

MINNESOTA BEST MANAGEMENT PRACTICES - 2023

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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

Please make corrections to name, address, and ZIP Code, if necessary.

Response is voluntary. 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>. 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-NEW. 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.

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 NASS nationwide. Your response is necessary to help provide the best statistics possible. If there are any questions, contact the Minnesota Department of Agriculture at (651) 261-1993.

SECTION 1 CROP ACRES

Please report the total ACRES WITH CORN AND SOYBEANS you operated in 2023. Also, provide a breakdown of acres with and without irrigation. Acres under irrigation refers to acres where water was applied with an irrigation system for the purpose of producing the corn crop. Please provide the previous crop before being planted to corn. If you do not know an answer, please leave a question mark in the box next to the question.

| | 2023 ACRES |
|------------------------------------------------------------------------------------------|------------|
| 1. Of all land operated in 2023, how many acres were: | |
| a. Acres planted to corn?..... | 530 |
| b. Of the acres in 1a, Corn acres not under irrigation?..... | 531 |
| c. Of the acres in 1a, Corn acres under irrigation?..... | 532 |
| d. Of the acres in 1a, Corn acres planted following corn?..... | 533 |
| e. Of the acres in 1a, Corn acres planted following soybeans..... | 534 |
| f. Of the acres in 1a, Corn acres planted following alfalfa?..... | 535 |
| g. Of the acres in 1a, Corn acres planted with treated seed?..... | 536 |
| h. Of the acres in 1a, Corn acres planted with seed treated with an insecticide?..... | 537 |
| i. Acres planted to soybeans?..... | 600 |
| j. Of the acres in 1i, Soybean acres planted with treated seed?..... | 601 |
| k. Of the acres in 1i, Soybean acres planted with seed treated with an insecticide?..... | 602 |

SECTION 2

RECORD KEEPING FOR FERTILIZER APPLICATIONS

1. Did your operation plant any corn acres in 2023?

Yes - Continue to question 2 below

No - Go to Section 3

Please consider how you kept track of nitrogen fertilizer input for corn in 2023, such as rate, timing, placement, source and crediting of other nitrogen sources (e.g. manure, legumes etc.)

2. For total CORN ACRES you operated in 2023 (Item 1a):

2023 CORN ACRES

- a. On how many acres were fertilizer inputs tracked by me using farm management software, spreadsheets or similar?.....
- b. On how many acres were fertilizer inputs tracked by me using paper records?.....
- c. On how many acres were fertilizer inputs tracked for me by others (e.g. fertilizer dealer, crop consultant)?.....

| |
|-----|
| 540 |
| 541 |
| 542 |

SECTION 3

NITROGEN MANAGEMENT

1. Did your operation plant any corn acres in 2023?

Yes - Continue to question 2 below

No - Go to Section 4

Please consider your nitrogen application preparations for the 2023 crop season. MRTN refers to the University of Minnesota's Maximum Return To Nitrogen approach for estimating nitrogen rate on corn.

2. For total CORN ACRES you operated in 2023 (Item 1a):

2023 CORN ACRES NON-IRRIGATED 2023 CORN ACRES IRRIGATED

- a. On how many acres did you use the University of Minnesota's MRTN approach to determine N rates?.....
- b. On how many acres did you use other industry-recommended techniques (e.g. fertilizer dealer, crop consultant, crop management software) to determine N rates?.....
- c. On how many acres did you use an in-season soil test, plant test or crop sensors to guide nitrogen fertilizer rates?.....

| | |
|-----|-----|
| 543 | 544 |
| 545 | 546 |
| 547 | 548 |

3. For total CORN ACRES you operated in 2023 (Item 1a), please record the acres fertilized with the strategies listed below. (INCLUDE fertilizer applications in the preceding fall and winter, as well as preplant, at-plant and in-season applications. EXCLUDE manure applications).

