

Non-substantive Change Request

0535-0273 – Cooperator Funded Chemical Use Surveys

MINNESOTA BEST MANAGEMENT PRACTICES SURVEY - 2023

The Minnesota Best Management Practices Survey, scheduled for August-September, 2023 was postponed per a request by the client, the Minnesota Department of Agriculture (MDA). MDA staff are responsible for the content of the survey instrument and prior to the start of the data collection for this survey, a review of data from another project they conduct suggested that the question wording for this project needed to be clarified to avoid misreporting problems that could reduce the value of the data.

With that new and last minute information, the MDA staff asked us to postpone the data collection and they went back through the questionnaire to clarify the wording of questions, removed a few particularly troublesome questions and replaced those with more direct and understandable questions to collect the data they need.

The purpose, desired goals, and content theme of the Minnesota Best Management Practices Survey have not changed from the original OMB review request. However, a number of the questions have been re-worded, clarified or replaced with others to improve the expected quality of the reported data.

New Questions:

[New Questions Added]

20. Do you have surface water, such as a river, stream (intermittent or continuous), lake, or pond, in the field or within 50 feet of the outside border of any of your corn or soybean fields?

346 Yes [Go to next question]

347 No [Go to question 23]

21. Do you have non-crop vegetative buffers, such as grass or other permanent vegetation, next to the surface water?

348 Yes – All [Go to next question]

349 Yes – Some [Go to next question]

350 No [Go to question 23]

22. How many feet is the average width of the non-crop vegetative buffer next to the surface water?

351 _____ ft

23. Do you have a well or sinkhole in the field or within 50 feet outside the border of any of your corn or soybean fields?

352 Yes – All [Go to next question]

353 Yes – Some [Go to next question]

354 No [Go to question 26]

24. Do you maintain a setback (no herbicide application) or non-crop vegetative buffer for the areas around the well or sinkhole?

355 Yes – All [Go to next question]

356 Yes – Some [Go to next question]

357 No [Go to question 28]

25. How many feet is the average width of the setback or non-crop vegetative buffer to the well or sinkhole?

358 _____ ft

26. Do you mix or load herbicides in any of your corn or soybean fields?

359 Yes

360 No

361 Don't Know

Revised wording in existing Questions:

The Minnesota Department of Agriculture, in cooperation with the National Agricultural Statistics Service (NASS), will conduct periodic surveys of major crop producers that collect information on pesticide and fertilizer use. Survey respondents are randomly selected, and the reported results are based on advanced standardized statistical analyses conducted by Minnesota Department of Agriculture. Your response is necessary to help provide the best statistics possible. If there are any questions, contact the Minnesota Department of Agriculture at 651-201-6336.

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

	Acres
a. Corn:	101
b. Soybeans:	102

2. ²⁰¹ Did you have any acres of corn in 2022 that were planted to soybeans in 2021?

¹ Yes ³ No (Go to question 4)

3. **Corn on soybean acres.** What was the AVERAGE nitrogen rate (units per acre) that was applied across all acres of corn planted in 2022, 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 starter 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)

202

4. ²⁰³ Did you have any acres of corn in 2022 that were planted to corn in 2021?

¹ Yes ³ No (Go to question 6)

5. **Corn on corn acres.** What was the AVERAGE nitrogen rate (units per acre) that was applied across all acres of corn planted in 2022, that were also 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)
204

6. Which of the following precision agriculture tools do you use on the farm? (Check all that apply).

- a. ²⁰⁵ Auto Steer
- b. ²⁰⁶ Precision planting
- c. ²⁰⁷ Variable rate fertilizer applications
- d. ²⁰⁸ Precision spraying, such as auto boom shutoff
- e. ²⁰⁹ Nitrogen applications based on zone management
- f. ²¹⁰ Nitrogen applications based on aerial imagery
- g. ²¹¹ Nitrogen applications based on in field variables such as in season soil tests
- h. ²¹² Nitrogen applications based on other in season variables not mentioned above

7. ²¹³ How many acres of cover crops were planted in or grown after your corn or soybean fields were harvested in 2022?

	Acres
a. Cover crop on corn acres:	214
b. Cover crop on soybean acres:	215

If you did not grow corn in 2022, go to question 16

8. ²¹⁶ With the higher price of fertilizer, did you reduce your N rate on your corn acres?

- ¹ Yes ³ No ⁵ Don't Know

9. ²¹⁷ Was manure used on any of your corn acres in 2022?

