



AGRICULTURAL RESOURCE MANAGEMENT SURVEY

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 Phase II



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CORN PRODUCTION PRACTICES AND COSTS REPORT FOR 2016

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

DATE	TIME	NOTES

INTRODUCTION:

[Introduce yourself, and ask for the operator. Rephrase in your own words.]

We are collecting information on the practices used to produce corn and need your help to make the information as accurate as possible. The information you provide will be used for statistical purposes only. In accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107-347 and other applicable Federal laws, your responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every employee and agent has taken an oath and is subject to a jail term, a fine, or both if he or she willfully discloses ANY identifiable information about you or your operation. Response is voluntary.

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 for this information collection is 0535-0218. The time required to complete this information collection is estimated to average 65 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.

We encourage you to refer to your farm records during the interview.

H H M M

BEGINNING TIME
[MILITARY]

0004 ____

SCREENING BOX

0006

[Name, address and partners verified and updated if necessary]

POID _____	POID _____
PARTNER NAME	PARTNER NAME
ADDRESS	ADDRESS
CITY STATE ZIP PHONE NUMBER	CITY STATE ZIP PHONE NUMBER
POID _____	POID _____
PARTNER NAME	PARTNER NAME
ADDRESS	ADDRESS
CITY STATE ZIP PHONE NUMBER	CITY STATE ZIP PHONE NUMBER





A

CORN FIELD SELECTION

A

1. How many total acres of corn did this operation plant for the 2016 crop year? *[If no acres planted, review Screening Survey Information Form, make notes, then go to item 4 on back page]*.....

TOTAL PLANTED ACRES

0050

a. Did you produce any acres of **CERTIFIED ORGANIC** corn?..... YES = 1

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

(i) Conventional corn?.....

TOTAL ACRES

--

(ii) Certified organic corn?.....

--

NUMBER OF FIELDS

+

--

+

--

I will follow a simple procedure to make a random selection from the Corn fields planted for the 2016 crop.

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 5.]*.....

TOTAL NUMBER OF FIELDS PLANTED

0020

3. Please list these fields according to identifying name/number or describe each field, then I will tell you which field has been selected.

*[If there are more than 18 fields make sure item 2 is **TOTAL** fields planted, and list only the 18 fields closest to the operator's permanent residence. If respondent is unable to identify or describe the fields, use the Field Selection Grid Supplement.]*

FIELD NAME, NUMBER OR DESCRIPTION

FIELD NAME, NUMBER OR DESCRIPTION

1
2
3
4
5
6
7
8
9

10
11
12
13
14
15
16
17
18





APPLY "RANDOM NUMBER" LABEL HERE

4. **[ENUMERATOR ACTION:** *Circle the pair of numbers on the above label associated with the last numbered field in item 3. Select the field according to the number you circled on the label, and record the selected number. If only one field, enter 1.*]

SELECTED FIELD NUMBER

0021

5. **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.]

6. **For the randomly selected field above, please provide the Farm Service Agency (FSA):**

- a. Farm Number
- b. Tract Number
- c. Field Number

**OFFICE USE
OY Field Substituted**

0022





B

FIELD CHARACTERISTICS---SELECTED FIELD

B

1. How many acres of corn did this operation plant in this field for the 2016 crop? ACRES
1301

a. Are the acres in this field **CERTIFIED ORGANIC**? YES = 1 CODE
1300

[If YES, continue. If NO, ask 1d, then go to item 2.]

b. What year was this field first certified as organic under the National Organic Program? YEAR

c. Was this corn intended for animal feed? YES = 1 1399

d. Was this field transitioning into organic corn production in 2016? YES = 1 1399

2. Were the acres in this 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

3. [If field is CASH RENTED (item 2 = 2, 3 or 5), ask item 3, else go to item 4.]
 What was the cash rent paid per acre for this 2016 corn field? DOLLARS & CENTS PER ACRE
1303 . ____

4. [If field is SHARE RENTED (item 2 = 4 or 5), ask--]
 What was the landlord's share of the crop from this field? PERCENT
1304

5. [If field is RENTED (item 2 = 2, 3, 4, or 5), ask--]
 What was the total cost for all inputs provided by any landlord for the 2016 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
1305 . ____ OR TOTAL DOLLARS
1306

6. What was the total cost for all inputs provided by any contractor for the 2016 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
1309 . ____ OR TOTAL DOLLARS
1310

7. What year did you (the operator listed on the label) start operating this field? YEAR
1312



MM DD YY

1308

8. On what date was this field planted?

- 1=POUNDS
- 2=CWT
- 3-TONS
- 4-BUSHEL

UNITS PER ACRE

0216

0217

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

[If Item 1a = yes, ask--]

b. Was this certified organic corn field planted on this date---

CODE

1330

(i) to avoid cross pollination with genetically engineered crops? YES = 1

1332

(ii) to manage weeds? YES = 1

1333

(iii) for some other reason? YES = 1

[If Item 8b = 1, ask--]

c. Did you experience any yield loss due to this altered planting date? YES = 1

BUSHEL PER ACRE

(i) If yes, please specify yield loss

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

- 1 GRAIN
- 2 SILAGE
- 4 SEED
- 25 OTHER

CODE

1327

UNIT CODE

- 1 = Pound
- 2 = CWT
- 4 = Bushel
- 22 = Acre
- 23 = Approx. 80,000 Kernel Bag

DOLLARS & CENTS PER UNIT

1319

1320

10. What was the total cost per unit (including operator, landlord, and contractor costs) of purchased seed for this field? (Include cost of seed treatment and seed technology fee.)

