

# AGRICULTURAL RESOURCE MANAGEMENT SURVEY

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 Approval Expires: 11/30/2023  
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 SurveyID: 1312 Phase 2



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## CORN PRODUCTION PRACTICES AND COSTS REPORT FOR 2021

VERSION 8	ID _____	TRACT 01	SUBTRACT _____	C-TYPE 105
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### CONTACT RECORD

DATE	TIME	NOTES

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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H H M M

BEGINNING TIME   
 [MILITARY]

SCREENING BOX

Check if verified POID \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

check if  
cell phone

Phone: (\_\_\_\_) \_\_\_\_\_

Check if verified POID \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

check if  
cell phone

Phone: (\_\_\_\_) \_\_\_\_\_

Check if verified POID \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

check if  
cell phone

Phone: (\_\_\_\_) \_\_\_\_\_

Check if verified POID \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

check if  
cell phone

Phone: (\_\_\_\_) \_\_\_\_\_

A

## CORN FIELD SELECTION

A

1. How many acres of corn did this operation plant for the 2021 crop year?.....

Total Planted Acres

0050

[If no acres planted, review Screening Information Form, make notes, then go to back page.]

Code

1064

Yes=1  
No=3

a. Did you produce any acres of certified organic corn?.....

b. Of the total (item 1) acres, how many were planted using/as --

i. Conventional corn?.....

Total Acres

0583

Number of Fields

1065

ii. Certified organic corn?.....

0730

1066

[I will follow a simple procedure to make a random selection from the corn fields planted for the 2021 crop.]

Total Number of Fields  
Planted

0020

2. What is the total number of corn fields that were planted on this operation?.....

[If only one field enter "1" and go to item 4.]

3. [Now, I need to identify a corn field to be used for this survey.] The corn field pre-selected for this interview is the:

- 1  Northern most field
- 2  Southern most field
- 3  Eastern most field
- 4  Western most field
- 5  Northeastern most field
- 6  Southeastern most field
- 7  Northwestern most field
- 8  Southwestern most field

Field description:

--

APPLY "RANDOM NUMBER" LABEL HERE

4. The field selected is \_\_\_\_\_ (field name/number/description).  
 During this interview, the corn questions will be about this selected corn field.  
 [Be sure the operator can identify the selected field.]

5. For the randomly selected field above, please provide the following Farm Service Agency (FSA) identifiers:

[Having this information helps USDA make better use of other data you have provided to USDA and will improve the types of statistical analysis that can be done with the responses from this survey. If the physical field in this survey spans multiple FSA administrative fields, please include the farm, tract, and field number for the largest administrative field. These numbers are field identifiers that USDA uses to administer farm programs like crop insurance, commodity programs, and conservation programs.]

- a. Farm Number (up to 8 digits).....
- b. Tract Number (up to 7 digits).....
- c. Field Number (up to 4 digits, exclude subfield letters).....

Number
1070
1071
1072

OFFICE USE  
 OY Field Substituted

0022
------

B

## FIELD CHARACTERISTICS - SELECTED FIELD

B

1. How many acres of corn did this operation plant in the selected field for the 2021 crop?.....
- Acres  
1301
- a. Are the acres in the selected field Certified Organic?.....
- Code  
Yes=1 1300  
No=3
- b. Was the selected field transitioning into organic corn production in 2021?.....
- Code  
Yes=1 1399  
No=3
- [If item 1a or 1b = 1, then ask--]
- c. What was the cost, per acre, for third party organic certification?.....
- Dollars & Cents  
1891
2. Were the acres in the selected field--.....
- 1 owned by this operation?  
 2 rented for cash with the payment being a fixed cash amount?  
 3 rented for cash with the payment being a flexible cash amount?  
 4 rented for a share of the crop?  
 5 rented for some combination of cash and share of the crop?  
 6 used rent free?
- Code  
1302
- [If field is cash rented (item 2 = 2, 3, or 5), ask item 3, otherwise go to item 4.]
3. What was the cash rent paid per acre for the selected 2021 corn field?.....
- Dollars & Cents per Acre  
1303
- [If field is share rented (item 2 = 4 or 5), ask--]
4. What was the landlord's share of the crop from the selected field?.....
- Percent  
1304
- [If field is rented (item 2 = 2, 3, 4, 5, or 6) ask--]
5. What was the total cost for all inputs provided by any landlord for the 2021 crop on the selected field? INCLUDE the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, drying, and irrigation. EXCLUDE real estate tax expenses and lime costs paid by the landowner.....
- Dollars & Cents per Acre OR Total Dollars  
1305 OR 1306
6. What was the total cost for all inputs provided by any contractor for the 2021 crop on the selected field? INCLUDE the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, drying, and irrigation.....
- Dollars & Cents per Acre OR Total Dollars  
1309 OR 1310
7. In what year did you (the operator listed on the label) start operating the selected field?.....
- Year  
1312

M M D D

1308	_____ 2021
------	------------

8. On what date was the selected field planted?.....

Unit Code  
 1 Pounds  
 2 CWT  
 3 Tons  
 4 Bushels

Units per Acre

0216	_____	0217
------	-------	------

a. What was your yield goal at planting for the selected field?.....

1 Grain
2 Silage
4 Seed
25 Other

Code

3327
------

9. Was the corn on the selected field planted with the intention of being harvested as.....

Unit Code

1 Pound  
 2 CWT  
 4 Bushel  
 22 Acre

Dollars & Cents per Unit

23 Approx. 80,000 Kernel Bag

Percent of Seed Planted

1214	_____	1215	_____	1216
1217	_____	1218	_____	1219
				1318

10. What was the source and cost of --

INCLUDE

- operator, landlord, and contractor costs
- cost of seed treatment and technology fee

a. GMO/GE purchased seed?.....

b. Non-GMO/GE purchased seed?.....

c. Homegrown seed?.....

100%

[If item 10c is greater than zero, continue. Otherwise go to item 11.]

Cents per Pound

3321	_____
------	-------

i. What was the cost for cleaning and treating this seed?.....

Unit Code

1 Pounds/Acre  
 2 CWT/Acre  
 4 Bushels/Acre  
 25 Kernels-Seeds/Acre  
 38 Kernels-Seeds/Foot

Units

1313	_____	1314
------	-------	------

11. What was the seeding rate per acre the first time the selected field was planted?.....

Inches

1322
------

12. What was the average corn row width for the selected field?.....

Code

Yes=1  
 No=3

1323
------

13. Did the selected field have skip-row corn?.....

[If item 13 = 1, continue. Otherwise go to item 14.]

Rows of Corn

BY

Rows of Skip

1324
------

1325
------

a. What was the common skip pattern?.....

Inches

1326
------

b. What was the average width of the skip?.....

Acres

1315

14. How many acres in this field had to be replanted to corn?.....

(Acres replanted = Number of acres x Number of times replanted)

Code

3062

15. For the 2021 corn crop, was the corn seed--.....

- 1 Treated with a pesticide prior to purchase?
- 2 Treated with a pesticide after purchase?
- 3 Not treated with a pesticide?

[If item 15 = 1 or 2, continue. Otherwise go to item 16.]

Seed Treatment Name

a. What was the name of the seed treatment? [Write seed treatment name in the box provided.].....

1289

b. What was the seed treatment code? [Enter the appropriate seed treatment code from the Respondent Booklet. Enter "999" if a seed treatment was applied but is not listed. Enter "-1" if the seed treatment is not known.].....

Code

2325

Code

2340

16. For the 2021 corn crop, did you plant a commercial seed product on the selected field?.....

Yes=1  
No=3

[If item 16 = 1, continue. Otherwise go to item 17.]

Commercial Seed Product Name

a. What was the name of the seed product? [Write seed product name in the box provided.].....

2342

b. What was the seed product code? [Enter the appropriate product code from the Respondent Booklet (page 5). Enter "999" if a seed product was purchased but is not listed. Enter "-1" if the product is not known.].....

Code

2343

2021

Last Time Corn was Planted

Yes=1  
No=3

Yes=1  
No=3  
N/A=4

17. Did you plant genetically modified organism/genetically engineered (GMO/GE) corn in this field for 2021 or the last time corn was planted?.....

2300

2301

[If item 17 = 1 for either year, continue. Otherwise, go to item 19.]

18. Did the corn planted on the selected field have any of the following genetically modified organism/genetically engineered (GMO/GE) traits in 2021 or the last time corn was planted?	2021	Last Time Corn Was Planted
	Yes=1 No=3	Yes=1 No=3 N/A=4
a. Insect Resistance (Bt) to Corn Borer.....	2501	2502
i. With multiple (pyramided) modes of action.....	2503	2504
b. Insect Resistance (Bt) to Rootworm.....	0362	0363
i. With multiple (pyramided) modes of action.....	2507	2508
c. Insect Resistance (Bt) to Earworm.....	2509	2510
d. Insect Resistance (Bt) to Armyworm.....	2511	2512
e. Other Insect Resistance (Bt) Trait.....	2513	2514
f. Herbicide Tolerance (HT) to Glyphosate (e.g. Roundup Ready®).....	2306	2307
g. Herbicide Tolerance (HT) to 2,4-D (e.g. Enlist®).....	2308	2309
h. Herbicide Tolerance (HT) to Dicamba (e.g. Extend®).....	2310	2311
i. Herbicide Tolerance (HT) to Glufosinate (e.g. Liberty Link®).....	2312	2313
j. Other Herbicide Tolerant (HT) Trait.....	2314	2315
k. Drought Tolerant.....	2515	2516
l. Enzyme technology for ethanol (e.g. Enogen).....	2701	2702

Note: Any genetically modified organism/genetically engineered HT trait other than Glyphosate Tolerance, 2,4-D Tolerance, Dicamba Tolerance, or Glufosinate Tolerance should be accounted for using the "Other HT trait" row.

19. Did you plant non-genetically modified/genetically engineered (non-GMO/GE) seeds for the 2021 crop year or the last time corn was planted?.....	2021	Last Time Corn was Planted
	Yes=1 No=3	Yes=1 No=3 N/A=4
	2316	2317

[If item 19 = 1 for either year, continue. Otherwise, go to item 22.]

