



2021

Nutrient Management Annual Implementation Report (AIR) for CAFO and MAFO Operations

Due March 1, 2022



Maryland
Department of
the Environment

For Field Office Use

1. County _____
2. MDA Op Number _____ MDE AI Number: _____
3. Operator/Owner **Legal** Name Last _____ Suffix _____
First _____ Middle Int. _____
4. Farm/Operation Name _____
5. Mailing Address _____
6. City _____ 7. State _____ 8. Zip _____
9. E-Mail address _____
10. Telephone Number(s) Office _____ Home _____
Cell _____

For HQ Use

11. _____ Total Farmed Acres including Pastures

12. Operation Type (Check all that apply)

- ☐ Crop Production
- ☐ Hay / Pasture
- ☐ Nursery/Greenhouse
- ☐ Organic
- ☐ Animal
- ☐ No-Land (0 Managed Acres)
- ☐ Other _____

13. Account ID updates - List changes to Account ID's, and check if added or deleted from operation since your previous AIR report. Attach additional pages if needed.

☐ No change of account ID(s)

Added Deleted

| | | |
|--------------------------|--------------------------|-------|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ |

14. Nutrient Sources Used (Check all that apply)

- ☐ Commercial Fertilizers
- ☐ Biosolids/Sewage Sludge
- ☐ Animal Manure
- ☐ Food Waste
- ☐ Other _____

Nutrient Management Consultant and Plan Information

15. Name of Nutrient Management Plan Writer:

16. Certificate # _____

17. License # _____

18. Date NM Plan Written: ____/____/____

19. Date NM Plan Expires: ____/____/____

20. _____ Total Acres of animal manure recommended for land application by the nutrient management plan.

Animals *other than poultry* ☐ Check if None.

21. Number of head during 2021.

- _____ Beef, cows and bulls
- _____ Beef, feeder cattle (500 lbs and over)
- _____ Beef, young stock (less than 500 lbs)
- _____ Dairy, cows
- _____ Dairy, heifers
- _____ Dairy, calves
- _____ Swine, sows and boars
- _____ Swine, growers
- _____ Sheep
- _____ Goats
- _____ Horses
- _____ Other _____

Crop Production

22. _____ Acres under conservation tillage with 30%-59% residue coverage at planting.
23. _____ Acres under conservation tillage with 60% or more residue coverage at planting.
24. _____ Acres of crop land under irrigation.

Nursery / Greenhouse

25. _____ Acres/sq.ft. Container nursery/ greenhouse irrigation runoff and leachate capture and reuse.

Poultry

26. Poultry (*in 1,000s per flock*)

_____ Broilers/Roasters _____ Pullets
 _____ Layers _____ Turkeys

27. _____ Number of Flocks per year

28. Poultry Integrator:
- _____

29. _____ Number of Poultry Houses

30. _____ Total sq.ft. of all poultry houses

Poultry Litter

31. _____ Tons Poultry litter removed during crust-outs in 2021. ☐ Check if Windrowed
32. _____ Tons Poultry litter removed during partial or total cleanout(s) in 2021.
33. _____ Tons of On-Farm Collected poultry litter that remained stored or stockpiled from 2020.
34. On-Farm Collected poultry litter that was land applied to your farm operation in 2021.

_____ Tons _____ Acres

35. Tons of imported poultry litter that remained stored or stockpiled from 2020 and was applied in 2021.

_____ Tons _____ Acres

36. _____ Acres Poultry litter incorporated within 48 hrs with vertical tillage equipment (Ex: "Turbo Till").

Commercial Fertilizer

37. _____ Acres using variable rate fertilizer application or split application.
38. _____ Acres where Nitrogen was applied based on the recommendations of the Pre-Sidress Nitrogen Test (PSNT).
39. _____ Acres where Commercial fertilizer Nitrogen was incorporated within 24 hours.
40. _____ Acres where Commercial fertilizer Phosphorus was incorporated within 24 hours.

Manure/Organics Storage

41. _____ Number of manure/organics storage structures
☐ Check if **None**

42. Total available storage capacity:

_____ Cu. Ft _____ Gals _____ Tons

43. Yes ☐ No ☐ Temporary stockpiling of manure/organics?

Manure/Organics *other than poultry litter*

44. _____ Acres Liquid manure applied with injector or other sub-surface applicator.
45. _____ Acres Liquid manure incorporated within 48 hrs with vertical tillage equipment (Ex: "Turbo Till").
46. _____ Acres Manure application applied at the crops Phosphorus Removal Rate.
47. _____ Tons Total On-Farm Collected manure/organics
 _____ Gals
48. _____ Tons Total On-Farm Collected manure/organics
 _____ Gals that remained stored or stockpiled from 2020.