INCHES

1312

11. What was the average corn row width?

UNIT CODES for Seeding Rate

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

UNITS

1313

1314

12. What was the seeding/planting rate per acre the first time this field was planted?

ACRES

1315

13. How many acres in this field had to be replanted to corn? (Acres replanted = Number of acres x Number of times replanted.)

1

2	3
2016	2015
YES = 1	YES = 1 N/A = 4 No Corn in Field

14. Did you plant genetically engineered seeds for the 2015 or 2016 crop years?

a. [If item 14=1, for either year continue. Else, go to 15] Did the corn planted on this field have any of the following genetically engineered traits in 2015 or 2016? ---

1	2 2016 YES = 1	3 2015 YES = 1 <input type="checkbox"/> N/A No Corn in Field
a. Corn Borer Resistance (Single Mode of Action).		
b. Corn Borer Resistance (Pyramided Modes of Action).		
c. Rootworm Resistance (Single Mode of Action)		
d. Rootworm Resistance (Pyramided Modes of Action).		
e. Earworm Resistance.		
f. Armyworm Resistance.		
c. Glyphosate Tolerance.		
d. 2, 4-D Tolerance.		
e. Dicamba Tolerance.		
f. Glufosinate Tolerance.		
g. Other HT Trait.		
h. Drought Resistance.		

Note 1: A respondent who planted a double stacked seed with glyphosate and glufosinate tolerance (in 2016 and 2015) would indicate his seed choice by entering "1"s in (row 1, column 6), (row 2, column 6), (row 1, column 9), and (row 2, column 9). "0" would be entered in the other cells.

Note 2: Any genetically engineered HT trait other than Glyphosate tolerance, 2,4-D tolerance, Dicamba Tolerance, or Glufosinate Tolerance (e.g. ACCase-Inhibitor or Imidazolinone tolerance) should be accounted for using the "Other HT trait" column.

1

2	3
2016	2015
YES = 1	YES = 1 N/A No corn in field = 4

15. Was a non-genetically engineered seed planted in

[Item 15=1 for either year, then continue. Else, go to Item 19]

	2 2016 YES = 1	3 2015 YES = 1 N/A No corn in field
16. Was this non-genetically engineered seed herbicide tolerant in		
17. If you used non-genetically engineered corn seed, but not organic practices, was the corn from this field sold (or will it be sold) through a market specifically for identity-preserved non-GE corn?		

18. Did you choose the organic production system used on this field---

[Enter up to 3 reason codes.]

1 to protect health of family/community?
 2 to adopt more environmentally friendly practices?
 3 to increase farm income?
 4 for some other reason? [Specify _____]

FIRST

1339

SECOND

1334

THIRD

1335

19. Did you use an insect resistant seed variety? YES = 1

a. [If item 19 is yes, ask---] Did you choose the resistant seed variety used on this field primarily to---

1 Increase yields through improved pest (weed or insect) control?
 2 Decrease pesticide input costs?
 3 Save management time or labor or improve ease of management?
 4 For some other reason(s)? [Specify _____]

CODE

1325

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

PERCENT

1326

21. Did you purchase seed treated with---

CODE

a. a fungicide (e.g., Trilex, Allegiance, or other seed treatments)? YES = 1

1317

b. an insecticide (e.g., Poncho, Gaucho or Cruiser seed treatment)? YES = 1

1323

c. a nematicide (e.g., Acceleron or Avicta seed treatment)? YES = 1

1318

22. [If item 21 is YES, ask---] Enter the appropriate product code from the Respondent Booklet (Page _____) (enter 3 if a seed treatment was not applied, 999 if a seed treatment was applied but the product is not listed).

CODE

23. [If item 22 is XX, ask---] If you purchased a seed with an insecticide seed treatment, did you use an "air delivery of vacuum planter (pneumatic)"? YES = 1

[If item 23 is YES, ask---]

CODE

a. Did you use a talc or and/or graphite seed flow lubricant? YES = 1

b. Did use an alternative seed flow lubricant (e.g. Bayer Fluency Agent) instead of talc and/or graphite? YES = 1

24. Has harvest of this field been completed? YES = 1

CODE

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

How many acres in this corn field were (or will be)---	1		2	
	ACRES	UNITS PER ACRE	UNIT CODE	CODE
a. harvested for grain.	1346	1347	1 Pounds 2 CWT 3 Tons 4 Bushels	1348
b. harvested for silage or green chop?	1349	1350	TONS	
c. harvested for commercial seed contract?	1431	1432		1433
d. abandoned?	1351			
e. used for some other purpose?	1439			

26. Were the stalks/stover harvested from this field?

YES - [Enter code 1 and go to item 27]

NO - [Ask 26a, then go to item 28].

CODE

a. [If the 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 material for the soil
 - 4 The stalks/stover were left for livestock grazing
 - 5 Other [Specify _____]

CODE

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

ACRES

a. How many tons of corn stalks/stover were harvested from these corn acres (item 24)?

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

TOTAL TONS

28. Did any livestock graze this corn field after harvest of the 2016 corn crop?

YES - [Enter code 1 and continue]

NO - [Go to item 30].

CODE

29. What type of livestock grazed this corn field after harvest of the 2016 corn crop?

- 1 Cattle
 - 2 Sheep
 - 3 Other [Specify _____]

CODE

HEAD

a. About how many **head** of livestock (*item 28*) grazed this corn field?