20. Did the corn planted on the selected field have non-GMO/GE herbicide tolerant (HT) traits in the 2021 crop year or the last time corn was planted?.....	2021	Last Time Corn was Planted
	Yes=1 No=3	Yes=1 No=3 N/A=4
	2318	2319
21. Was the corn from the selected field sold (or will be sold) through a market specifically for non-GMO/GE corn?.....	2518	2519

Dollars & Cents per Bushel

a. In 2021, what was the price premium (or the expected premium if not yet sold) received for this non-genetically modified corn?.....	2384	
--	------	--

22. Was the corn planted on the selected field drought tolerant?.....

Code	
Yes=1	2703
No=3	

[If item 22 = 1, continue. Otherwise, go to item 24.]

Code	
Yes=1	2704
No=3	

a. Were these GMO/GE drought-tolerant seeds (e.g. Genuity® DroughtGard®)?.....

Code	
Yes=1	2705
No=3	

b. Were these non-GMO/GE drought-tolerant seeds (e.g. Optimum® AQUAmax®, Agrisure Artesian®)?.....

Code	
Yes=1	2706
No=3	

c. Since the time that drought-tolerant corn became available in your area, have you only planted drought-tolerant corn varieties?.....

[Next we will ask about factors that influenced your decision to plant drought tolerant seeds on the selected field.]

23. In the selected field, was the decision to plant drought tolerant corn based on any of the following?

Code	
Yes=1	2707
No=3	

a. Ability to bundle drought tolerant seed traits with one or more GMO/GE traits, such as insect resistance or herbicide tolerance?.....

Code	
Yes=1	2708
No=3	

b. Price of drought tolerant seed compared to seeds without drought tolerance?.....

Code	
Yes=1	2709
No=3	

c. Price of irrigation water and/or irrigation water applications?.....

Code	
Yes=1	2710
No=3	

d. Low soil moisture from frequent droughts?.....

Code	
Yes=1	2711
No=3	

e. Field conditions, other than soil moisture or seasonal forecasts, at planting time?.....

Code	
Yes=1	2712
No=3	

f. Drought in the prior crop year that at least partially damaged the crop?.....

Code	
Yes=1	2713
No=3	

g. Concerns about changing growing conditions?.....

Code	
Yes=1	2326
No=3	

24. Did you use a genetically engineered, insect resistant seed variety for the 2021 crop?.....

[If item 24 = 1, continue. Otherwise go to item 29.]

a. Did you choose the resistant seed variety used on the selected field primarily to --

- |  |       |
|--|-------|
| 1 Increase yields through improved pest (weed or insect) control?<br>2 Decrease pesticide input costs?<br>3 Save management time or labor or improve ease of management?<br>4 Reduce refuge requirements?<br>5 For some other reason(s)? Specify _____ | ..... |
|--|-------|

Code

2327
------

b. Was this a refuge-in-the-bag product?.....

Code	
Yes=1	2714
No=3	

Percent

2715
------

c. What percentage of the bag was conventional seed?.....



25. Was a refuge for insect pests planted for the selected field? Refuge may be adjacent to the field or a separated block within 1/2 mile of the field.....

Yes=1  
No=3

Code  
2328

[If item 25 = 1, continue. Otherwise, go to item 29.]

26. What percent of the selected field was used as refuge for insect pests in order to comply with Bt corn insect resistance management guidelines?.....

Percent  
2716

27. What is the size in acres of the refuge?.....

Acres  
2717

28. What was the difference in yield between the Bt crop and the non-Bt refuge crop?.....

Unit Codes  
1 Pounds  
2 CWT  
3 Tons  
4 Bushels

Units per Acre

1810      1811

29. Did you use an "air-delivery" or "vacuum (pneumatic) planter"?

Yes=1  
No=3

Code  
2323

[If item 29 = 1, ask --]

a. Did you use a talc and/or graphite seed flow lubricant?.....

Yes=1  
No=3

Code  
2324

b. Did you use an alternative seed flow lubricant (e.g. Bayer Fluency Agent) instead of talc and/or graphite?.....

Yes=1  
No=3

Code  
2394

30. Has harvest of the selected field been completed?.....

Yes=1  
No=3

Code  
1328

31. Please report the following information about the acres harvested (or to be harvested) and the yields from the selected field.

How many acres in this corn field were (or will be) --

	1	2
	What yield per acre did you (or do you expect to) get for corn --	Unit Codes 1 Pounds 2 CWT 3 Tons 4 Bushels
Acres	Units per Acre	
a. harvested for grain, first crop?.....	1346	1347
b. harvested for silage or green chop?.....	1349	1350
c. harvested for seed?.....	1431	1432
d. abandoned?.....	1351	1433
e. used for some other purpose?.....	1439	

32. Were the stalks/stover harvested from the selected field?

Code  
1754

Yes - [Enter code 1 and go to item 33.]       No - [Ask 32a, then go to item 34.]

a. [If the corn stalks/stover were not harvested, ask--]

What was the primary reason for not harvesting the corn stalks/stover?.....

- 1 No market/use for corn stalks/stover
- 2 Harvesting was not profitable
- 3 The corn stalks/stover were left as organic matter for the soil
- 4 The stalks/stover were left for livestock grazing
- 5 Other, specify \_\_\_\_\_

Code

1398

Acres

1755

33. How many acres of corn stalks/stover were harvested from this corn field?.....

Total Tons

1756

a. How many tons of corn stalks/stover were harvested from these corn acres (item 33)?.....

$$\frac{\text{Total Tons}}{\text{Acres}} = \text{Tons per Acre} \quad \text{OR} \quad \frac{\text{Total Tons}}{\text{Bales}} \times \frac{\text{Lbs per Bale}}{2000} = \text{Tons per Ton}$$

Code

1023

34. Did any livestock graze this corn field after harvest of the 2021 corn crop?.....

- 1  Yes - [Enter Code 1 and continue]    3  No - [Go to item 38]

35. What type of livestock grazed this corn field after harvest of the 2021 corn crop?.....

- 1 Cattle
- 2 Sheep
- 3 Other, specify: \_\_\_\_\_

Code

1024

Head

1027

a. About how many head of livestock (item 35) grazed this corn field?.....

Days

1028

b. How many days did this livestock graze on this corn field?.....

Code

1373

36. Was any of the residue from the prior crop (corn stover, wheat straw, cover crop, etc.) removed post-harvest?.....

Yes=1  
No=3

[If yes, ask--]

Tons

1376

a. How many tons per acre of residue were removed through harvest?.....

Code

2718

37. Did any livestock graze this field following planting of the previous crop? INCLUDE post-harvest grazing of residue from the prior crop or grazing between planting and harvest of the cover crop/previous crop during the Fall/Winter of 2020/2021.....

Yes=1  
No=3

[If yes, ask--]

Head

1362

a. About how many head of livestock grazed the field?.....

Days

1363

b. How many days did livestock graze on the field?.....

Crop Code List for item 38 - Previously Planted Crops			
190 Barley	311 Grasses, including clover	22 Rye	318 No crop planted
6 Corn for grain	1 Hay, alfalfa	240 Sorghum, all	291 Other field crop
5 Corn for silage	11 Hay, all other	26 Soybeans	292 Other crop
283 Cotton (all)	15 Oats	263 Wheat, durum or spring	312 Cover crop mix
302 CRP	21 Rice	165 Wheat, winter	34 Ryegrass

38. Please report what crops were previously planted on the majority of the selected field, including cover crops.

1 What crops were planted on the selected field in-- [For perennial crops, (1, 11, 292, 302, and 311) report the crop code in all seasons when the crop was growing.]			2 What type of crop was grown on the selected field? 1 GMO/GE Herbicide Tolerant (HT) 2 GMO/GE Insect Resistant (Bt) 3 Stacked (HT and Bt) 4 Not GMO/GE	3 Was this a cover crop?  Yes=1 No=3	4 If a cover crop was planted, how did you terminate this cover crop? 1 Tilled-in 2 Herbicide 3 Rolled 4 Grazed 5 Harvested for forage 6 Harvested for grain 7 Winter killed	5 Was this field no-tilled or strip-tilled? <sup>1/</sup>  Yes=1 No=3
Season and Year	Crop Name	Crop Code	Code		Code	
a. Spring/Summer of 2021?.	Corn		1486			1344
b. Fall of 2020?.....		1343	1487	1470	1471	1345
c. Spring/Summer of 2020?.		1369	1488	1472	1473	1371
d. Fall of 2019?.....		1372	1489	1474	1475	1374
e. Spring/Summer of 2019?.		1375	1490	1476	1477	1377
f. Fall of 2018?.....		1378	1491	1478	1479	1380
g. Spring/Summer of 2018?.		1381	1492	1480	1481	1383
h. Fall of 2017?.....		1366	1493	1482	1483	1368
i. Spring/Summer of 2017?.		1340	1494	1484	1485	1342

<sup>1/</sup>No-till means leaving soil and previous crop residue undisturbed from harvest to planting. Strip-till means tilling a narrow strip over the row, leaving soil and previous crop residue between the rows undisturbed.

[If a cover crop was planted in Spring/Summer/Fall 2020, ask--]

j. What was the seed cost per acre for the cover crop?.....

Dollars & Cents per Acre
1468
1495

k. What was the per-acre cost-share or financial assistance payments received for the cover crop? ....

[Enter zero if no program payment was received.]

39. Has any part of the selected field been classified as "Highly Erodible Land"?

Cropland identified as highly erodible is subject to highly erodible land conservation (HELCL) requirements. Producers who receive farm program payments are required to have and apply a written soil conservation plan. A "written plan" is a plan prepared in accordance with Federal, State, or district standards.....