2023 CORN ACRES NON-IRRIGATED 2023 CORN ACRES IRRIGATED

- a. All nitrogen fertilizer was applied in spring or in-season (no fall application)?.....
- b. Fall/winter applied nitrogen fertilizer was more than 75% of total nitrogen fertilizer?.
- c. More than 50% of nitrogen fertilizer was applied in-season (INCLUDE fertigation)?.
- d. Fall/winter nitrogen fertilizer was applied with a nitrification inhibitor?.....
- e. Spring nitrogen fertilizer was applied with a nitrification inhibitor?.....

| | |
|-----|-----|
| 550 | 551 |
| 552 | 553 |
| 554 | 555 |
| 556 | 557 |
| 558 | 559 |

SECTION 4

GENERAL KNOWLEDGE

For this question, please check the boxes as appropriate. The University of Minnesota recommends the Maximum Return to Nitrogen (MRTN) approach for nitrogen rate on corn.

1. Which of the following factors are included in the MRTN ratio? (check two boxes)

- a. Soil organic matter.....560
- b. Price of nitrogen.....561
- c. Yield goal.....562
- d. Previous crop.....563
- e. Variable rate.....564
- f. Price of corn.....565
- g. Cation exchange capacity (CEC).....566

SECTION 5

OTHER TECHNIQUES

1. Does your operation use other practices to reduce nitrogen losses from your fields?

Yes - Continue to question 2 below No - Go to Section 6

2. What are the top three practices are you using to reduce nitrogen losses from your fields? Please list/explain below and specify the acres.

| | | |
|-------------|--------------------|-----------------------------------|
| | | Acres where practices are used |
| a. Specify: | 701 _____ _____ | 702 |
| b. Specify: | 703 _____ _____ | 704 |
| c. Specify: | 705 _____ _____ | 706 |

SECTION 6

PESTICIDE

Who plays a role in the following decisions? (Please **check** all that apply, and **circle** the **check** that makes the **primary** decision.)

| Decision | Myself | Relative/ friend/ neighbor | Employee | Dealer/ seed or chemical company rep | Commercial applicator | Independent crop consultant/ agronomist | Other | I don't know | Does not occur |
|--------------------------------------|------------------------------|----------------------------------|------------------------------|-----------------------------------------------|------------------------------|--------------------------------------------------|------------------------------|------------------------------|------------------------------|
| Which herbicide(s) is used?..... | 801 <input type="checkbox"/> | 802 <input type="checkbox"/> | 803 <input type="checkbox"/> | 804 <input type="checkbox"/> | 805 <input type="checkbox"/> | 806 <input type="checkbox"/> | 807 <input type="checkbox"/> | 808 <input type="checkbox"/> | 809 <input type="checkbox"/> |
| Which insecticides(s) is used?..... | 810 <input type="checkbox"/> | 811 <input type="checkbox"/> | 812 <input type="checkbox"/> | 813 <input type="checkbox"/> | 814 <input type="checkbox"/> | 815 <input type="checkbox"/> | 816 <input type="checkbox"/> | 817 <input type="checkbox"/> | 818 <input type="checkbox"/> |
| Which fungicides(s) is used?..... | 819 <input type="checkbox"/> | 820 <input type="checkbox"/> | 821 <input type="checkbox"/> | 822 <input type="checkbox"/> | 823 <input type="checkbox"/> | 824 <input type="checkbox"/> | 825 <input type="checkbox"/> | 826 <input type="checkbox"/> | 827 <input type="checkbox"/> |
| Which seed treatments are used?..... | 828 <input type="checkbox"/> | 829 <input type="checkbox"/> | 830 <input type="checkbox"/> | 831 <input type="checkbox"/> | 832 <input type="checkbox"/> | 833 <input type="checkbox"/> | 834 <input type="checkbox"/> | 835 <input type="checkbox"/> | 836 <input type="checkbox"/> |

Who do you get information from about the following? (Please **check** all that apply, and **circle** the **check** that makes the **primary** influence.)