1362

DAYS

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

1363

CROP CODE LIST for item 21 – PREVIOUSLY PLANTED CROPS

190 Barley	3 Dry Beans	21 Rice	193 Tobacco, burley
85 Canola	17 Dry Peas	22 Rye	196 Tobacco, flue cured
310 Clover	311 Grasses other than clover	98 Safflower	42 Vegetables
6 Corn for grain	1 Hay, alfalfa	25 Sorghum for grain	163 Wheat, durum
5 Corn for silage	11 Hay, all other	24 Sorghum for silage	164 Wheat, other spring
282 Cotton, Pima	94 Mustard Seed	26 Soybeans	165 Wheat, winter
281 Cotton, Upland	15 Oats	28 Sugarbeets	
302 CRP	16 Peanuts	30 Sunflowers	318 No crop planted during this period
	20 Potatoes	31 Sweet Potatoes	

30. Please report what crops were previously **PLANTED** on the majority of this field, including cover crops.

1 What crops were PLANTED on this field in---			2 Was this a cover crop? YES = 1	How did you manage this crop? 1 Plowed-in 2 Chisled-in 3 Chemical-killed 4 Rolled 5 Grazed 6 Harvested 7 Disked	Was this field irrigated? YES = 1	Was this field no-tilled or strip-tilled? 1/ YES = 1
SEASON AND YEAR	CROP NAME	CROP CODE	YES = 1			YES = 1
a. FALL of 2015?		1343	1470	1471	1344	1345
b. SPRING/SUMMER of 2015?		1369	1472	1473	1370	1371
c. FALL of 2014?		1372	1474	1475	1373	1374
d. SPRING/SUMMER of 2014?		1375	1476	1477	1376	1377
e. FALL of 2013?		1378	1478	1479	1379	1380
f. SPRING/SUMMER of 2013?		1381	1480	1481	1382	1383
g. FALL of 2012?		1366	1482	1483	1367	1368
h. SPRING/SUMMER of 2012?		1340	1484	1485	1341	1342

1/ 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.

DOLLARS & CENTS PER ACRE

i. [If a cover crop was planted in Spring/Summer/Fall 2015, ask—]
What was the seed cost per acre for the cover crop?

1468

31. Which of the following conservation practices or plans are used on this field?

1 CONSERVATION PRACTICES or PLANS	2 Was this practice or plan used in 2016? YES = 1	3 For 2012-2016, how many years was this practice or plan used? NUMBER	4 Have you ever received at any time --		5 Does this practice or plan help satisfy? 1 A federal regulatory requirement? 2 A state or local regulatory requirement 3 USDA conservation compliance provisions CODE
			Technical or planning assistance? 1 USDA 2 Private technical service provider funded by USDA 3 Soil Conservation District or State Agency 4 Other source 5 Self-funded (hired provider) 6 No technical assistance needed CODE	Financial assistance? 1 Environmental Quality Incentives Program (EQIP)? 2 Conservation Reserve Program (CRP)? 3 Conservation Stewardship Programs (CSP)? 4 Other Federal, State, Local program CODE	
a. Conservation tillage [include No-till/Direct seeding, mulch till, and ridge till]					
b. Cover crops [include grasses, legumes, forbs, or other herbaceous plants for seasonal cover and conservation].					
c. Structural practices to conserve soil? [include grass waterways, terraces, grade stabilization, contour buffer strips, etc.]					
d. Nitrogen application practices? [Include splitting nitrogen applications 50 % after crop emergence, applying nutrients 30 days prior to planting, precision application of nutrients, or using controlled release fertilizer]					
e. Conservation plan specifying practices to reduce soil erosion?					
f. Nutrient management plan specifying practices for ___ Fertilizer application ___ Manure application.					
g. Pest management plan to implement Integrated Pest Management (IPM) to control weeds, insects, or disease? . . .					
h. Irrigation water management plan specifying irrigation practices?					

32. Is this field included in an existing conservation program contract through any of the following programs for which you or the landlord have received (or expect to receive) cost sharing payments, stewardship payments, or incentive payments?

PROGRAM	1	2	3	4
	1/ 1/	How many practices or practice enhancements are included in the contract?	Does the contract include livestock-related practices?	During the past 4 years, was this field included in an application that was rejected or has not yet been funded?
	YES = 1	Number	YES = 1	YES = 1
a. Environmental Quality Incentives Program (EQIP)				
b. Conservation Security or Conservation Stewardship Programs (CSP)				
c. Conservation Reserve Program (CRP)				
d. Other Federal, State, Local or non-government source				
1/ [Include conservation program contracts that provide assistance for grass waterways, filter strips, riparian buffers, or similar practices on or adjoining this field.]				

33. [In item 32, if you answered yes =1 in column 1 or column 4 for any program continue, else go to item 34.]

In applying for the Conservation Program you listed in item 32, did you:

	YES = 1	How much time was spent on your behalf? [Include the number of hours spent with you plus the number of hours spent on your behalf.]	What was the cost of the consultation?	
		HOURS	DOLLARS & CENTS	
a. Hire a consultant to help prepare the application?_._
b. Receive assistance free of charge? [Include assistance received from USDA, and extension agent, an environmental organization, or a farm organization.]				

34. In applying for and participating in the conservation program you listed in item 32, please indicate the approximate time you spent on the following activities:

	HOURS
a. Learning about the program in general, on your own or at meetings?	1352
b. Planning or designing specific practices for your farm (on your own or in meetings with USDA staff, contractors, or others)?	1353
c. Collecting information (e.g. field characteristics, maps, soil test results) that was needed to fill out program application forms?	1354
d. Filling out the program application forms?	1355
e. If your offer was accepted, understanding and signing the contract? [Enter zero if offer was not accepted.]	1356
f. If your offer was accepted, documenting compliance after the practices were installed or adopted? [Enter zero if offer was not accepted.]	1357

35. Did you apply for conservation funding (through any Federal, State, or local program) for this field in the last four years?