Code
1404

Yes=1  
No=3

40. Do you have a written conservation plan that specifies practices to control soil erosion?.....  
 Yes=1 No=3 Code 0702

41. Does the selected field contain a wetland? Wetlands are subject to Wetland Conservation (WC) or "swampbuster" requirements. Producers who receive farm program payments must refrain from draining wetlands to make them ready for crop production.....  
 Yes=1 No=3 Code 1405

42. What is the slope of the selected field?.....  
 1 Nearly level (0 - 2%)  
 2 Even, moderate grade (3 - 9%)  
 3 Variable, moderate grade  
 4 Even, steep grade (over 10%)  
 5 Variable, steep grade  
 Code 2400

43. What is the primary soil type of the selected field?.....  
 1 Loam  
 2 Clay  
 3 Sandy  
 4 Mixed  
 5 Silty  
 Code 2401

[Next we will ask about soil and water concerns that you have on the selected field.]

1 44. In the selected field, are any of the following currently or historically a concern?	2 1 Currently a concern 2 A concern in the past but not anymore 3 Not a concern Code	3 Have you received technical assistance from any of the following sources to evaluate this resource concern? Report up to 2 sources that you received assistance from: 1 USDA - NRCS 2 Cooperative Extension Service 3 Other USDA staff, including Forest Service 4 Other (e.g. Soil and Water Conservation District, state agency) Source 1 Source 2	
a. Water-driven erosion.....	2407	2417	2427
b. Wind-driven erosion.....	2408	2418	2428
c. Soil compaction.....	2409	2419	2429
d. Poor drainage.....	2410	2420	2430
e. Low organic matter.....	2411	2421	2431
f. Water quality.....	2412	2422	2432
g. Other concerns.....	2413	2423	2433
h. If the answer to all of the above was "Not a Concern", is it the case that there are no significant concerns on this field? ..... Yes=1 No=3	2414		

<p>45. Did the land use practices for the selected field include subsurface drainage?.....</p> <p>[If 45 = 1, continue. Otherwise go to item 46.]</p> <p>a. In what year was the current subsurface (tile) drainage installed?.....</p> <p>b. What is the average width (space between tiles) of your drainage system?.....</p> <p>c. What is the average or most common diameter of your tiles?.....</p> <p>d. Does this system include a mechanism for controlled drainage (e.g. stop logs, risers, or float mechanisms)?.....</p> <p>e. Does this drainage system have surface inlets?.....</p> <p>f. Where does this system empty?.....</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Code</td> </tr> <tr> <td style="text-align: center;">2402</td> </tr> </table> <p>Yes=1 No=3</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Year</td> </tr> <tr> <td style="text-align: center;">2403</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Inches</td> </tr> <tr> <td style="text-align: center;">2604</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">2605</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Code</td> </tr> <tr> <td style="text-align: center;">2406</td> </tr> </table> <p>Yes=1 No=3</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">2719</td> </tr> </table> <p>Yes=1 No=3</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Code</td> </tr> <tr> <td style="text-align: center;">2720</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Hours</td> </tr> <tr> <td style="text-align: center;">2606</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Unit Code</td> </tr> <tr> <td style="text-align: center;">1 Current</td> </tr> <tr> <td style="text-align: center;">2 Past</td> </tr> <tr> <td style="text-align: center;">3 Never</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">2611</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">2612</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">2613</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">2614</td> </tr> </table>	Code	2402	Year	2403	Inches	2604	2605	Code	2406	2719	Code	2720	Hours	2606	Unit Code	1 Current	2 Past	3 Never	2611	2612	2613	2614
Code																							
2402																							
Year																							
2403																							
Inches																							
2604																							
2605																							
Code																							
2406																							
2719																							
Code																							
2720																							
Hours																							
2606																							
Unit Code																							
1 Current																							
2 Past																							
3 Never																							
2611																							
2612																							
2613																							
2614																							

1 an open, single stage ditch  
 2 a natural waterbody  
 3 a saturated buffer  
 4 a retention pond  
 5 another type of receiving system

48. [Now I need information on soil, crop, and land management practices or activities used on the selected field and any financial assistance you may have received in conjunction with those practices.]

a. From this list, please check any practices or activities that you used on the selected field this year or at any time in the past.

<b>On-field Soil and Crop Management</b>	10 <input type="checkbox"/> Terraces	30 <input type="checkbox"/> Implement an integrated pest management plan - written plan
	1 <input type="checkbox"/> No-till/strip-till	31 <input type="checkbox"/> Drift reducing spray nozzles
	2 <input type="checkbox"/> Conservation tillage except no-till/strip-till	20 <input type="checkbox"/> Implement a nutrient management plan - written plan.
	3 <input type="checkbox"/> Cover crop - single species	21 <input type="checkbox"/> Precision nutrient application
	4 <input type="checkbox"/> Cover crop mix	22 <input type="checkbox"/> Subsurface phosphorous application
	5 <input type="checkbox"/> Contour farming	23 <input type="checkbox"/> No fertilizer application more than 30 days before planting
	6 <input type="checkbox"/> Conservation crop rotation	24 <input type="checkbox"/> Controlled release fertilizer
7 <input type="checkbox"/> Laser leveling	26 <input type="checkbox"/> Split nitrogen application with at least 50% applied after planting	<b>Adjacent to Field</b>
		33 <input type="checkbox"/> Filter strip
		34 <input type="checkbox"/> Field border
		35 <input type="checkbox"/> Riparian buffer - grass or forest
		50 <input type="checkbox"/> Irrigation water management plan
		99 <input type="checkbox"/> None of the above

b. For each practice or activity checked in 48a, please complete one line of this table.

1	2	3	4	5
Practice or Activity on the Selected Field	Practice Code (see item 48a)	When was this practice or plan used on the selected field? 1 Used in 2021 2 Not used in 2021 but used in earlier years	What financial assistance (cost share) has been received for this practice on this field? 1 Received a payment in 2021 from EQIP, CSP, or similar program 2 Did not receive a payment in 2021 but have in earlier years 3 Have never received a payment for this practice	Does this practice or activity help satisfy-- 1 A federal, state, or local regulatory requirement 2 Highly erodible land conservation compliance 3 Does not relate to any regulation or compliance requirement
	Code	Code	Code	Code
	1610	1614	1612	1613
	1615	1619	1617	1618
	1620	1624	1622	1623
	1625	1629	1627	1628
	1630	1634	1632	1633
	1635	1639	1637	1638
	1640	1644	1642	1643
	1645	1649	1647	1648
	1650	1654	1652	1653
	1655	1659	1657	1658
	1660	1664	1662	1663

<p>49. In 2021, was the corn in the selected field covered by a single or named peril crop insurance policy (e.g. hail, replant, wind, freeze, etc.)?.....</p>	Yes=1 No=3	Code 1393
[If item 49=1, continue. Otherwise, go to item 50.]		
<p>a. In 2021, was the corn in the selected field covered by more than one single or named peril crop insurance policy (e.g. hail, replant, wind, freeze)?.....</p>	Yes=1 No=3	Code 2721
<p>b. What was the dollar amount of coverage per acre for the single peril policy covering the selected field?.....</p>		Dollars & Cents per Acre 1395
<p>c. What was the premium cost per acre for the single peril policy covering the selected field in 2021? EXCLUDE any sign-up fee.....</p>		2722
<p>d. What was the percent deductible for the single peril policy covering the selected field? (Record no deductible as 0%).....</p>		Percent 2723
<p>e. Did you (or will you) collect an indemnity payment for the selected field from the single peril policy during 2021?.....</p>	Yes=1 No=3	Code 2724
<p>50. In 2021, was the corn in the selected field covered by a multi-peril crop insurance policy?.....</p>	Yes=1 No=3	Code 1385
[If item 50 = 1 ask--. Otherwise go to Section C]		
<p>a. Which coverage did you obtain?.....</p>	1 Federal CAT - basic catastrophic insurance 2 Yield Protection (YP) 3 Revenue Protection (RP) 4 Other multi-peril crop insurance	Code 1386
[If item 50a = 2, ask--]		
<p>i. What percent of yield coverage did you select for the selected field?.....</p>		Percent 1387
<p>ii. What percent of price coverage did you select for the selected field?.....</p>		1388
[If item 50a = 3, ask--]		
<p>iii. What percent of revenue coverage did you select for the selected field?.....</p>		Percent 1389
<p>b. Did you purchase a policy for Hurricane Insurance Protection - Wind Index in 2021?.....</p>	Yes=1 No=3	Code 1391
<p>c. What type of unit coverage did you purchase for the multi peril policy on the selected field?.....</p>	1 Basic 2 Optional 3 Enterprise	2524
<p>d. In what year did you, the operator listed on the label, first purchase multi-peril crop insurance on the selected field?.....</p>		Year 2525
<p>e. What is the 2021 Approved APH (actual production history) yield for the selected field?.....</p>		CWT per Acre 2526
<p>f. What was the premium paid for multi-peril crop insurance for the selected field in 2021? EXCLUDE any administrative fee.....</p>		Dollars & Cents per Acre 2527
<p>g. Did you or will you collect an indemnity payment for the selected field from multi-peril crop insurance during 2021?.....</p>	Yes=1 No=3	Code 2528

1. Were commercial nutrients or fertilizers applied to the selected field for the 2021 corn crop? INCLUDE those from operators, landlords, and contractors...  
 Yes=1 No=3

Code	Office Use Edit Table
0202	0200

[If item 1 = 1 continue, otherwise go to item 6]

2. How many commercial nutrient or fertilizer applications were made to the selected field for the 2021 crop? INCLUDE applications made by airplanes and custom applicators.....