49. On Farm Collected manure/organics that was land applied to your farm operation in 2021.

| Type of Manure/Organics | Amount | Land Application |
|---|--------|------------------|
| <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Swine | Tons | Acres |
| <input type="checkbox"/> Horse <input type="checkbox"/> Sheep <input type="checkbox"/> Other: _____ | Gals. | Acres |
| <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Swine | Tons | Acres |
| <input type="checkbox"/> Horse <input type="checkbox"/> Sheep <input type="checkbox"/> Other: _____ | Gals. | Acres |
| <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Swine | Tons | Acres |
| <input type="checkbox"/> Horse <input type="checkbox"/> Sheep <input type="checkbox"/> Other: _____ | Gals. | Acres |

50. Total imported manure/organics that remained stored or stockpiled from 2020 and was applied in 2021.

Tons _____ / Acres _____ Gallons _____ / Acres _____

51. Imported Manure, Biosolids, Food Waste or Other Organics on your farm operation. Be sure to report **COUNTY** and **STATE** from which material was imported. Use additional sheets if necessary.

☐ Check if None

MDA/MDE ID: _____

| Name | Address - Location where Manure/ Organics were Imported from? | Check Type of Imported Manure/ Organics | Amount | Amount Used | Land Application |
|----------------------|--|---|--------|----------------|---------------------|
| Name of person: | Street: | <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Poultry <input type="checkbox"/> Swine <input type="checkbox"/> Horse | Gals. | Gals. | Acres |
| Name of Farm/Entity: | City: | <input type="checkbox"/> Sheep <input type="checkbox"/> Compost <input type="checkbox"/> Biosolids Class A | | | |
| | County: | <input type="checkbox"/> Biosolids Class B <input type="checkbox"/> Poultry Processing DAF | Tons | Tons | Acres |
| | State, Zip | <input type="checkbox"/> Food Residuals <input type="checkbox"/> Other Manure or Organics: _____ | | | |
| Name of person: | Street: | <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Poultry <input type="checkbox"/> Swine <input type="checkbox"/> Horse | Gals. | Gals. | Acres |
| Name of Farm/Entity: | City: | <input type="checkbox"/> Sheep <input type="checkbox"/> Compost <input type="checkbox"/> Biosolids Class A | | | |
| | County: | <input type="checkbox"/> Biosolids Class B <input type="checkbox"/> Poultry Processing DAF | Tons | Tons | Acres |
| | State, Zip | <input type="checkbox"/> Food Residuals <input type="checkbox"/> Other Manure or Organics: _____ | | | |
| Name of person: | Street: | <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Poultry <input type="checkbox"/> Swine <input type="checkbox"/> Horse | Gals. | Gals. | Acres |
| Name of Farm/Entity: | City: | <input type="checkbox"/> Sheep <input type="checkbox"/> Compost <input type="checkbox"/> Biosolids Class A | | | |
| | County: | <input type="checkbox"/> Biosolids Class B <input type="checkbox"/> Poultry Processing DAF | Tons | Tons | Acres |
| | State, Zip | <input type="checkbox"/> Food Residuals <input type="checkbox"/> Other Manure or Organics: _____ | | | |

52. Exported Manure, Food Waste or Other Organics that left your farm operation. Be sure to note **COUNTY** and **STATE** to which material was exported. Use additional sheets if necessary.

☐ Check if None

| Name | Address - Location where Manure/Organics were Exported to? | Check Type of Exported Manure/ Organics | Amount Tons/Gals | Sent To: |
|----------------------|---|---|---------------------|--|
| Name of person: | Street: | <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Poultry <input type="checkbox"/> Swine <input type="checkbox"/> Horse | Gals. | <input type="checkbox"/> Alternative Use Facility |
| Name of Farm/Entity: | City: | <input type="checkbox"/> Sheep <input type="checkbox"/> Compost <input type="checkbox"/> Poultry Processing DAF | | <input type="checkbox"/> Manure/ Organics Broker |
| | County: | <input type="checkbox"/> Food Residuals <input type="checkbox"/> Other Manure or Organics: _____ | Tons | <input type="checkbox"/> Other Farm Operation |
| | State, Zip | | | |
| Name of person: | Street: | <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Poultry <input type="checkbox"/> Swine <input type="checkbox"/> Horse | Gals. | <input type="checkbox"/> Alternative Use Facility |
| Name of Farm/Entity: | City: | <input type="checkbox"/> Sheep <input type="checkbox"/> Compost <input type="checkbox"/> Poultry Processing DAF | | <input type="checkbox"/> Manure/ Organics Broker |
| | County: | <input type="checkbox"/> Food Residuals <input type="checkbox"/> Other Manure or Organics: _____ | Tons | <input type="checkbox"/> Other Farm Operation |
| | State, Zip | | | |
| Name of person: | Street: | <input type="checkbox"/> Dairy <input type="checkbox"/> Beef <input type="checkbox"/> Poultry <input type="checkbox"/> Swine <input type="checkbox"/> Horse | Gals. | <input type="checkbox"/> Alternative Use Facility |
| Name of Farm/Entity: | City: | <input type="checkbox"/> Sheep <input type="checkbox"/> Compost <input type="checkbox"/> Poultry Processing DAF | | <input type="checkbox"/> Manure/ Organics Broker |
| | County: | <input type="checkbox"/> Food Residuals <input type="checkbox"/> Other Manure or Organics: _____ | Tons | <input type="checkbox"/> Other Farm Operation |
| | State, Zip | | | |