YES = 1

36. [If Item 35=1, go to Item 37---] If you did not apply for conservation program funding for this field in the past four years, what were your reasons?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	CODE
a. I was not aware of USDA or other conservation programs.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	1358
b. I am not aware of environmental problems (on this field)..	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	1359
c. Payments are not high enough.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	1360
d. Government standards make practices more expensive than they need to be to get the job done.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	1361
e. My offer would not have been accepted because my farm is not eligible or my fields would not have ranked high enough.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	1362
f. The application process is too complicated and time consuming.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	1363
g. Documenting compliance would be too complicated and time consuming.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	1364

37. Has the Natural Resource Conservation Service (NRCS) classified any part of this field as "Highly Erodible"? (Cropland identified as highly erodible is subject to highly erodible land conservation (HELCS) 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.)

YES = 1

CODE

38. Have you been notified by NRCS that this field contains a wetland?

YES = 1

39. What is the slope of this 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 |
| <hr/> | |
| 1 | Loam |
| 2 | Clay |
| 3 | Sandy |
| 4 | Mixed |

CODE

40. What is the primary soil type of this field

CODE

41. Did the land use practices for this field include subsurface drainage?

YES = 1

CODE

[if YES, ask --.]

YEAR

a. What year was the subsurface drainage installed?

CUBIC FEET PER SECOND

OR

INCHES OF WATER REMOVED PER DAY

b. What is the capacity of your system?

c. Does this system include a mechanism for controlled drainage (e.g. stop logs, risers, or float mechanisms)? YES = 1

42. Which of the following resource concerns do you have on this field?

RESOURCE CONCERNS	CODE YES = 1	Have you received technical assistance from any of the following sources to evaluate this resource concern? (Report up to 3 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.				
b. Wind-driven erosion.				
c. Soil compaction.				
d. Poor drainage.				
e. Low organic matter.				
f. Water quality.				
g. Other concerns				
h. No significant concerns.				

43. Was the corn in this field covered by Federal Crop Insurance in 2016?

YES – [Enter code 1 and continue.]

NO – [Enter code 3 and Go to Section C.]

CODE

a. Which coverage did you obtain?

- 1 Federal CAT (basic catastrophic insurance)
- 2 Yield protection
- 3 Yield plus SCO (supplemental coverage option)
- 4 Revenue protection
- 5 Revenue plus SCO (supplemental coverage option)
- 6 Other Federal Crop insurance

CODE

[If item 43a = 2 or 3, ask--]

PERCENT

b. What was your yield level of your buy-up coverage for this field?

c. What was your price level of your buy-up coverage for this field?

[If item 43a = 4 or 5, ask--]

PERCENT

d. What was the level of revenue coverage you obtained for this field?

1. Were commercial nutrients or fertilizers applied to this field for the 2016 corn crop? YES = 1
 [If COMMERCIAL nutrient or fertilizer applied, continue; else go to item 6.]

CODE	EDIT TABLE
0202	0200

2. How many commercial nutrient or fertilizer applications were made to this field for the 2016 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 and fertilizers	<input type="checkbox"/>	Micronutrients
<input type="checkbox"/>	Nutrients or fertilizers applied in the fall of 2015 and those applied earlier if this field was fallow in 2015.	<input type="checkbox"/>	Unprocessed manure
<input type="checkbox"/>	Commercially prepared manure or compost	<input type="checkbox"/>	Nutrients or fertilizers applied to previous crops in this 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 |

LINE	2 MATERIALS USED [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Nutrients or Fertilizers in Respondent Booklet.]				3 What quantity was applied per acre? [Leave this column blank if actual nutrients were reported.]	4 [Enter material code.] 1 Pounds 12 Gallons 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 were treated in this application? ACRES
	N Nitrogen	P ₂ O ₅ Phosphate	K ₂ 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

TABLE 000	LINE 00
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4. Were any nutrients or fertilizers applied by custom applicators?

YES - [Continue] NO - [Go to item 5]

a. Are you able to report the cost of nutrient or fertilizer materials and custom application separately?

YES - [Continue] NO - [Go to item 5]

OFFICE USE

0215

b. Excluding the cost of the nutrient or fertilizer materials, how much was spent for custom application of nutrients or fertilizers on this field? (Include operator, landlord, and contractor costs. Include costs for sulfur and micronutrients. Exclude custom application of lime, gypsum, purchased manure and purchased compost.) [If material and application costs can't be separated, exclude them here and record the total in item 5].

DOLLARS & CENTS PER ACRE

0219

OR TOTAL DOLLARS

0220

5. What was the TOTAL COST of all nutrient or fertilizer products applied to this field? (Include operator, landlord, and contractor costs, as well as the costs for sulfur and micronutrients. [If custom applied and the cost of material can be separated from application costs, include the cost of materials ONLY; otherwise, include both the material and application costs.] Include materials applied to this field if it was fallow in 2015. Exclude lime, gypsum, purchased manure and purchased compost.)

DOLLARS & CENTS PER ACRE

0221

OR TOTAL DOLLARS

0222

CODE

0218

6. Was gypsum applied to this field for the 2016 corn crop? YES = 1

7. Was a soil or plant tissue test performed on this corn field in 2015 or 2016 for the 2016 crop?

YES [Continue.] NO [Go to item 12.]