Number
0203

3. Now I need to record information for each application.

CHECKLIST	
INCLUDE	EXCLUDE
<input type="checkbox"/> Custom applied nutrients or fertilizers	<input type="checkbox"/> Micronutrients
<input type="checkbox"/> Nutrients or fertilizers applied in the fall of 2020 and those applied earlier if the selected field was fallow in 2020.	<input type="checkbox"/> Unprocessed manure
<input type="checkbox"/> Commercially prepared manure or compost	<input type="checkbox"/> Nutrients or fertilizers applied to previous crops in the selected field
	<input type="checkbox"/> Lime and gypsum/landplaster

Office Use Lines in Table	Table 001	0299
------------------------------	--------------	------

Application Codes for Column 6	
1 Broadcast, ground without incorporation	5 In irrigation water
2 Broadcast, ground with incorporation	6 Chisel/injected or knifed in
3 Broadcast, by aircraft	7 Banded in or over row
4 In seed furrow	8 Foliar or directed spray

L I N E	2 Materials Used				3 What quantity was applied per acre?  [Leave this column blank if actual nutrients were reported]	4 [Enter material code]  1 Pounds 12 Gallons 13 Quarts 19 Pounds of actual nutrients	5 When was this applied?  1 In the fall before seeding 2 In the spring before seeding 3 At seeding 4 After seeding	6 How was this applied?  [Refer to code list above]	7 How many acres in the selected field were treated in this application?  Acres
	[Enter percentage analysis or actual pounds of plant nutrients applied per acre.]  [Show Common Nutrients or Fertilizers in Respondent Booklet]								
	N Nitrogen	P <sub>2</sub> O <sub>5</sub> Phosphate	K <sub>2</sub> O Potash	S Sulfur					
01	31	32	33	34	36	37	38	39	40
02	31	32	33	34	36	37	38	39	40
03	31	32	33	34	36	37	38	39	40
04	31	32	33	34	36	37	38	39	40
05	31	32	33	34	36	37	38	39	40
06	31	32	33	34	36	37	38	39	40
07	31	32	33	34	36	37	38	39	40
08	31	32	33	34	36	37	38	39	40
09	31	32	33	34	36	37	38	39	40
10	31	32	33	34	36	37	38	39	40



4. Were any nutrients or fertilizers applied by custom applicators?..... Code  
 Yes=1 0214  
 No=3

[If item 4=1 continue. Otherwise go to item 5.]

a. Are you able to report the cost of nutrient or fertilizer materials and custom application separately?..... Code  
 Yes=1 2216  
 No=3

[If item 4a = 1 continue. Otherwise go to item 5.]

b. Excluding the cost of the nutrient or fertilizer materials, how much was spent for custom application of nutrients or fertilizers on the selected field? INCLUDE operator, landlord, and contractor costs. INCLUDE costs for sulfur and micronutrients. EXCLUDE custom application of lime, gypsum, purchased manure and purchased compost. .... Office Use  
 0215

Dollars & Cents per Acre OR Total Dollars  
 0219 OR 0220

[If material and application costs can't be separated, exclude them here and record the total in item 5.]

5. What was the total cost of all nutrient or fertilizer products applied to the selected field? INCLUDE operator, landlord, and contractor costs as well as the costs for sulfur and micronutrients. INCLUDE materials applied to the selected field if it was fallow in 2020. EXCLUDE lime, gypsum, purchased manure, and purchased compost..... Dollars & Cents per Acre OR Total Dollars  
 0221 OR 0222

[If custom applied and the cost of materials can be separated from application costs, include the cost of materials only, otherwise, include both the material and application costs.]

6. Was gypsum applied to the selected field for the 2021 corn crop?..... Code  
 Yes=1 0218  
 No=3

7. Was a soil test for soil organic matter performed on this corn field at some point in the last 10 years?..... Code  
 Yes=1 3225  
 No=3

[If item 7 = 1, ask--]

a. What was the percentage of soil organic matter on the field for the most recent test?..... Percent  
 3226

b. How many times have you tested the selected field for soil organic matter in the last 10 years?..... Number  
 3227

[If item 7b is more than 1, ask--]

c. Based on these tests, is your soil organic matter content... Code  
 1 Increasing? 3228  
 2 Decreasing?  
 3 Staying roughly the same?

8. Was a soil or plant tissue test performed on the selected corn field in 2020 or 2021 for the 2021 crop?..... Code  
 Yes=1 0224  
 No=3

[If item 8 = 1, continue, otherwise go to item 13.]

9. Was a soil test for phosphorus performed on the selected corn field in 2020 or 2021 for the 2021 crop?..... Code  
 Yes=1 0225  
 No=3

[If item 9 = 1 ask--]

a. How many pounds of phosphorus per acre were recommended by the phosphorus test?..... Pounds per Acre  
 0226

10. Was a soil test for nitrogen performed on this corn field in 2020 or 2021 for the 2021 crop?..... Code  
 Yes=1 0227  
 No=3

[If item 10 = 1, ask--]

a. How many pounds of nitrogen per acre were recommended by the nitrogen test?..... Pounds per Acre  
 0228

11. Was a plant tissue test or leaf analysis for nutrient deficiency performed on the selected field in 2020 or 2021 for the 2021 crop?.....

Code  
 Yes=1 0229  
 No=3

12. How much was spent for these soil and plant tissue tests on the selected field? INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents per Acre  
 0230

OR  
 Total Dollars  
 0231

[If tests were done at no cost, continue. Otherwise go to item 12b.]

a. What is the reason why tests were done at no cost?.....

- 1 Soil/plant tissue test provided free of charge by dealer, crop consultant, or extension service
- 2 Soil/plant tissue test costs were included in the total fertilizer costs reported in item 5
- 3 Some other reason

Code  
 0232

b. Did you receive a payment from the Conservation Stewardship Program for performing a stalk or leaf tissue test for nitrogen application?.....

Code  
 Yes=1 3231  
 No=3

[Enumerator Action: Refer to the Fertilizer Table, column 2. If nitrogen (N) was applied, complete item 13. If no nitrogen applied, go to item 15.]

13. Was the amount of nitrogen you decided to apply to the selected field based on--

- a. Results of a soil or plant tissue test?.....
- b. Crop consultant recommendation?.....
- c. Fertilizer dealer recommendation?.....
- d. Extension Service recommendation?.....
- e. Cost of nitrogen and/or expected commodity price?.....
- f. Contractor recommendation?.....
- g. Routine practice - operator's own determination based on past experience, yield goal, etc.?...

Code

Yes=1 0233  
 No=3

Yes=1 0234  
 No=3

Yes=1 0235  
 No=3

Yes=1 0236  
 No=3

Yes=1 0237  
 No=3

Yes=1 0238  
 No=3

Yes=1 0239  
 No=3

14. Which of the following products did you use to slow the breakdown of nitrogen on this field?.....

- 1 Nitrification inhibitors (such as N-Serve)
- 2 Urease inhibitors (such as Agrotain)
- 3 Chemical-coated fertilizers (such as sulfur-coated urea and polymer-coated urea)
- 4 Other inhibitors
- 5 None

Code  
 0241

[If nitrogen inhibitors were used, continue. Otherwise go to item 15.]

a. How much nitrogen inhibitor did you mix with the nitrogen applied to the selected field?.....

Pounds per Acre  
 2561

OR  
 Gallons per Acre  
 2562

b. What was the cost of nitrogen inhibitors used on this field? INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents per Pound  
 0297

OR  
 Dollars & Cents per Gallon  
 0298

		Code
15. Was time-released fertilizer applied to the selected field?.....	Yes=1 No=3	2567
16. Is lime ever applied to the selected field?.....	Yes=1 No=3	0242

[If item 16 = 1 continue, otherwise go to item 17.]

		Years
a. On average, how many years are there between applications of lime to the selected field?.....		0243

		Tons per Acre
b. How many tons of lime were applied per acre the last time it was applied to the selected field?.....		0244

		Code
c. Was lime applied to the selected field in 2020 or 2021 for the 2021 crop?.....	Yes=1 No=3	0240

17. Was non-commercial (unprocessed) manure from own farm, from a neighbor's farm, etc., or other organic material, including compost, applied to the selected field for the 2021 corn crop? EXCLUDE commercially prepared manure.....		Code
	Yes=1 No=3	0246

[If item 17 = 1 continue, otherwise go to item 19.]

		Acres
a. To how many acres in the selected field was manure or compost applied?.....		0247

		Unit Codes
		1 Tons 2 Gallons 3 Bushels 4 Cubic yards
b. What was the amount of manure or compost applied per acre to the selected field?.....	Units per acre	0248

c. Of the total manure or compost applied to the selected field for the 2021 corn crop, what was the percent of manure or compost applied--		Code
i. in the fall before planting?.....	+	0254
ii. in the spring before planting?.....	+	0255
iii. after planting?.....	+	0256

100%

d. Was the manure or compost.....	1 Lagoon liquid? 2 Slurry liquid? 3 Semi-dry or dry?		Code
			0257

e. Was the manure or compost.....	1 Broadcast or sprayed without incorporation? 2 Broadcast or sprayed with incorporation? 3 Injected/knifed in? 4 Sprayed using irrigation systems?		Code
			0258

f. Was the major source of manure or compost.....	1 Beef cattle? 2 Dairy cattle? 3 Hogs? 4 Sheep? 5 Poultry? 6 Equine? 7 Biosolids - municipal sludge? 8 Food waste? 9 Other? Specify: _____		Code
			0259

- 1 Produced on this operation?
- 2 Purchased?
- 3 Obtained at no cost off this operation?
- 4 Obtained with compensation (operator received payment for accepting the manure)?

Code

0260
------

g. Was the manure or compost.....

[If item 17g = 2, continue, otherwise go to item 17h.]

i. What was the total cost of the purchased manure or compost applied to the selected field? INCLUDE operator, landlord, and contractor costs. INCLUDE any payment made for transportation costs.....

Dollars & Cents per Acre	OR	Total Dollars
0284		0285

ii. Did you have someone to custom apply the manure or compost?.....

Code

0286
------

Yes=1  
No=3

[If item 17gii = 1, ask--]

(a) What was the total cost paid to have manure or compost custom applied to the selected field? INCLUDE operator, landlord, and contractor cost.....

Dollars & Cents per Acre	OR	Total Dollars
0287		0288

[Do not report custom application cost if it was included with the purchased manure or compost cost.]

h. What is the distance in miles between the manure or compost storage/production location and the selected field?.....

Miles

0291
------

i. Of the manure or compost applied to the selected field, was any tested for nutrient content prior to application?.....

Code

0261
------

Yes=1  
No=3

j. Was the application rate of commercial nitrogen fertilizer on the selected field reduced due to manure or compost application?.....

