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| **MINNESOTA BEST MANAGEMENT PRACTICES - 2022** | | | | | | | | |
|  | | | | | | | OMB No. 0535-0273  Approval Expires: 04/30/2025  Project Code: QID:  SMetaKey: | |
| This is a final for content, but unformatted version of the survey  To be enumerated in July, 2023 | | | | | | |
| **SURVEY_LOGO_1:USDA_logo_bw.gif** | **United States**  **Department of**  **Agriculture** |
|  |  | |  | | | | **http://nassnet/miso/PRIME_Center/Communication_Guidelines/Official_Logos/NASS%20Graphic/nass_logo_bw.gif** | **NATIONAL**  **AGRICULTURAL**  **STATISTICS**  **SERVICE** |
|  |  |  | |  |  |  | U.S. Department of Agriculture  National Operations Division  9700 Page Avenue, Suite 400  St . Louis, MO 63132-1547  Phone: 1888-424-7828  Fax: 855-415-3678  E-mail: nass@usda.gov | |
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| Please make corrections to name, address and ZIP Code, if necessary. |

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| The information you provide will be used for statistical purposes only. Your response will be kept confidential and any person who willfully discloses ANY identifiable information about you or your operation is subject to a jail term, a fine, or both. This survey is conducted in accordance with the Confidential Information Protection and Statistical Efficiency Act of 2018, Title III of Pub. L. No. 115-435, codified in 44 U.S.C. Ch. 35 and other applicable Federal laws. For more information on how we protect your information please visit: <https://www.nass.usda.gov/confidentiality>. Response is **voluntary**. |
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| According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number is 0535-0273. The time required to complete this information collection is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. |

**General corn and soybean questions**

1. How many acres of corn and soybeans did you plant in 2022 on your operation?
   1. Corn:
   2. Soybeans:

**Corn fertilizer questions**

1. Did you have any acres of corn in 2022 that were planted to soybeans in 2021?

Yes No

1. **Corn on soybean acres**. What was the AVERAGE nitrogen rate (units per acre) that was applied across all acres of corn that were planted to soybeans in 2021? Please include any Nitrogen from Phosphorus sources such as MAP/DAP/MEZ, sulfur sources such as thiosulfate and ammonium sulfate, and nitrogen in the stater in addition to the main source of nitrogen such as UAN solutions, urea, or anhydrous ammonia.

**Total units (actual nitrogen) applied per acre (average per acre)**

1. Did you have any acres of corn in 2022 that were planted to corn in 2021?

Yes No

1. **Corn on corn acres**. What was the AVERAGE nitrogen rate (units per acre) that was applied across all acres of corn that were planted to corn in 2021? Please include any Nitrogen from Phosphorus sources such as MAP/DAP/MEZ, sulfur sources such as thiosulfate and ammonium sulfate, and nitrogen in the stater in addition to the main source of nitrogen such as UAN solutions, urea, or anhydrous ammonia.

**Total units (actual nitrogen) applied per acre (average per acre).**

1. Which of the following precision agriculture tools do you use on the farm? (Circle all that apply)
   1. Auto Steer
   2. Precision planting
   3. Variable rate fertilizer applications
   4. Precision spraying, such as auto boom shutoff
   5. Nitrogen applications based on zone management
   6. Nitrogen applications based on aerial imagery
   7. Nitrogen applications based on in field variables such as in season soil tests.
   8. Nitrogen applications based on other in season variables not mentioned above.
2. Do you currently Plant cover crops?

Yes No

If **yes**.

* 1. On the crop previous to planting corn.
  2. During the corn season or after the corn season in the fall after harvest.

1. With higher price of fertilizer did you reduce your N rate on your corn acres?

Yes No

1. Is manure used on any of your corn acres in 2022?

Yes No

1. If Yes, was the manure tested before application in 2022?

Yes/No

1. Do you know which of the following factors determine the nitrogen rate calculation in the UM nitrogen guidelines. – list factors? use same question as in 2020 BMP survey.
   1. Soil Organic Matter
   2. Price of nitrogen
   3. Yield Goal
   4. Previous Crop
   5. Variable Rate
   6. Price of Corn
   7. Cation exchange capacity (CEC)
2. The MDA has a vulnerable groundwater area map on its website that shows areas where fall nitrogen fertilizer applications are restricted:
   1. How many corn acres do you have in a vulnerable groundwater area or a drinking water supply management area as defined by the MDA vulnerable groundwater area map? \_\_\_\_ acres or don’t know
   2. When was the last time you reviewed the MDA’s Fall Nitrogen Fertilizer Restrictions map on the MDA website? Date: \_\_\_\_\_ or don’t know or never.
3. Do you use a nitrogen inhibitor on you corn acres? Yes, No, Don’t Know
4. Do you sidedress any nitrogen on your corn acre? Yes, No, Don’t Know
5. Do you use a slow release product such as ESN, Super U or other such product?