CODE

0225

8. Was a soil test for phosphorus performed on this corn field in 2015 or 2016 for the 2016 crop? YES = 1

a. [If item 8=1, ask---]

How many pounds of phosphorus (per acre) were recommended (by the phosphorus test)?

POUNDS PER ACRE

0226

CODE

9. Was a soil test for nitrogen performed on this corn field in 2015 or 2016 for the 2016 crop? YES = 1

a. [If item 9=1, ask---]

How many pounds of nitrogen (per acre) were recommended (by the nitrogen test)?

POUNDS PER ACRE

0228

10. Was a soil test for Soil Organic Matter performed on this corn field at some point in the last 10 years? YES = 1

a. [If item 10=1, ask---]

What was the percentage of Soil Organic Matter on the field for the most recent test?

PERCENT

NUMBER

b. How many times have you tested this field for Soil Organic Matter in the last ten years?

c. [If answer to 10b. is more than 1]

CODE

Based on these tests, is your Soil Organic Matter content

- 1 Increasing
- 2 Decreasing
- 3 Staying roughly the same

11. Was a plant tissue test or leaf analysis for nutrient deficiency performed on this field in 2015 or 2016 for the 2016 crop?

CODE
0229
YES = 1

12. How much was spent for these soil and plant tissue tests on this field? (Include operator, landlord, and contractor costs).

DOLLARS & CENTS PER ACRE OR TOTAL DOLLARS
0230 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?

YES = 1

[ENUMERATOR ACTION: Refer to the Fertilizer Table, column 2. If nitrogen (N) was applied, complete item 13. If NO nitrogen applied, go to item 14.]

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

- a. Results of a soil or plant tissue test? YES = 1
b. Crop consultant recommendation? YES = 1
c. Fertilizer dealer recommendation? YES = 1
d. Extension Service recommendation? YES = 1
e. Cost of nitrogen and/or expected commodity price? YES = 1
f. Contractor recommendation? YES = 1
g. Routine practice (operator's own determination based on past experience, yield goal, etc.)? YES = 1

CODE
0233
0234
0235
0236
0237
0238
0239

14. Is lime ever applied to this field? YES = 1

CODE
0242

[If no lime applied, go to item 15; else continue.]

a. On average, how many years are there between applications of lime to this field?

YEARS
0243

b. How many tons of lime were applied per acre the last time it was applied to this field?

TONS PER ACRE
0244

c. Was lime applied to this field in 2015 or 2016 for the 2016 crop? YES = 1

CODE
0240

d. [If field is rented (Section B, item 2 = 2, 3, 4, or 5), ask---

Considering the last time it was applied, what percent of the total cost of lime and its application was paid by the landlord(s)?

PERCENT
0245

15. Was non-commercial manure (from own farm, from a neighbor's farm, etc.) or other organic material (excluding compost) applied to this field for the 2016 corn crop? (Exclude commercially prepared manure.)

YES - [Enter code 1 and continue]

NO - [Go to item 17].

CODE
0246

a. How many acres in this field was manure applied to?

ACRES
0247

b. What was the amount of manure applied to this field?

- 1 Tons
- 2 Gallons
- 3 Bushels

CODE
0248

AND

UNITS PER ACRE OR
0249

TOTAL UNITS
0250

c. What is the distance between the manure storage/production location and this field?

MILES
0251

d. What was the capacity of the manure spreader (or other vehicle) used to haul manure to this field?

- 1 Tons
- 2 Gallons
- 3 Bushels

CODE
0252

AND

TOTAL UNITS
0253

e. Of the total manure applied to this field for the 2016 crop, what was the percent of manure applied---

(i) in the fall before planting? +

PERCENT
0254

(ii) in the spring before planting? +

0255

(iii) after planting? +

0256

100%

f. Was the manure---

- 1 Lagoon liquid?
- 2 Slurry liquid?
- 3 Semi-dry or dry?

CODE
0257

g. Was the manure---

- 1 Broadcast or sprayed without incorporation?
- 2 Broadcast or sprayed with incorporation?
- 3 Injected/knifed in?
- 4 Sprayed using irrigation systems?

CODE
0258

h. Was the major source of the manure from---

- 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

i. Was the manure---

- 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

(i) [If item 15i = 2, ask--]

What was the total cost of the purchased manure applied to this field? (Include any payment made for transportation costs.)

DOLLARS & CENTS PER ACRE

0284

OR TOTAL DOLLARS

0285

CODE

0286

(ii) Did you hire someone to custom apply the manure? YES = 1

(a) [If YES, ask--]

What was the total cost paid to have manure custom applied to this field? [Do not report custom application cost if it was included with the purchased manure cost.]

DOLLARS & CENTS PER ACRE

0287

OR TOTAL DOLLARS

0288

CODE

0261

j. Of the manure applied to this field, was any tested for nutrient content prior to application? YES = 1

k. Was the application rate of commercial nitrogen fertilizer on this field reduced due to manure application? YES = 1

(i) [If YES, ask--]

By what percent did you reduce the commercial nitrogen fertilizer application rate on this field?

PERCENT

0263

CODE

0280

l. Did you adjust the corn harvest date for this field due to the application of manure? YES = 1

CODE

0264

16. Were the manure APPLICATION RATES to this field influenced by Federal, State, or local restrictions? YES = 1

a. [If item 15 is YES, ask--]

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

CODE

0265

(i) Nitrogen requirement of the crop? YES = 1

0266

(ii) Phosphorus requirement of the crop? YES = 1

CODE

0267

17. Was compost applied to this field for the 2016 corn crop?

YES - [Enter code 1 and continue] NO - [Go to item 18].