Code

0262
------

Yes=1  
No=3

[If 17j = 1, ask--]

i. By what percent did you reduce the commercial nitrogen fertilizer application rate on the selected field?.....

Percent

0263
------

ii. Did you adjust the corn harvest date for the selected field due to the application of manure or compost?.....

Code

0280
------

Yes=1  
No=3

18. Were the manure or compost application rates to the selected field influenced by Federal, State, or local restrictions?.....

Code	
Yes=1	0264
No=3	

[If item 18 = 1, ask--]

a. What basis was used to determine these manure application rate restrictions--

- | Code  |      |
|-------|------|
| Yes=1 | 0265 |
| No=3  |      |
- i. Nitrogen requirement of the crop?.....
- | Code  |      |
|-------|------|
| Yes=1 | 0266 |
| No=3  |      |
- ii. Phosphorus requirement of the crop?.....

19. Compared to the last time you planted corn, did you make any of the following changes to your cropping practices with the intent of reducing commercial fertilizer use?

- | Code  |      |
|-------|------|
| Yes=1 | 1226 |
| No=3  |      |
- a. Change the type of commercial fertilizer products applied on the selected field, (e.g. less anhydrous ammonia and more urea).....
- | Code  |      |
|-------|------|
| Yes=1 | 1228 |
| No=3  |      |
- b. Manage fertilizer use more closely, with such practices as soil testing, split applications, variable rate applications, or soil incorporation on the selected field.....
- | Code  |      |
|-------|------|
| Yes=1 | 1227 |
| No=3  |      |
- c. Change your crop rotation, e.g. plant corn on the selected field rather than usual crop rotation.....
- | Code  |      |
|-------|------|
| Yes=1 | 1224 |
| No=3  |      |
- d. Reduce the application of commercial nitrogen fertilizer.....

[If item 19d = 1, ask--]

- | Percent |      |
|---------|------|
|         | 1225 |
- i. By what percent did you reduce the amount of commercial nitrogen fertilizer applied for 2021?..

**D**

**BIOCONTROL or PESTICIDE APPLICATIONS - SELECTED FIELD**

**D**

Now I have some questions about all the biocontrols or pesticides used on the selected field for the 2021 corn crop, including both custom applications and applications made by this operation.

Office Use  
Edit Table

1. Were any herbicides, insecticides, fungicides or other biocontrols or pesticides used on this corn field for the 2021 crop?.....

Yes=1  
No=3

Code	0302	0300
------	------	------

[Probe for applications made in the fall of 2020 and those made earlier if the selected field was fallow.]

If no biocontrols or pesticides applied, go to Section E.

INCLUDE defoliant, fungicides, herbicides, insecticides, and other pesticides.	EXCLUDE adjuvants, nutrients or fertilizers reported earlier and seed treatments.	Office Use Line in Table	Table 001	0399
--	---	--------------------------	-----------	------

Chemical Product Name	LINE	2	3	4	5	6	OR	7	8
		What products were applied to the selected field? [Show product codes from Respondent Booklet.]	Was this product bought in liquid or dry form? [Enter L or D]	If this was part of a tank mix, enter line number of first product in mix.	When was this applied? 1 Before planting 3 At planting 4 After planting 5 Defoliation prior to harvest	How much was applied per acre per application?		What was the total amount applied per application in the selected field?	[Enter unit code] 1 Pounds 12 Gallons 13 Quarts 14 Pints 15 Liquid Ounces 28 Dry Ounces 30 Grams
	01	61	62	63	64	65		73	74
	02	61	62	63	64	65		73	74
	03	61	62	63	64	65		73	74
	04	61	62	63	64	65		73	74
	05	61	62	63	64	65		73	74
	06	61	62	63	64	65		73	74
	07	61	62	63	64	65		73	74
	08	61	62	63	64	65		73	74
	09	61	62	63	64	65		73	74
	10	61	62	63	64	65		73	74
	11	61	62	63	64	65		73	74
	12	61	62	63	64	65		73	74
	13	61	62	63	64	65		73	74
	14	61	62	63	64	65		73	74

2. For biocontrols or pesticides not listed in Respondent Booklet, specify--

Line	Pesticide Type (Herbicide, Insecticide, Fungicide, etc.)	EPA No. or Trade Name and Formulation	Form Purchased (Liquid or Dry)	Where Purchased (Ask only if EPA No. cannot be reported)

## Applications Codes for Column 9

- |   |                                  |
|---|----------------------------------|
| 1 Broadcast, ground without incorporation | 6 Chiseled/injected or knifed in |
| 2 Broadcast, ground with incorporation    | 7 Banded in or over row          |
| 3 Broadcast, by aircraft                  | 8 Foliar or directed spray       |
| 4 In seed furrow                          | 9 Spot treatments                |
| 5 In irrigation water                     |                                  |

L I N E	9	10	11	12	13	14
	How was this product applied? [Enter code from above.]	How many acres in the selected field were treated with this product?  Acres	How many times was it applied?  Number	Were these applications made by--  1 Operator, partner, or family member? 2 Custom applicator? 3 Employee/Other?	What was the cost per unit of the product?  Dollars & Cents per Unit	Unit Code  1 Pounds    15 Liquid Ounces 12 Gallons    28 Dry Ounces 13 Quarts    30 Grams 14 Pints
01	76	77	79	80	81	82
02	76	77	79	80	81	82
03	76	77	79	80	81	82
04	76	77	79	80	81	82
05	76	77	79	80	81	82
06	76	77	79	80	81	82
07	76	77	79	80	81	82
08	76	77	79	80	81	82
09	76	77	79	80	81	82
10	76	77	79	80	81	82
11	76	77	79	80	81	82
12	76	77	79	80	81	82
13	76	77	79	80	81	82
14	76	77	79	80	81	82

3. Were any chemicals, biocontrols, or pesticides applied by custom applicators?..... Yes=1 No=3

[If item 3 = 1 ask--. Otherwise go to item 4.]

a. Are you able to report the cost of chemical, biocontrol, and pesticide products and custom application separately?..... Yes=1 No=3

[If item 3a = 1, ask--]

b. Excluding the cost of the chemical, biocontrol, and pesticide products, how much was spent for custom application of such materials on the selected field? INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents per Acre	OR	Total Dollars
0331		0332

4. What was the total cost of all chemical, biocontrol, or pesticide products applied to the selected field? INCLUDE operator, landlord, and contractor costs, defoliants, herbicides, insecticides, fungicides, surfactants, wetting agents, growth regulators, and materials applied before planting and during 2020 fallow period. EXCLUDE seed treatments.....

Dollars & Cents per Acre	OR	Total Dollars
0334		0335

a. How much was spent for herbicide products applied to the selected field? INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents per Acre	OR	Total Dollars
3034		3035

b. How much was spent for insecticide products applied to the selected field? INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents per Acre	OR	Total Dollars
3036		3037

Note: If custom applied and the costs for materials can be separated from application costs, include the cost for materials only. Otherwise, report both the material and application costs in item 4.



Now I have some questions about your pest management decisions and practices used on the selected field for the 2021 corn crop. By pests, we mean weeds, insects, and diseases.

[Enumerator Action: Were pesticide applications reported in Section D?]

Yes - Continue     No - Go to item 6

- |  |               |              |
|--|---------------|--------------|
| 1. Were weather data used to assist in determining either the need or when to make pesticide applications?.....  | Yes=1<br>No=3 | Code<br>0800 |
| 2. Were any biological pesticides such as Bt ( <i>Bacillus thuringiensis</i> ), insect growth regulators, neem or other natural/biological based products sprayed or applied to manage pests in the selected field?..... | Yes=1<br>No=3 | Code<br>0801 |
| 3. Were pesticides with different mechanisms of action rotated or tank mixed for the primary purpose of keeping pests from becoming resistant to pesticides?.....  | Yes=1<br>No=3 | Code<br>0802 |

[Enumerator Action: Were herbicide (pesticide product codes 10000-99000) applications reported in Section D, item 1, column 2?]

Yes - Continue     No - Go to item 6

- |   |               |              |
|---|---------------|--------------|
| 4. Were herbicides applied to the selected corn field before weeds emerged?.....  | Yes=1<br>No=3 | Code<br>0803 |
| 5. Were herbicides applied to the selected corn field after weeds emerged?.....   | Yes=1<br>No=3 | Code<br>0805 |
| 6. Were records kept for the selected field to track the activity or numbers of weeds, insects, or diseases?.....                             | Yes=1<br>No=3 | Code<br>0823 |
| 7. Did you use published information on infestation thresholds to determine when to take measures to manage pests in the selected field?..... | Yes=1<br>No=3 | Code<br>1824 |

8. In 2021, how was the selected field primarily scouted for insects, weeds, diseases, and/or beneficial organisms?.....

1 By deliberately going to the field specifically for scouting activities [Enter code 1 and go to item 9.]  
 2 By conducting general observations while performing routine tasks [Enter code 2 and go to item 10.]  
 3 The selected field was not scouted. [Enter code 3 and go to item 15.]

Code

0808
------

9. Was an established scouting process such as systematic sampling, recording counts, etc. used or were insect traps used in the selected field?.....

Code

0809
------

10. Was scouting for pests done in the selected field due to--

- |                                   |               |              |
|-----------------------------------|---------------|--------------|
| a. a pest advisory warning?.....  | Yes=1<br>No=3 | Code<br>0810 |
| b. a pest development model?..... | Yes=1<br>No=3 | Code<br>0811 |

11. Do you believe that rootworms damaged corn grown on the selected field?.....

Code

1923
------

[If item 11 = 1, continue. Otherwise, go to item 12.]

a. If you believe that rootworm damage led to lodging, approximately how many stalks were lodged in the selected field?.....

Number

1924
------

b. If you believe that rootworm damage stunted plant growth, approximately how many nodes were affected?.....