Efficacy in this question refers to the level of control that an herbicide has on weeds, insecticide has on insects, and fungicide has on pathogens.

| | Extension | Relative/ friend/ neighbor | Dealer/ seed or chemical company rep | People on social media or blogs | Independent crop consultant/ agronomist | MN Department of Agriculture | Other | I don't know | I don't get this information |
|-------------------------------------|------------------------------|----------------------------------|-----------------------------------------------|------------------------------------------|--------------------------------------------------|---------------------------------------|------------------------------|------------------------------|------------------------------------|
| Integrated pest management..... | 850 <input type="checkbox"/> | 851 <input type="checkbox"/> | 852 <input type="checkbox"/> | 853 <input type="checkbox"/> | 854 <input type="checkbox"/> | 855 <input type="checkbox"/> | 856 <input type="checkbox"/> | 857 <input type="checkbox"/> | 858 <input type="checkbox"/> |
| Insecticide efficacy..... | 859 <input type="checkbox"/> | 860 <input type="checkbox"/> | 861 <input type="checkbox"/> | 862 <input type="checkbox"/> | 863 <input type="checkbox"/> | 864 <input type="checkbox"/> | 865 <input type="checkbox"/> | 866 <input type="checkbox"/> | 867 <input type="checkbox"/> |
| Herbicide efficacy..... | 868 <input type="checkbox"/> | 869 <input type="checkbox"/> | 870 <input type="checkbox"/> | 871 <input type="checkbox"/> | 872 <input type="checkbox"/> | 873 <input type="checkbox"/> | 874 <input type="checkbox"/> | 875 <input type="checkbox"/> | 876 <input type="checkbox"/> |
| Fungicide efficacy..... | 877 <input type="checkbox"/> | 878 <input type="checkbox"/> | 879 <input type="checkbox"/> | 880 <input type="checkbox"/> | 881 <input type="checkbox"/> | 882 <input type="checkbox"/> | 883 <input type="checkbox"/> | 884 <input type="checkbox"/> | 885 <input type="checkbox"/> |
| Insecticide application timing..... | 886 <input type="checkbox"/> | 887 <input type="checkbox"/> | 888 <input type="checkbox"/> | 889 <input type="checkbox"/> | 890 <input type="checkbox"/> | 891 <input type="checkbox"/> | 892 <input type="checkbox"/> | 893 <input type="checkbox"/> | 894 <input type="checkbox"/> |
| Herbicide application timing..... | 895 <input type="checkbox"/> | 896 <input type="checkbox"/> | 897 <input type="checkbox"/> | 898 <input type="checkbox"/> | 899 <input type="checkbox"/> | 900 <input type="checkbox"/> | 901 <input type="checkbox"/> | 902 <input type="checkbox"/> | 903 <input type="checkbox"/> |
| Fungicide application timing..... | 904 <input type="checkbox"/> | 905 <input type="checkbox"/> | 906 <input type="checkbox"/> | 907 <input type="checkbox"/> | 908 <input type="checkbox"/> | 909 <input type="checkbox"/> | 910 <input type="checkbox"/> | 911 <input type="checkbox"/> | 912 <input type="checkbox"/> |

SECTION 7

CONCLUSION

The survey results will be available on the internet at <http://www.mda.state.mn.us/> in summer, 2024.

This completes the survey. Thank you for your help!

| | |
|------------------------|-------------------------------------------------------------|
| Respondent Name: _____ | 9911 Phone: () -- Date: __ __ __ |
|------------------------|-------------------------------------------------------------|

| 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-PASI (Mail) 2-PATI (Tel) 3-PAPI (Face-to-Face) 6-Email 7-Fax 19-Other | 9903 | 9998 | 9900 | 9985 | 9989 | | | |
| | | | | | | | | | _____ - _____ - _____ | | | |
| | | | | | | | | | Optional Use | | | |
| | | | | | | 9921 | 9907 | 9908 | 9906 | 9916 | | |

S/E Name: _____