ACRES

0268

a. How many acres in this field was the compost applied?

1 Tons
2 Cubic Yards

CODE

0269

UNITS PER ACRE

0270

OR

TOTAL UNITS

0271

b. What was the amount of compost applied to this field?

AND

[Enter up to 3 source codes]

c. Were the major sources of the compost from---

- 1 Beef cattle?
- 2 Dairy cattle?
- 3 Hogs?
- 4 Sheep?
- 5 Poultry?
- 6 Equine?
- 7 Biosolids (*municipal sludge*)?
- 8 Food waste?
- 9 Crop? [*Specify: _____*]
- 10 Other? [*Specify: _____*]

FIRST
0281

SECOND
0282

THIRD
0283

d. Was the compost---

- 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 compost.*)

CODE
0272

(i) [*If item 17d = 2, ask---*]

What was the total cost of the purchased compost applied to this field? (**Include operator, landlord, and contractor costs and any payment made for transportation costs.**)

DOLLARS & CENTS PER ACRE OR TOTAL DOLLARS

0273 _____ 0274

CODE
0275

(ii) Did you hire someone to custom apply the compost? YES=1

(a) [*If YES, ask---*]

What was the total cost paid to have compost custom applied to this field? (**Include operator, landlord, and contractor costs.**) [*Do not report custom application cost if it was included with the compost cost.*]

DOLLARS & CENTS PER ACRE OR TOTAL DOLLARS

0276 _____ 0277

MILES
0291

(iii) [*If item 17d = 1, ask---*]

What is the distance between the compost storage/production location and this field?

18. 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?

- a. Change the type of commercial fertilizer products applied on this field [e.g. less anhydrous ammonia and more urea]. YES=1
- b. Manage fertilizer use more closely, with such practices as soil testing, split applications, variable rate applications, or soil incorporation on this field? YES=1
- c. Change your crop rotation [e.g. plant corn on this field rather than usual crop rotation]?... YES=1
- d. Reduce the application of commercial nitrogen fertilizer? YES=1

CODE

1226

1228

1227

1224

(i) [*If YES, ask--*]

By what percent did you reduce the amount of commercial nitrogen fertilizer applied for 2016?

PERCENT
1225

D BIOCONTROL or PESTICIDE APPLICATIONS---SELECTED FIELD D

Now I have some questions about all the biocontrols or pesticides used on this field for the 2016 corn crop, including both custom applications and applications made by this operation.

1. Were any herbicides, insecticides, fungicides or other biocontrols or pesticides used on this corn field for the 2016 crop? YES = 1	CODE 0302	EDIT TABLE 0300
---	--------------	--------------------

[Probe for applications made in the fall of 2015 (and those made earlier if this field was fallow).]

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

Include defoliant, fungicides, herbicides, insecticides, and other pesticides. Include biological and botanical pesticides.	Exclude nutrients or fertilizers reported earlier and seed treatments.
--	--

OFFICE USE LINES IN TABLE	TABLE 001	0399
------------------------------	--------------	------

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

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

LINE	Pesticide Type <small>(Herbicide, Insecticide Fungicide, etc.)</small>	EPA No. or Trade name and Formulation	Form Purchased <small>(Liquid or Dry)</small>	Where Purchased <small>[Ask ONLY if EPA No. cannot be reported.]</small>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

3. Were any chemicals, biocontrols, or pesticides applied by custom applicators?

- YES – [Continue]
- NO – [Go to item 4]

OFFICE USE

a. Are you able to report the cost of chemical, biocontrol, and pesticide products and custom application separately?

0324

- YES – [Continue]
- NO – [Go to item 4]

b. Excluding the cost of the chemical, biocontrol, and pesticide products, how much was spent for custom application of such materials on this 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 this field? (Include operator, landlord, and contractor costs, defoliants, herbicides, insecticides, fungicides, surfactants, wetting agents, growth regulators, and materials applied before planting and during 2015 fallow period. Exclude seed treatments.)

DOLLARS & CENTS PER ACRE

OR TOTAL DOLLARS

0334

0335

a. How much was spent for herbicide products applied to this field? (Include operator, landlord, and contractor costs.)

DOLLARS & CENTS PER ACRE

OR TOTAL DOLLARS

b. How much was spent for insecticide products applied to this field? (Include operator, landlord, and contractor costs.)

DOLLARS & CENTS PER ACRE

OR TOTAL DOLLARS

NOTE 1: If respondent cannot report TOTAL COST, itemize cost for each product in optional columns in Biocontrol or Pesticide Table.

NOTE 2: 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.



E PEST MANAGEMENT PRACTICES---SELECTED FIELD E

Now I have some questions about your pest management decisions and practices used on this field for the 2016 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]

- | | | CODE |
|---|---------|------|
| 1. Was weather data used to assist in determining either the need or when to make pesticide applications? | YES = 1 | 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 this field? | YES = 1 | 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 | 0802 |

[ENUMERATOR ACTION: Were HERBICIDE (pesticide product codes 40000-49999) applications reported in Section D, item 1, column 2?]