1 One node eaten back to 1.5 inches of the stalk.  
 2 Two complete nodes eaten.  
 3 Three or more nodes eaten.

Code

1925
------

1	2	3 [If column 2 = 1, ask--] Do you believe that the infestation/population level was higher than the economic threshold for treatment? 1 Much higher (over 1.5 times the threshold) 2 Higher (between 1 and 1.5 times the threshold) 3 Lower (between 1 and .5 times the threshold) 4 Much lower (between .5 and 0 times the threshold) 99 Don't know  Code
12. Do you believe that the selected field was infested with any of the following insects or mites?	Yes=1 No=3	
a. Corn Rootworms?.....	2725	2726
b. Corn Borers?.....	2727	2728
c. Mites?.....	2729	2730
d. Corn Earworms?.....	2731	2732
e. Grubs, Wireworms, or Seed Maggots, or other soil dwelling pests?.....	2733	2734

[If scouted by crop consultant or commercial scout, ask item 13, otherwise go to item 14.]

13. How much was charged for the scouting services for the selected field? INCLUDE operator, landlord, and contractor costs.....	Dollars & Cents per Acre <div style="border: 1px solid black; padding: 2px; display: inline-block;">0821</div>	OR	Total Dollars <div style="border: 1px solid black; padding: 2px; display: inline-block;">0822</div>
a. If scouting performed at no cost, explain: _____			Office Use <div style="border: 1px solid black; padding: 2px; display: inline-block;">0333</div> Code
14. Were scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests in the selected field?.....	Yes=1 No=3		0824
15. Did you use field mapping of previous weed problems to assist you in making weed management decisions?.....	Yes=1 No=3		0825
16. Did you do any of the following other types of pest management for the specific purpose of managing or reducing the spread of pests in the selected field?			Code
a. Use the services of a diagnostic laboratory for pest identification or soil plant tissue pest analysis for the selected field?.....	Yes=1 No=3		0841
b. Plow down crop residue using conventional tillage?.....	Yes=1 No=3		0842
c. Remove/burn down crop residue?.....	Yes=1 No=3		0843
d. Rotate crops in the selected field during the past three years?.....	Yes=1 No=3		0844
e. Maintain ground covers, mulches, or other physical barriers?.....	Yes=1 No=3		0845
f. Choose crop variety because of specific resistance to a certain pest?.....	Yes=1 No=3		0846
g. Use no-till or minimum till?.....	Yes=1 No=3		0847
h. Plan planting locations to avoid cross infestation of pests?.....	Yes=1 No=3		0848
i. Adjust planting or harvesting dates?.....	Yes=1 No=3		0849
j. Chop, spray, mow, plow, or burn field edges, lanes, ditches, roadways, or fence lines?.....	Yes=1 No=3		0850
k. Clean equipment and field implements after completing field work to reduce the spread of pests?.....	Yes=1 No=3		0851

	Yes=1	No=3	Code
l. Adjust row spacing, plant density, or row directions?.....			0852
m. Have the seed treated for insect or disease control after you purchased the seed for the selected field?.....			0854
n. Maintain a beneficial insect or vertebrate habitat?.....			0855
o. Use a flamer to kill weeds?.....			0857
p. Maintain buffer strips or border rows to isolate corn from non-organic crops or land, or did you take a buffer harvest?.....			0856
q. Plant earlier or later to avoid weeds?.....			0865

	Yes=1	No=3	Code
17. Were any beneficial organisms, such as insects, nematodes, or fungi, applied or released in the selected field to manage pests?.....			0853

	Yes=1	No=3	Code
18. Were floral lures, attractants, repellants, pheromone traps, or other biological pest controls used on the selected field?.....			0858

[If item 17 or item 18 = 1, ask--]

a. What were the total materials and application costs for all biological pest controls for the selected field? INCLUDE operator, landlord, and contractor costs. INCLUDE cost for beneficial organisms, insects, nematodes, and fungi. EXCLUDE biological pesticides previously reported.....	Dollars & Cents per Acre	OR	Total Dollars
		0859	

	Yes=1	No=3	Code
19. Was a trap crop, excluding fallow, grown to help manage insects in the selected field?.....			0863

	Yes=1	No=3	Code
20. Was the selected field left fallow in 2020 to help manage insects on the selected field?.....			0864

	Yes=1	No=3	Code
21. Were water management practices such as irrigation scheduling, controlled drainage, or treatment of retention water used on the selected field to manage pests or toxin-producing fungi and bacteria?.....			0861

22. Was protection of beneficial organisms a factor in your pest control decisions for the selected field?.....

Code	
Yes=1	1765
No=3	

[If item 22 = 1, continue. Otherwise, go to item 23.]

a. Did you change timing of, reduce application rate of, or eliminate a pesticide application?....

Code	
Yes=1	1766
No=3	

b. Did you change to an alternative pesticide, biocontrol, or non-pesticide practice?.....

Yes=1	1767
No=3	

23. Did you cultivate the selected field for weed control?.....

Yes=1	2453
No=3	

[If item 23 = 1, ask--]

a. How many times?.....

Number	
2454	

24. Did you use a soil-insecticide or insecticidal seed treatment in the refuge in 2021?.....

Code	
Yes=1	1812
No=3	

Unit Codes  
 1 Pounds  
 2 CWT  
 3 Tons  
 4 Bushels

25. If untreated (either with insecticides or Bt seed), how much yield loss (e.g. bushels per acre) do you think corn borers would most likely cause on the selected field?.....

Units per Acre	2670	2671
----------------	------	------

26. If untreated (either with insecticides or Bt seed), how much yield loss (e.g. bushels per acre) do you think corn root worms would most likely cause on the selected field?.....

2672	2673
------	------

27. If untreated (either with herbicides, tillage, or cultivation), how much yield loss (e.g. bushels per acre) do you think weeds would most likely cause on the selected field?..

2735	2736
------	------

28. Did pests (weeds, insects, pathogens, animals) cause any yield loss on the selected field in spite of your pest control efforts?.....

Code	
Yes=1	0827
No=3	

[If item 28 = 1, ask--]

a. How much yield loss do you think was caused by all pests on the selected field in spite of the management practices you used to reduce those losses?.....

Unit Codes		
1 Pounds		
2 CWT		
3 Tons		
4 Bushels		
Units per Acre	0829	0828
		OR
		Total Units
		0830

29. If you used genetically engineered, glyphosate resistant seeds on the selected field in 2021, indicate the number of consecutive years you have planted genetically engineered, glyphosate-resistant seeds.

Number of Years	
1970	

[Note: A producer who used HT corn in 2021 and 2020, but conventional corn in 2019 has used genetically engineered, glyphosate resistant seeds for "2" consecutive years.]

a. What year did you first plant any glyphosate resistant seeds on the selected field?.....

Year	
1971	

30. Have you noticed a decline in the effectiveness of glyphosate (e.g. Roundup) in controlling weeds in the selected field?.....

Code	
Yes=1	0834
No=3	

[If item 30 = 1, continue. Otherwise, go to item 32.]

a. What was the first year you noticed a decline in effectiveness of glyphosate in controlling weeds on the selected field?.....

Year	
2737	

31. After noticing the decline in the effectiveness of glyphosate in controlling weeds on the selected field, did you--

- a. stop planting glyphosate resistant crops?.....
- b. change tillage practices?.....

Code	
Yes=1 No=3	0837
Yes=1 No=3	0839

32. Have any of the following herbicides been used on the selected field in the specified years since:

1 Active Ingredients	2 2021 Yes=1 No=3	3 2020 Yes=1 No=3	4 2019 Yes=1 No=3	5 2018 Yes=1 No=3	6 2017 Yes=1 No=3
a. Glyphosate (e.g. Roundup®)	2001	2002	2003	2004	2005
b. Glufosinate (e.g. Liberty®)	2006	2007	2008	2009	2010
c. Dicamba (e.g. Xtend®, Xtendimax®, Engenia®)	2011	2012	2013	2014	2015
d. 2,4-D (e.g. Enlist®)	2738	2739	2740	2741	2742

33. Have herbicide tolerant seeds been planted on the selected field any time since 2017?.....

Code	
Yes=1 No=3	2021

[If item 33 = 1 continue, otherwise go to item 34.]

If column 2 = 1, ask questions in columns 3 - 6					
1 For herbicide tolerant seeds that are tolerant of--	2 Have you noticed a decline in the effectiveness of herbicides in controlling weeds in the selected field?  Yes=1 No=3	3 What was the first year you noticed a decline in the effectiveness of herbicides in controlling weeds in the selected field?  Year	4 Stop planting herbicide resistant crops with this trait?  Yes=1 No=3	5 Change tillage practices?  Yes=1 No=3	6 Switch to an alternative herbicide?  Yes=1 No=3
a. Glyphosate (e.g. Roundup®).....	2022	2023	2024	2025	2026
b. Glufosinate (e.g. Liberty®).....	2027	2028	2029	2030	2031
c. Dicamba (e.g. Xtend®, Xtendimax®, Engenia®).....	2032	2033	2034	2035	2036
d. Active Ingredients in the Sulfonylurea family (e.g. chlorimuron, foramsulfuron, Synchrony® XP, Leadoff®, Basis®) .....	2743	2744	2745	2746	2747
e. 2,4-D (e.g. Enlist®).....	2037	2038	2039	2040	2041

34. Considering each year you planted a glyphosate resistant crop on the selected field, have you ever used the following practices in order to reduce the rate that glyphosate resistance develops in weeds on the selected field?

1  Resistant Management Practice	2  Yes=1 No=3  Code	3  How often did you use this practice on the selected field?  1 Every Year 2 Every Other Year 3 Multiple Years 4 One Year  Code	4  Did the cost of managing weeds on the selected field increase as a result of your use of the practice?  1 Yes 3 No 2 Don't know  Code
a. Control weeds early.....	0886	2871	0878
b. Control weed escapes.....	0887	2872	0879
c. Clean equipment between moving from one field to the next.....	0888	2873	0880
d. Use herbicides other than glyphosate.....	0889	2874	0881
e. Use tillage.....	0890	2875	0882
f. Use the herbicide label recommended application rate..	0891	2876	0883
g. Rotate crops.....	0892	2877	0884

[If item 34, column 2 contains at least one "1", ask--; otherwise go to item 36.]