Yes, No, Don’t Know

1. How important are yields in determining your nitrogen rate on corn? 1 very important. 5 not important
   1. 1 2 3 4 5

**Herbicide BMPs Adoption Survey 2022**

1. On your 2022 corn and/or soybean acres, did you (choose one for each crop):

Corn Soybeans

1. Apply herbicides yourself
2. Have herbicides custom applied?
3. Both a & b
4. Don’t use herbicides

[conclude interview if both corn and soybeans are checked to d.]

For all the following questions, check box if you did that practice and you grew that crop in 2022.

1. Who scouted your fields for weeds in your corn and/or soybean fields in 2022? Check all that apply.

Corn Soybeans

1. Myself, family members, or my employee
2. Dealer/coop
3. Crop consultant
4. None of my fields were scouted

1. Were any of the following precision application technologies used to apply herbicides on your corn and/or soybean acres in 2022? Check all that apply

Corn Soybeans

1. Auto steer
2. Auto boom shut off
3. Variable rate application

1. Were any of these practices used to minimize herbicide spray drift on corn and/or soybean acres in 2022? Check all that apply

Corn Soybeans

1. Low-drift spray nozzles
2. Spray boom height adjustment
3. Hooded or shielded sprayer

1. How many acres of cover crops were planted in or grown after your corn or soybean fields were harvested in 2022? Yes/No

If yes,

* 1. Corn: \_\_\_\_\_\_acres
  2. Soybeans: \_\_\_\_\_acres

1. What type of tillage did you use before planting on the **majority** of your corn and soybean fields in 2022 (Fall of 2021 and Spring of 2022)? Check **one** for each crop

Corn Soybeans

1. Conventional < 15% residue
2. Reduced Tillage 15% – 30% residue
3. Conservation Tillage > 30% residue
4. Strip Tillage
5. No Till
6. Are there vegetative filter strips or vegetative buffers on any of your corn or soybean acres?
7. Yes
8. No
9. Don’t Know
10. On your corn acres applied with herbicides, did you use more than one mode of action (group) or a premix with more than one mode of action?
11. Yes
12. No
13. Don’t Know

**Acetochlor Use in Corn**

1. Was acetochlor applied on any of your corn acres in 2022, premixes included?
2. Yes, (go to question 26)
3. No (go to question 31)
4. Don’t Know (go to next question)
5. Were any of the following products that contained acetochlor applied on your corn fields? Check the box if product applied.
6. Resicore
7. Tripleflex
8. Surestart
9. Harness
10. Staunch
11. Surpass
12. Volley
13. Keystone
14. Warrant
15. Volley NXT

If you have selected one or more of the above products, acetochlor was applied on your corn acres and continue to question 26, if didn’t select any of the above products on question 25, go to question 31.

1. Did you apply acetochlor on the **majority** of your corn acres as a
2. Preemergence
3. Post emergence (skip question to 28)
4. Split application
5. Was acetochlor soil incorporated though tillage after the preemergence application?
6. Yes, all corn acres with applied acetochlor
7. Yes, most, 50% or more corn acres with applied acetochlor
8. Yes, some, less than 50% acres corn acres with applied acetochlor
9. None
10. What were the following factors considered besides cost when choosing the rate of your acetochlor application for your corn or soybean fields with in 2022? (Select all that apply)
    1. Soil Texture
    2. Soil Organic Matter
    3. Weed Species
    4. Weed Pressure
    5. Effectiveness
11. Were label setback distances used from nearby wells or sinkholes while mixing/loading and applying acetochlor on your corn fields in 2022?
12. There are not any wells and sinkholes immediately next to or in my corn fields
13. Yes, always
14. Yes, sometimes
15. No
16. Don’t Know
17. Were label setback distances used from lakes, rivers, or streams while mixing/loading and applying acetochlor on your corn fields in 2022?
18. There are not any surface water sources immediately next to my corn fields
19. Yes, always
20. Yes, sometimes
21. No
22. Don’t Know

**Atrazine Use in Corn**

1. Was atrazine applied on any of your corn acres in 2022, premixes included?
2. Yes (Go to question 33)
3. No (Go to question 39)
4. Don’t Know (Go to next question)
5. Were any of the following products that contained atrazine applied on your corn fields?

Check the box if product applied.

1. Acruron
2. Callisto Xtra
3. Atrazine 4L or 90DF
4. Keystone LA NXT
5. Harness Xtra
6. Aatrex
7. Breakfree NXT ATZ
8. Cadence ATZ or LA NXT
9. Lumax EZ
10. Volley ATZ

If you have selected one or more of the above products, atrazine was applied on your corn acres and continue to question 33, if none were selected on question 32, go to question 39.