- YES – [Continue]
- NO – [Go to item 6]

- | | | |
|---|---------|------|
| 4. Were herbicides applied to this corn field BEFORE weeds emerged? | YES = 1 | 0803 |
| 5. Were herbicides applied to this corn field AFTER weeds emerged? | YES = 1 | 0805 |

- | | | | | |
|---|---|-------|------|------|
| 6. In 2016, how was this 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 7.]
2 By conducting general observations while performing routine tasks [Enter code 2 and go to item 9.]
3 This field was not scouted. [Enter code 3 and go to item 14.] | | CODE | 0808 |
|---|---|-------|------|------|

- | | | |
|--|---------|------|
| 7. Was an established scouting process (systematic sampling, recording counts, etc.) used or were insect traps used in this field? | YES = 1 | 0809 |
| 8. Was scouting for pests done in this field due to--- | | |
| a. a pest advisory warning? | YES = 1 | 0810 |
| b. a pest development model? | YES = 1 | 0811 |



1		2	3
		[If YES, ask---] What was the infestation level for [column 1]?—	[If column 1 = YES, ask---] Who did the majority of the scouting for [column 1]?
		1 Worse than normal 2 Normal 3 Less than normal	1 Operator, partner or family member 2 An employee 3 Farm supply or chemical dealer 4 Independent crop consultant or commercial scout
9. Was this corn field scouted for--	YES = 1	CODE	CODE
a. Weeds?.....	0812	0813	0814
b. Insects or mites?.....	0815	0816	0817
(i) corn borer?.....	0831	0832	0833
(ii) corn rootworm?.....	0834	0835	0836
(iii) other insects?.....	0837	0838	0839
c. Diseases?.....	0818	0819	0820

[If scouted by crop consultant or commercial scout, ask item 9; else go to item 11.]

10. How much was charged for the scouting services for this field? [Include operator, landlord and contractor cost.].....

	DOLLARS & CENTS PER ACRE	OR	TOTAL DOLLARS
	0821		0822

a. [If scouting performed at no cost, explain:.....]

	OFFICE USE
	0333

11. Were written or electronic records kept for this field to track the activity or numbers of weeds, insects or diseases?..... YES = 1

	CODE
	0823

12. Were scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests in this field?..... YES = 1

	0824
--	------

13. Did you attempt to quantify the severity of rootworm infestations on this field?..... YES = 1

--	--

[If item 13 is YES, Continue. Else go to Item 14.]

a. If insect traps were used, what was the average larval count per acre?.....

	COUNT

b. If the Iowa root injury scale (0 to 3) was used (to quantify progressive feeding by rootworm larvae), what was the average root injury rating per acre?.....

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

14. Did you use field mapping of previous weed problems to assist you in making weed management decisions? YES = 1

0825

15. Did you do any of the following other type(s) of pest management practices for the specific purpose of managing or reducing the spread of pests in this field? [Enter code "1" for all that apply.]

CODE

a. Use the services of a diagnostic laboratory for pest identification or soil plant tissue pest analysis for this field? YES = 1

0841

b. Plow down crop residue (using conventional tillage)? YES = 1

0842

c. Remove/burn down crop residue? YES = 1

0843

d. Rotate crops in this field during the past three years? YES = 1

0844

e. Maintain ground covers, mulches, or other physical barriers? YES = 1

0845

f. Choose crop variety because of specific resistance to a certain pest? YES = 1

0846

g. Use no-till or minimum till? YES = 1

0847

h. Plan planting locations to avoid cross infestation of pests? YES = 1

0848

i. Adjust planting or harvesting dates? YES = 1

0849

j. Chop, spray, mow, plow, or burn field edges, lanes, ditches, roadways, or fence lines? YES = 1

0850

k. Clean equipment and field implements after completing field work to reduce the spread of pests? YES = 1

0851

l. Adjust row spacing, plant density or row directions? YES = 1

0852

m. Have the seed treated for insect or disease control after you purchased the seed for this field? YES = 1

0854

n. Maintain a beneficial insect or vertebrate habitat? YES = 1

0855

o. Use a flamer to kill weeds? YES = 1

0857

p. Plant earlier or later to avoid weeds? YES = 1

0865

16. Did you maintain buffer strips or border rows to isolate organic corn from non-organic crops or land? YES = 1

0856

PERCENT

a. [If item 16 is YES, Continue. Else go to Item 17.] What percentage of the field was used for buffer?

CODE

b. Was the buffer planted with corn? YES = 1

c. [If item 16b is YES, Continue. Else go to Item 17.] Did you harvest and sell the corn? YES = 1

17. Were any beneficial organisms (insects, nematodes, fungi) applied or released in this field to manage pests? YES = 1

0853

18. Were floral lures, attractants, repellants, pheromone traps or other biological pest controls used on this field? YES = 1

a. [If item 17 or item 18 is YES, ask--]

What were the TOTAL materials and application costs for all biological pest controls for this 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

CODE

19. Was a trap crop (excluding fallow) grown to help manage insects in this field? YES = 1

20. Was this field left in fallow in 2015 to help manage insects on this field? YES = 1

21. Were water management practices such as irrigation scheduling, controlled drainage, or treatment of retention water used on this field to manage pests or toxin-producing fungi and bacteria? YES = 1

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

YES – [Enter code 1 and continue] NO – [Go to item 23]

a. Did you change timing of, reduce application rate of, or eliminate a pesticide application? YES = 1

b. Did you change to an alternative pesticide, biocontrol, or non-pesticide practice? YES = 1

23. Did you cultivate this field for weed control? YES = 1

a. [If yes, ask--]

How many times?

NUMBER

UNIT CODES

- 1 POUNDS
- 2 CWT
- 3 TONS
- 4 BUSHELS

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

UNITS PER ACRE

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

CODE

26. **Did pests** (weeds, insects, pathogens, animals) **cause any yield loss on this field in spite of your pest control efforts?**..... YES = 1

0827

If yes, ask--]

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

1 BUSHELS
2 TONS

CODE

AND

UNITS PER ACRE

OR

TOTAL UNITS

27. **Have you ever planted any glyphosate-resistant (GR) crop** (e.g. Roundup Ready corn or soybeans) **on this field?**..... YES = 1

--

[If item 27 = YES, continue. If item 27 = NO, go to item XX.]