35. Considering the above practices (a-g), do you believe resistance management practices are or would be more effective in reducing the rate that herbicide resistance develops in weeds on the selected field if operators of nearby farms also use them?.....

1 Yes
2 Don't know
3 No
4 The nearest farm is too far away to affect the selected field

Code
0885

36. Did you plant genetically-engineered rootworm-resistant seed on the selected field in 2021?.....

Yes=1	2926
No=3	

Years
2927

a. How many consecutive years have you used rootworm-resistant seeds on the selected field?.....

[If item 36a is greater than 1, continue. Otherwise go to Section F.]

b. Have you ever switched from a rootworm-resistant seed with one mode of action (MOA) to a pyramided rootworm-resistant seed? Note: Pyramided seeds have multiple MOAs.....

Yes=1	2928
No=3	

[If item 36b = 1, ask--]

c. What year did you switch from a rootworm-resistant seed with one MOA to a pyramided rootworm-resistant seed?.....

Year
2929

Completion Code for Pest Management Data	
1 Incomplete/Refusal	0500

**F FIELD OPERATIONS - SELECTED FIELD**

**F**

1. Including custom operations, I need to list field work performed by machines on the selected field for the 2021 corn crop. Please...

- begin with the first field operation after harvest of previous crop, including operations for a cover crop established since the previous crop was harvested. If fallow during 2020, list operations starting with fall 2019.
- list the operations in order through harvest and hauling of this crop to storage or first point of sale; and
- maintain the order of tandem hook-ups.

Codes for Column 5	
1	You (the Operator)
2	Partner
3	Unpaid Worker
4	Paid Part-time or Seasonal Worker
5	Paid Full-time Worker
6	Custom Applicator

Office Use Lines in Table
0499

Check List	
INCLUDE all field work using machines for--	
<input type="checkbox"/>	Land forming/Levee Building
<input type="checkbox"/>	Tillage
<input type="checkbox"/>	Preparing for Irrigation
<input type="checkbox"/>	Planting
<input type="checkbox"/>	Fertilizer & Pesticide applications
<input type="checkbox"/>	Harvesting & Hauling to storage or first point of sale
EXCLUDE	
<input type="checkbox"/>	Lime & Gypsum/land plaster applications
<input type="checkbox"/>	Compost & Non-commercial manure applications

1 LINE No.	2 SEQUENCE No.	3 What operation or equipment was used?	4 [Record machine code from Respondent Booklet.] Code	5 Who was the machine operator? [Enter code from above.] Code	[If Column 5 = code 6, skip columns 6 thru 11]					
					6 What was the size or swath of the [machine] used? Code	7 [Record size unit code.] 1 Feet 2 Row 3 Moldboard bottoms Hauling 4 Pounds 5 Bushels 6 Tons Code	8 How many acres were covered? EXCLUDE land forming and hauling operations. Acres	9 OR How many total hours were spent on land forming and hauling? [Example: backhoes, disk border maker, ditcher, rear mounted blade, trucks, wagons, forklift etc.] Hours	10 What power source was used? Tractors 1 <40 HP 2 40-99 HP 3 100-149 HP 4 150-199 HP 5 >=200 HP OR 66 Animal Drawn 77 Pick up <sup>1/</sup> 99 Self-Propelled Code	11 What was the fuel type of the tractor? [Record fuel type only if Power code equals 1-5] 1 diesel 2 gasoline 3 LP gas 4 other Code
01	87		88	89	90	91	92	93	94	95
02	87		88	89	90	91	92	93	94	95
03	87		88	89	90	91	92	93	94	95
04	87		88	89	90	91	92	93	94	95
05	87		88	89	90	91	92	93	94	95
06	87		88	89	90	91	92	93	94	95
07	87		88	89	90	91	92	93	94	95
08	87		88	89	90	91	92	93	94	95
09	87		88	89	90	91	92	93	94	95
10	87		88	89	90	91	92	93	94	95
11	87		88	89	90	91	92	93	94	95
12	87		88	89	90	91	92	93	94	95
13	87		88	89	90	91	92	93	94	95
14	87		88	89	90	91	92	93	94	95
15	87		88	89	90	91	92	93	94	95
16	87		88	89	90	91	92	93	94	95
17	87		88	89	90	91	92	93	94	95
18	87		88	89	90	91	92	93	94	95

<sup>1/</sup>If trucks other than pick-ups are used as the power source, use truck codes in Respondent Booklet

Office Use
0400

2. [Now I need some additional information about your labor.]

Please report the paid and unpaid labor that worked on the selected field to produce the 2021 corn crop.

EXCLUDE labor that was reported for field work performed by machines.

Type of Workers	How many hours did (type of worker) spend on the selected field--		
	1	2	3
	scouting for weeds, insects and diseases? Hours	irrigating? Hours	performing other work by hand? Hours
You (the operator).....	1101	1102	1103
Partner(s).....	1104	1105	1106
Unpaid workers.....	1107	1108	1109
Paid part-time or seasonal workers EXCLUDE custom and contract labor.....	1110	1111	1112
Paid full-time workers EXCLUDE custom and contract labor.....	1113	1114	1115

3. What was the average hourly wage rate paid to part-time or seasonal hired workers on the selected field? Part-time workers are defined as those who worked for wages or salaries for less than 30 hours a week on average. EXCLUDE custom and contract workers, payroll taxes and benefits.....

Dollars & Cents Per Hour	OR	Total Dollars per Week	AND	Number of Hours Worked Each Week
1119		2119		3119

4. What was the average hourly wage rate paid to full-time hired workers on the selected field? EXCLUDE custom and contract workers, payroll taxes and benefits.....

Dollars & Cents Per Hour	OR	Total Dollars per Week	AND	Number of Hours Worked Each Week
1118		2118		3118

5. Was any contract labor used on the selected field?.....

Code
1116
Yes=1 No=3

[If item 5 = 1, ask--]

a. What was the average cost per acre for this contract labor? INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents Per Acre
1117

6. What percent of the total number of unpaid hours worked on the selected field was performed by workers under 16 years of age? Estimates of labor costs for unpaid workers are based on off-farm wage rates, which are different for workers under 16 relative to those 16 and older.....

Percent
1120





11. What was the cost for any technical or consultant services reported in item 10, on previous page. INCLUDE operator, landlord, and contractor costs. EXCLUDE cost of soil or tissue tests or scouting costs previously reported. Do not report costs for any of these services reported above if they were previously reported as part of the cost of materials and/or application.....

Dollars & Cents per Acre	OR	Total Dollars
1136		1137

12. Please report how any data from the selected field in 2021 will be stored and accessed.

Code
a. Did you access the data collected from the selected field on a --
i. Paper hard copy?.....
ii. Personal computer?.....
iii. Mobile device?.....
b. Did you access the data collected from the selected field through an agricultural technology provider website?.....

[If item 12b = 1, ask--]

Code
c. Did you opt out of allowing your agricultural technology provider website to share data collected from the selected field with any third party?.....
d. Did you share any of the data collected from the selected field with a third party through an agricultural technology provider website?.....

13. Were there or will there be any data collection tools such as yield monitors, GPS mapping, etc. used during field operations on this corn field?.....	Code
	2460

[If item 13 = 1, continue, otherwise go to item 17.]

Please report the data collection technologies you used on the selected field in 2021 to produce this crop. In the fifth column, report how much it would cost you to replace the data collection tool. In the sixth column, report the annual costs of using the data collection tool. INCLUDE custom service fees, data subscriptions, and online tool subscriptions. If the replacement cost or annual fee does not apply to a particular data collection tool, leave the cell in that column blank.

1	2	3	4	5	6
Data Collection Tool	Tool Used	Collected GPS coordinates	Data was/will be used to create a map	Replacement Cost	Annual Fee
	Yes = 1 No = 3	Yes = 1 No = 3	Yes = 1 No = 3	Total Dollars	Total dollars
a. Yield monitor.....	2461	2462	2463	2570	2571
b. Soil tests on core sample performed on-farm or sent out to a laboratory.....	2464	2465	2466	2572	2573
c. Soil sensor tests.....	2467	2468	2469	2574	2575
d. Hard-wired crop condition sensors.....	2470	2471	2472	2576	2577
e. Wireless crop condition sensors.....	2473	2474	2475	2578	2579
f. Drones, aircraft or satellites.....	2476	2477	2478	2580	2581
g. Custom service applications - data from completed work on your field.....	2479	2480	2481	2582	2583
h. Public data downloaded from online sources.	2482	2483	2484		

[If item 13a column 2 = 1, continue, otherwise go to skip instruction immediately above item 15.]

14. Did you use the yield monitor information to--

	Code
a. add/improve tile drainage?.....	Yes=1 1141 No=3
b. negotiate new crop leases?.....	Yes=1 1144 No=3
c. help determine chemical input use?.....	Yes=1 1143 No=3

[If any item 13 column 2 = 1, continue, otherwise go to item 16.]

15. Using data collected from the previous tools table in item 13, did you obtain crop management recommendations, such as data interpretation, in 2021 for the selected field from any of the following--

	Code
a. input dealers without other fee-for-services?.....	Yes=1 2491 No=3
b. input dealers with other fee-for-services?.....	Yes=1 2492 No=3
c. custom service providers?.....	Yes=1 2493 No=3
d. USDA/university extension services?.....	Yes=1 2494 No=3

[If any item 15a-d = 1, ask--]

	Dollars & Cents per Acre	OR	Total Dollars
e. What was the cost for all of these services? INCLUDE operator, landlord and contractor costs. EXCLUDE costs for any of these services if they were previously reported as part of the costs of materials and/or application.....	3150		3151

16. Did you use an unmanned aerial vehicle (UAV), known as a drone, to help produce or manage the production of corn in the selected field in 2021?.....

	Code
	3160
Yes=1	
No=3	

[If item 16 = 1, ask--]

a. In the selected field, did you use the UAV for any of the following purposes?