1. Did you apply atrazine on the **majority** of your corn acres as a:
2. Preemergence
3. Post emergence (skip question to 35)
4. Split application
5. Was atrazine soil incorporated though tillage after the preemergence application?
6. Yes, all corn acres with applied atrazine
7. Yes, most, 50% or more corn acres applied with atrazine
8. Yes, some, less than 50% acres all corn acres with applied atrazine
9. None
10. Don’t Know
11. Did you apply less than one pound per acre of the active ingredient (atrazine) on the majority of your corn acres in the 2022 crop year?
12. Yes
13. No
14. Don’t Know
15. What were the following factors considered besides cost when choosing the atrazine rate for your corn fields in 2022? (Select all that apply)
16. Soil Texture
17. Soil Organic Matter
18. Weed Species
19. Weed Pressure
20. Effectiveness
21. Were label setback distances used from nearby wells or sinkholes while mixing/loading and applying atrazine on your corn fields in 2022?
22. There are not any wells and sinkholes immediately next to or in my corn fields
23. Yes, always
24. Yes, sometimes
25. No
26. Don’t Know
27. Were label setback distances used from lakes, reservoirs, rivers, or streams while mixing/loading and applying atrazine on your corn fields in 2022?
28. There are not any surface water sources immediately next to my corn fields
29. Yes, always
30. Yes, sometimes
31. No
32. Don’t Know

**Acetochlor Use in Soybeans**

1. Was Acetochlor applied on any of your soybean acres in 2022, premixes included?
2. Yes, (go to question 41)
3. No (conclude survey)
4. Don’t Know (go to next question)
5. Was Warrant or Warrant Ultra applied to your soybean fields?
6. Yes
7. No (conclude survey)
8. Don’t Know (conclude survey)

If you have selected ‘a’, acetochlor was applied on your soybean acres and continue to question 41, if you selected ‘b’ or ‘c’ on question 40, conclude survey.

1. Did you apply acetochlor on the **majority** of your soybean acres as a:
2. Preemergence
3. Post emergence (skip question to 43)
4. Split application
5. Was acetochlor soil incorporated though tillage after the preemergence application
6. Yes, all soybean acres with applied acetochlor
7. Yes, most, 50% or more soybean acres with applied acetochlor
8. Yes, some, less than 50% acres soybean acres with applied acetochlor
9. None
10. On your soybean acres treated with acetochlor, did you apply products with different modes of action, premixes included?
11. Yes
12. No
13. Don’t Know
14. What were the following factors considered besides cost when choosing the acetochlor rate for your soybean fields with in 2022? (Select all that apply)
15. Soil Texture
16. Soil Organic Matter
17. Weed Species
18. Weed Pressure
19. Effectiveness
20. Were label setback distances used from nearby wells or sinkholes while mixing/loading and applying acetochlor on your soybean fields in 2022?
21. There are not any wells and sinkholes immediately next to or in my soybean fields
22. Yes, always
23. Yes, sometimes
24. No
25. Don’t Know
26. Were label setback distances used from lakes, rivers, or streams while mixing/loading and applying acetochlor on your soybean fields in 2022?
27. There are not any surface water sources immediately next to my soybean fields
28. Yes, always
29. Yes, sometimes
30. No
31. Don’t Know

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| **This completes the survey. Thank you for your help!** |

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| Respondent Name: | | | | | 9911  Phone: (\_\_\_\_\_\_) \_\_\_\_\_--\_\_\_\_\_\_\_\_\_ | | | | | | | 9910 MM DD YY    Date: \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ | | | | |
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| **Response** | | **Respondent** | | **Mode** | | | **Enum.** | **Eval.** | **Change** |  | **Office Use for POID** | | | | | |
| 1-Comp  2-R  3-Inac  4-Office Hold  5-R – Est  6-Inac – Est  7-Off Hold – Est | 9901 | 1-Op/Mgr  2-Sp  3-Acct/Bkpr  4-Partner  9-Oth | 9902 | 1-Mail  2-Tel  3-Face-to-Face  4-CATI  5-Web  6-E-mail  7-Fax  8-CAPI  19-Other | | 9903 | 9998 | 9900 | 9985 |  | 9989  \_\_ \_\_ \_\_ - \_\_ \_\_ \_\_ - \_\_ \_\_ \_\_ | | | | | |
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| **R. Unit** | **Optional Use** | | | | | |
| 9921 | 9907 | | 9908 | 9906 | | 9916 |
| S/E Name | | | | | | |  |  | | |  | | | |  | |