53. Summary of Nutrient Applications by Crop See Instructions for help with this table.

TOTAL pounds of AVAILABLE nutrients applied. If you did not apply nutrients, list the crop, the crop acreage and draw a line through the rest of the boxes.

| CROP Include Pastures | Acres | Commercial Fertilizer in pounds | | | Manure in pounds | | | Biosolids/Sewage Sludge in pounds | | | Other Organic Sources in pounds | | |
|---------------------------|-------|------------------------------------|-------------------------------|------------------|---------------------|-------------------------------|------------------|--------------------------------------|-------------------------------|------------------|------------------------------------|-------------------------------|------------------|
| | | N | P ₂ O ₅ | K ₂ O | N | P ₂ O ₅ | K ₂ O | N | P ₂ O ₅ | K ₂ O | N | P ₂ O ₅ | K ₂ O |
| Corn grain, dry land | | | | | | | | | | | | | |
| Corn grain, irrigated | | | | | | | | | | | | | |
| Corn silage | | | | | | | | | | | | | |
| Soybeans, full season | | | | | | | | | | | | | |
| Soybeans, double crop | | | | | | | | | | | | | |
| Small grains, Spring 2021 | | | | | | | | | | | | | |
| Small grains, Fall 2021 | | | | | | | | | | | | | |
| Hay, grass | | | | | | | | | | | | | |
| Hay, legume | | | | | | | | | | | | | |
| Pasture | | | | | | | | | | | | | |
| Vegetables | | | | | | | | | | | | | |
| Tobacco | | | | | | | | | | | | | |
| List other crops: | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

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|--|--|
| Report Certification : All of the information contained within this 2021 Nutrient Management Annual Implementation Report (AIR) is true to the best of my knowledge. A valid nutrient management plan for my operation(s) for calendar year 2022 will be developed and implemented. MDA/MDE ID: _____ | 54. Operator's Signature _____ 55. Operator's Printed Name: _____ 56. Date signed: _____ |
|--|--|

57. Summary of Nutrient Applications by Field (See instructions).
List all fields that received manure in **2021**, whether generated on site or imported. Field names must correspond with the nutrient management plan field names. Use additional sheets if needed.

| Field Name / Mgmt Unit | Acres | Crop & Yield Goal | Crop Yield Harvested | Soil Test results (ppm, mg/l or lbs/a) P ₂ O ₅ | Nutrients recommended for Crop & Yield Goal (in lbs/acre) | | Nutrient application rates from Manure, Litter, Process Wastewa- ter (in lbs nutrient per acre) | | Commercial fertilizer, sewage sludge, and other nutrient sources(in lbs nutrient per acre) | | |
|---------------------------|-------|----------------------|----------------------------|--|--|-------------------------------|---|-------------------------------|--|-----|-------------------------------|
| | | | | | N | P ₂ O ₅ | N | P ₂ O ₅ | Type | N | P ₂ O ₅ |
| A-1 | 30 | corn grain 150 bu | 130 | 81 ppm | 150 | 20 | 7 | 20 | urea | 150 | 0 |
| | | | | | | | | | | | |
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58. Manure Nutrient Content. Attach Lab Sheets. Samples must reflect manure used or exported manure in 2021.

59. Unpermitted Discharges. List all times during **2021** that unpermitted discharges of contaminated water occurred from the production area to waters of the State (surface and ground water), along with **date, time, quantity of discharge and the source**, ex: chicken house, manure shed, swale between chicken houses, etc. ☐ Check if no known discharge(s) occurred.