	Code
i. Weed analysis?.....	Yes=1 3161 No=3
ii. Spraying herbicide or fungicide?.....	Yes=1 3162 No=3
iii. Insect analysis?.....	Yes=1 3163 No=3
iv. Insect control?.....	Yes=1 3164 No=3
v. Yield analysis?.....	Yes=1 3165 No=3
vi. Moisture analysis?.....	Yes=1 3166 No=3
vii. Equipment check?.....	Yes=1 3167 No=3
b. Did you purchase the UAV?.....	Yes=1 3168 No=3

[If item 16b = 1, ask--]

	Total Dollars
i. What is the replacement cost of the UAV?.....	3169

c. Do you pay an annual fee for use of the UAV?.....

	Code
	3170
Yes=1	
No=3	

[If item 16c = 1, ask--]

	Total Dollars
i. What is the annual fee for use of the UAV?.....	3171

17. Was any of the following GPS-enabled (Global Positioning System) equipment used to produce corn on the selected field in 2021?

	Yes=1 No=3	Code
a. Mounted in-cab heads-up displays?.....		2155
b. Smart phones or computer tablets?.....		2156
c. Automatic section control, such as auto sprayer boom controls or automatic section shut offs?.....		2165

18. If any GPS-enabled equipment was used, what was the cost to purchase and install all GPS-enabled equipment, not including guidance auto-steering equipment? INCLUDE cost for GPS receiver and annual GPS subscription fee, and operator, landlord, and contractor costs. EXCLUDE costs for any of this equipment if they were previously reported as part of the costs of materials and/or application.....

Dollars & Cents per Acre	OR	Total Dollars
2166		2167

19. Was any guidance auto-steering equipment, excluding Light Bar, used on the selected field?.....

Yes=1 No=3	Code
	2148

[If item 19 = 1 continue, otherwise go to item 20.]

	Code
a. Was the guidance auto-steering equipment..... <div style="border: 1px solid black; padding: 2px; display: inline-block;">                     1 New, owned?                      2 Used, owned?                      3 Leased?                 </div>	2158

	Year
b. What year was guidance auto-steering equipment first purchased?.....	2159

	Dollars & Cents per Acre	OR	Total Dollars
c. What is the replacement cost for guidance auto-steering equipment?.....	2160		2161

	Dollars & Cents per Acre	OR	Total Dollars
d. What is the annual fee for guidance auto-steering?.....	2162		2163

20. Was a variable rate applicator used on the selected field?.....

Yes=1 No=3	Code
	2164

[If item 20 = 1 continue, otherwise go to Section G]

Please report the variable rate applicator types you used on the selected field to produce the corn in 2021.

1	2	3	4	5	6
Was a variable rate applicator used on the selected field for:	Tool Used  Yes=1 No=3	Was this applicator 1 Sensor-based 2 GPS-based 3 Both 4 Neither  Code	Was this applicator 1 New, owned 2 Used, owned 3 Leased  Code	What year was the applicator first used?  Year	Premium paid for the applicator  Total Dollars
a. seeding.....	1158	2170	2171	2172	2173
b. fertilizer/lime applications.....	1152	2174	2175	2176	2177
c. pesticide applications.....	1159	2178	2179	2180	2181
d. irrigation applications.....	1197	2182	2183	2184	2185

Acres

1160	. ____
------	--------

1. How many acres in the selected field were irrigated for the 2021 corn crop?.....

[If none, go to Conclusion]

2. Now I have some questions about the irrigation system and water that covers the most acres on the selected field for the 2021 corn crop.

a. What type of irrigation system was used to irrigate the selected field?  
[Show System Type Codes in the Respondent Booklet. Enter System Type Code for system that applied the most water.].....

Unit	System
System Type Code	1161
Inches per Acre OR Total Acre Feet	1162 1163

b. What was the total quantity of water applied to the selected field during the entire growing season? INCLUDE all water used from both on-farm and off-farm sources and applied by any irrigation system.....

[If operator cannot provide item 2b, ask (i) and (ii), otherwise go to 2c]

i. What is the total number of hours this system was used to apply water to the selected field during the corn growing season?.....

Total Hours	1164
-------------	------

ii. How many gallons per minute were applied?.....

Gallons per Minute	1165
--------------------	------

c. What percent of the water used to irrigate the selected field through this system came from surface water sources?.....

Percent	1166
---------	------

d. What was the number of times the selected field was irrigated during the corn growing season using any system? INCLUDE any pre-plant irrigation.....

Number of Irrigations	1167
-----------------------	------

e. What was the pump type? [If more than one pump in the system, enter type for pump closest to water source.].....

- |  |
|--|
| 1 Turbine<br>2 Submersible<br>3 Centrifugal<br>4 Booster<br>5 Siphon<br>99 No Pump |
|--|

[If code 99, go to item j.].....

Code	1168
------	------

f. What was the average pumping rate?.....

Gallons per Minute	1169
--------------------	------

[If item 2a = code 1-9 (Pressure System), ask-]

g. What was the system operating pressure?.....

Pounds per Square Inch	1170
------------------------	------

h. What was the primary motor type used to pump the water?.....

- |   |
|---|
| 1 Diesel<br>2 Gasoline<br>3 LP Gas<br>4 Natural Gas<br>5 Electricity<br>6 Solar Power |
|---|

Code	1171
------	------

i. What was the average motor size?.....

Horsepower	1172
------------	------

[If item 2e = 99, ask--]

j. What was the average flow rate?.....

Gallons per Minute	1173
--------------------	------

k. How many other acres on this operation were irrigated using the selected field's irrigation system during the 2021 growing season? EXCLUDE the selected field.....

Acres	1174
-------	------

3. What was the cost of the fuel or electricity used to irrigate the selected field? INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents per Acre	OR	Total Dollars
1189		1190

4. Was any water purchased to irrigate the selected field? INCLUDE landlord's share and purchases from all sources.....

Code
1191

Yes=1  
No=3

[If item 4 = 1 ask-- Otherwise go to item 5.]

a. What was the total cost for the water purchased for the selected field during the 2021 growing season? INCLUDE operator, landlord, and contractor costs and ditch maintenance costs for the selected field.....

Dollars & Cents per Acre	OR	Total Dollars
1193		1194

[If siphon tubes were used, item 2a = 10 or 11, ask--]

5. What would be the total cost to replace all the siphon tubes used on the selected field?.....

Total Dollars
1201

[If poly pipe system was used, item 2a = 14, ask--]

6. What was the total amount spent for poly pipe used on the selected field during the 2021 growing season? INCLUDE operator, landlord, and contractor costs.....

Total Dollars
1202

[If gated pipe system was used, item 2a = 15 or 16, ask--]

7. What was the average diameter of gated pipe used to irrigate the selected field?.....

Inches
1203

a. What was the total length of gated pipe used?.....

Feet
1204

8. Were wells used to supply irrigation water for the selected field?.....

Code
1205

Yes=1  
No=3

[If item 8 = 1 continue. Otherwise go to item 9.]

a. How many wells were used to irrigate the selected field?.....

Number
1206

b. What was the average diameter of the outer well casing?.....

Inches
1207

c. What was the average pumping depth of these wells during the irrigation season? Pumping depth is the depth to water at the start of the irrigation season, plus an average decline in the water level caused by pumping during the irrigation season.....

Feet
1208

d. Were other fields irrigated using water pumped from wells that supplied water to the selected field?.....

Code
1210

Yes=1  
No=3

[If item 8d = 1 continue. Otherwise go to item 9.]

e. Excluding the selected field, how many other acres on this operation were irrigated using the same wells during the 2021 growing season?.....

Acres
1211

### CONCLUSION

Location of Selected Field

I need to locate the selected field of corn on this map.

County Name

Office Use  
State County FIPS Code

1. What county is the selected corn field in?.....

	0010 _ _ _ _ _
--	-------------------

LATITUDE

LONGITUDE

a. Field location.....

9854 _ _ _ _ . _ _ _ _ _
<i>decimal</i>

9855 _ _ _ _ . _ _ _ _ _
<i>decimal</i>

[Enumerator Action: Use the iPad app to find the coordinates for the center of the selected field.  
Confirm with the operator using the aerial imagery that this is the correct field.]

We will need additional information to complete this study. We will contact you in February or March 2022 to collect it. I'll call you then to set up a time that is good for you.

To receive the complete results of this survey on the release date, go to [nass.usda.gov/results](http://nass.usda.gov/results)

2. To have a summary emailed to you at a later date, please enter your email address.

1095
------

3. Ending time [Military].....

<div style="display: flex; justify-content: space-around; font-size: small;"> <span>H</span><span>H</span><span>M</span><span>M</span> </div> 0005 _ _ _ _ _
---

Record Use

4. [Did respondent use farm/ranch records to report--]

Code	Code	Code
[fertilizer data]..... Yes=1 No=3	[pesticide data]..... Yes=1 No=3	[majority of this expense data?]..... Yes=1 No=3
0011	0012	0013

Supplements Used

5. [Record the total number of each type of supplement used to complete this interview.]

Number	Number	Number
Fertilizer Supplement.....	Pesticide Supplement.....	Field Operations.....
0041	0042	0043

Operation Email: (if different from above)

Operation Phone:

9937	9936 ( ) - _____	check if cell phone <input type="checkbox"/>
------	---------------------	--

Respondent Name:

Respondent Phone (if different from above)

9912	9911 ( ) - _____	check if cell phone <input type="checkbox"/>	9910	MM	DD	YY	Date: ____
------	---------------------	--	------	----	----	----	------------

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

OFFICE USE									
R. Unit	Ptr 1 Str	Ptr 2 Str	Ptr 3 Str	Ptr 4 Str	OPS	SSO 1	ADJ	Optional Use	
9921	9922	9923	9927	9928	923	9907	922	9906	9916
Response		Respondent		Mode		Enum.	POID		
1-Comp 2-R 3-Inac 4-Office Hold	9901	1-Op/Mgr 2-Spouse 3-Acct/Bkpr 4-Partner 9-Other	9902	2-PATI (tel) 3-PAPI (Face-to-Face)	9903	9998	9989		
					Eval.		Change		
					9900	9985			