage Radish plus Grass
○ Mixture: Annual Legume plus Grass at 25-49%
○ Mixture: Annual Legume plus Grass at 50% or More
○ Other (specify): _____

Acres Planted:

Month Planted:

In what year did you first start planting this cover crop?

Year

Method of Planting (check all that apply):
○ Drilled with seed drill
○ Broadcast with incorporation
○ Broadcast without incorporation
○ Aerial seeding with aircraft
○ Other (specify): _____

Fall Manure Applied?
○ No ○ Yes

Spring Nutrients to be Applied?
○ No ○ Yes

Harvesting in Spring?
○ No
○ Yes → Acres to be Harvested:

Cover Crops (cont.)

If you planted another type, please pick another cover crop species or mixture that you planted in 2021 (choose only one)

- ○ Rye
- ○ Wheat
- ○ Barley
- ○ Oats (Winter Hardy)
- ○ Oats (Winter Killed)
- ○ Annual Ryegrass
- ○ Annual Legumes
- ○ Brassica (Winter Hardy)
- ○ Triticale
- ○ Forage Radish
- ○ Mixture: Forage Radish plus Grass
- ○ Mixture: Annual Legume plus Grass at 25-49%
- ○ Mixture: Annual Legume plus Grass at 50% or More
- ○ Other (specify): _____

Acres Planted: ☐☐☐☐

Month Planted: ☐☐

In what year did you first start planting this cover crop? ☐☐☐☐ Year

Method of Planting (check all that apply):
- ○ Drilled with seed drill
- ○ Broadcast with incorporation
- ○ Broadcast without incorporation
- ○ Aerial seeding with aircraft
- ○ Other (specify): _____

Fall Manure Applied?
○ No ○ Yes

Spring Nutrients to be Applied?
○ No ○ Yes

Harvesting in Spring?
○ No
○ Yes → Acres to be Harvested: ☐☐☐☐

If you planted another type, please pick another cover crop species or mixture that you planted in 2021 (choose only one)

- ○ Rye
- ○ Wheat
- ○ Barley
- ○ Oats (Winter Hardy)
- ○ Oats (Winter Killed)
- ○ Annual Ryegrass
- ○ Annual Legumes
- ○ Brassica (Winter Hardy)
- ○ Triticale
- ○ Forage Radish
- ○ Mixture: Forage Radish plus Grass
- ○ Mixture: Annual Legume plus Grass at 25-49%
- ○ Mixture: Annual Legume plus Grass at 50% or More
- ○ Other (specify): _____

Acres Planted: ☐☐☐☐

Month Planted: ☐☐

In what year did you first start planting this cover crop? ☐☐☐☐ Year

Method of Planting (check all that apply):
- ○ Drilled with seed drill
- ○ Broadcast with incorporation
- ○ Broadcast without incorporation
- ○ Aerial seeding with aircraft
- ○ Other (specify): _____

Fall Manure Applied?
○ No ○ Yes

Spring Nutrients to be Applied?
○ No ○ Yes

Harvesting in Spring?
○ No
○ Yes → Acres to be Harvested: ☐☐☐☐

Cover Crops (cont.)

If you planted another type, please pick another cover crop species or mixture that you planted in 2021 (choose only one)

- ○ Rye
- ○ Wheat
- ○ Barley
- ○ Oats (Winter Hardy)
- ○ Oats (Winter Killed)
- ○ Annual Ryegrass
- ○ Annual Legumes
- ○ Brassica (Winter Hardy)
- ○ Triticale
- ○ Forage Radish
- ○ Mixture: Forage Radish plus Grass
- ○ Mixture: Annual Legume plus Grass at 25-49%
- ○ Mixture: Annual Legume plus Grass at 50% or More
- ○ Other (specify): _____

Acres Planted: ☐☐☐☐

Month Planted: ☐☐

In what year did you first start planting this cover crop? ☐☐☐☐ Year

Method of Planting (check all that apply):
- ○ Drilled with seed drill
- ○ Broadcast with incorporation
- ○ Broadcast without incorporation
- ○ Aerial seeding with aircraft
- ○ Other (specify): _____

Fall Manure Applied?
○ No ○ Yes

Spring Nutrients to be Applied?
○ No ○ Yes

Harvesting in Spring?
○ No
○ Yes → Acres to be Harvested: ☐☐☐☐

Riparian Buffers

20. Are there any streams on the lands that are part of your farming operation?

○ No → **YOU ARE FINISHED WITH THE SURVEY**. **Please proceed to the end.**

○ Yes → **20a. Do you maintain permanent vegetation of a width of at least 10 feet between the stream and any of your *cropland* (commonly called a "riparian buffer")?**

○ No → **Please proceed to question 20b (PAGE 12).**

○ Yes → **For all such areas between streams and croplands on your farming operation, fill out the chart below to indicate the type of buffer (by vegetation type and width), the year established, whether any government funds were used to establish the buffers, and the total acres of the buffers.**

Type of vegetation growing next to stream and width from top of bank	Year established	Were county, state or federal funds used to establish the practice?	Total Acres of Buffer (max. buffer width is 300 feet)
Grass with a width of at least 10 but less than 35 feet	☐☐☐☐	○ No ○ Yes	☐☐☐
Grass with a width of 35 feet to 300 feet	☐☐☐☐	○ No ○ Yes	☐☐☐
Trees and/or shrubs with a width of at least 10 but less than 35 feet	☐☐☐☐	○ No ○ Yes	☐☐☐
Trees and/or shrubs with a width of 35 feet to 300 feet	☐☐☐☐	○ No ○ Yes	☐☐☐

Riparian Buffers (cont.)

20b. Do you maintain permanent vegetation of a width of at least 10 feet between the stream and any *pastures* that are part of your operation (commonly called a "riparian buffer")?

○ No → **YOU ARE FINISHED WITH THE SURVEY. Please proceed to the end.**

○ Yes → **For all such areas between streams and your pastures, fill out the chart below to indicate the type of buffer (by vegetation type and width), whether grazing animals are excluded from the buffer, the year established, whether any government funds were used to establish the buffers, and the total acres of the buffers.**

Type of vegetation growing next to stream or waterway and width from top of bank	**If pastures are used for grazing, are animals excluded from buffer area (for example, with fencing)?**	**Year established**	**Were county, state or federal funds used to establish the practice?**	**Total Acres of Buffer (max. buffer width is 300 feet)**
Grass with a width of at least 10 but less than 35 feet	○ No ○ Yes ○ Not used for grazing		○ No ○ Yes	
Grass with a width of 35 to 300 feet	○ No ○ Yes ○ Not used for grazing		○ No ○ Yes	
Trees and/or shrubs with a width of at least 10 but less than 35 feet	○ No ○ Yes ○ Not used for grazing		○ No ○ Yes	
Trees and/or shrubs with a width of 35 to 300 feet	○ No ○ Yes ○ Not used for grazing		○ No ○ Yes	

**************************END OF SURVEY **************************

Thank you for completing the survey! Please place completed survey in postage paid envelope to return to the Penn State Agriculture and Environment Center. If you do not have a postage paid envelope, please mail to Penn State Agriculture and Environment Center, 111 Ferguson Building, University Park PA 16802.