- ¹ Yes ³ No

²¹⁸ If yes, was the manure tested within the last five years before application in 2022?

- ¹ Yes ³ No

10. Which of the following factors determine the nitrogen rate calculation in the University of Minnesota nitrogen guidelines. – list factors?

- a. ²¹⁹ Soil organic matter
- b. ²²⁰ Price of nitrogen
- c. ²²¹ Yield goal
- d. ²²² Previous crop
- e. ²²³ Variable rate
- f. ²²⁴ Price of corn
- g. ²²⁵ Cation exchange capacity (CEC)
- f. ²²⁶ Don't know

11. The Minnesota Department of Agriculture (MDA) has a vulnerable groundwater area map on its website that shows areas where fall nitrogen fertilizer applications are restricted:

a. 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?..... ²³³ Don't Know OR

Acres
234

b. ²²⁷ When was the last time you reviewed the MDA's Fall Nitrogen Fertilizer Restrictions map on the MDA website?

- ¹ Date: _____
- ³ Don't Know
- ⁷ Never

12. ²²⁸ Do you use a nitrogen inhibitor on any of your corn acres?

- ¹ Yes
- ³ No
- ⁵ Don't Know

13. ²²⁹ Do you sidedress any nitrogen on your corn acres, including top dress or irrigation?

- ¹ Yes
- ³ No
- ⁵ Don't Know

Herbicide **Best Management Practices (BMP)** Adoption Survey 2022

16. On your 2022 corn and/or soybean acres, did you (**choose one from the list for each crop**) if only one crop, check only in that column.

	Corn	Soybeans
a. Apply herbicides yourself.....	301 <input type="checkbox"/>	302 <input type="checkbox"/>
b. Have herbicides custom applied?.....	303 <input type="checkbox"/>	304 <input type="checkbox"/>
c. Apply some myself and some custom applied	305 <input type="checkbox"/>	306 <input type="checkbox"/>
d. Don't use herbicides	307 <input type="checkbox"/>	308 <input type="checkbox"/>

CONCLUDE interview if you did not use any herbicides on corn or soybeans in 2022.

If no corn acres, go to question 20

19. On your corn acres applied with herbicides, did you use more than one mode of action (group). This could be from two or more products with different modes of action or a premix with two or more different modes of action?

- 342 All corn acres
- 343 Some corn acres
- 344 None of my corn acres
- 345 Don't Know

Atrazine Use in Corn

27. ⁴⁰¹ Was atrazine applied on any of your corn acres in 2022, premixes included?

- ¹ Yes - **Go to question 29.**
- ³ No - **Go to question 33.**
- ⁵ Don't Know – **Go to next question.**
- ⁷ **No corn acres in 2022 – Go to question 38.**

If you have selected one or more of these atrazine products, then go to then next question. If not, skip to question 33.

29. ⁴¹² When did you apply atrazine on the majority of your corn acres? [Only check one]

- ¹ Crop preplant or preemergence
- ² Crop post emergence - Go to question to 31
- ³ Split application (both pre and post on the same field)

30. ⁴¹³ Was atrazine incorporated through tillage?

- ¹ All corn acres
- ³ Some corn acres
- ⁴ None
- ⁵ Don't Know

32. Which of the following factors were considered when choosing the rate of atrazine on your corn fields in 2022 besides cost? (Select all that apply)

- k. ⁴¹⁵ Soil Texture
- l. ⁴¹⁶ Soil Organic Matter
- m. ⁴¹⁷ Weed Species
- n. ⁴¹⁸ Weed Pressure
- o. ⁴¹⁹ Effectiveness
- p. ⁴²⁰ Other
- q. ⁴²¹ Don't Know

Deletion of Questions:

18. 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

	<u>Corn</u>	<u>Soybeans</u>
a. Auto steer	<input type="checkbox"/>	<input type="checkbox"/>
b. Auto boom shut off	<input type="checkbox"/>	<input type="checkbox"/>
c. Variable rate application	<input type="checkbox"/>	<input type="checkbox"/>

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

	<u>Corn</u>	<u>Soybeans</u>
a. Low-drift spray nozzles	<input type="checkbox"/>	<input type="checkbox"/>
b. Spray boom height adjustment	<input type="checkbox"/>	<input type="checkbox"/>
c. Hooded or shielded sprayer	<input type="checkbox"/>	<input type="checkbox"/>

20. 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,

- a. Corn: _____acres
- b. Soybeans: _____acres

The questionnaire has been loaded to ROCIS.

This change will not impact the requested annual sample size and respondent burden.