YEAR

a. What year did you first plant any GR crop on this field?.....

CODE

28. **Have you noticed a decline in the effectiveness of glyphosate** (e.g. Roundup) **in controlling weeds in this field?**..... YES = 1

--

[If item 29 = YES, continue. If item 29 = NO, go to item XX.]

YEAR

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

--

29. **After noticing the decline in the effectiveness of glyphosate in controlling weeds on this field, did you--**

CODE

a. stop planting GR crops?..... YES = 1

--

b. change tillage practices?..... YES = 1

--

30. **After noticing the decline in the effectiveness of glyphosate in controlling weeds on this field, how did you change your use of--**

	Increase use YES = 1	Decrease use YES = 1	Discontinue use YES = 1	Did not change use YES = 1	Did not use the chemical at all YES = 1
a. glyphosate.....					
b. atrazine.....					
c. acetochlor/S-metolachlor.....					
d. dicamba.....					
e. 2, 4-D.....					
f. use of herbicides other than those asked above?.....					

[If item XX = YES, ask; otherwise go to Section F]

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

1	2	3	4
RESISTANCE MANAGEMENT PRACTICE	YES = 1	How often did you use this practice on this field? 1 Every Year 2 Every Other Year 3 Multiple Years 4 One Year CODE	Did the cost of managing weeds on this field increase as a result of your use of the practice? 1 Yes 2 No 3 Don't Know CODE
a. Control weeds early	0886	0871	0878
b. Control weed escapes	0887	0872	0879
c. Clean equipment between moving from one field to the next	0888	0873	0880
d. Use herbicides other than glyphosate	0889	0874	0881
e. Use tillage	0890	0875	0882
f. Use the herbicide label recommended application rate	0891	0876	0883
g. Rotate crops	0892	0877	0884

[If item 31 column 2 contains at least one "1", ask: otherwise go to Section F.]

32. Considering the above practices (i.e. 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 this field if operators of nearby farms also use them?

- 1 – Yes
- 2 – No
- 3 – Don't Know
- 4 – The nearest farm is too far away to affect this field

CODE

33. Did you plant rootworm-resistant seed on this field in 2016? YES = 1

YEARS

a. How many consecutive years have you used rootworm resistant seeds on this field?

[If item 33a is greater than 1, continue. Otherwise go to Section F.]

b. If you have ever switched from a rootworm resistant seed with a single mode of action to a rootworm resistant seed with multiple (pyramided) modes of action, indicate the year that you made this change? (A farmer who used rootworm resistant corn in 2016 and 2015, but conventional corn in 2014, has used rootworm resistant corn for "2" consecutive years.) N/A

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 this field for the 2016 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 harvested [if fallow during 2015, list operations starting with fall 2014];
- ▶ 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/landplaster applications
<input type="checkbox"/>	Non-Commercial Manure applications & Compost

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 CUSTOM (column 5 = code 6), skip columns 6-11]					
					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	OR 9 How many TOTAL HOURS were spent on land forming and hauling? [Example: backhoes, disk border maker, ditcher, rear mounted blade, trucks, wagons, forklifts, etc.] HOURS	10 Which Power Source was used? ^{1/} Tractors: 1= (<40 HP) 2= (40-99 HP) 3= (100-149 HP) 4= (150-199 HP) 5= (>=200 HP) Other: 66=Animal Drawn 77=Pick up 99=Self Propelled 1/ 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

^{1/} 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 this field to produce the 2016 corn crop.
 (**Exclude** labor that was reported for field work performed by machines.)

TYPE OF WORKERS	1 How many hours did (type of worker) spend on this field---		
	a. scouting for weeds, insects and diseases? HOURS	b. irrigating? HOURS	c. 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?**
 (**Exclude** custom and contract workers, payroll taxes and benefits.)

DOLLARS & CENTS
PER HOUR

1119
. __ __

4. **What was the average hourly wage rate paid to full-time hired workers?**
 (**Exclude** custom and contract workers, payroll taxes and benefits.)

DOLLARS & CENTS
PER HOUR

1118
. __ __

5. **Was any contract labor used on this field?** YES = 1

CODE

1116

a. [If YES, ask ---]

DOLLARS & CENTS
PER ACRE

What was the average cost per acre for this contract labor?
 (**Include** operator, landlord, and contractor costs.)

1117
. __ __

6. **What percent of the total number of unpaid hours worked on this 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

7. Now I need some information on how much was spent (or will be spent) for custom services used on this field for the 2016 corn crop.

1 CUSTOM SERVICE	2 Including operator, landlord, and contractor costs, how much was spent for [column 1] on this field for the 2016 corn crop? DOLLARS & CENTS PER ACRE
✓ ← [Check box for each service performed; refer to item 1 if necessary.]	
<input type="checkbox"/> a. Custom land preparation, shaping and/or leveling $\frac{\text{---.---}}{\text{(Cost per hour)}} \times \frac{\text{---}}{\text{Total hours}} = \frac{\text{---}}{\text{Total dollars}} \div \frac{\text{---}}{\text{Total acres in the field}} = \frac{\text{---.---}}{\text{Dollars \& cents per acre}} \dots$	1122
<input type="checkbox"/> b. Custom cultivating	1123
<input type="checkbox"/> c. Custom planting and/or reseeding	1124
<input type="checkbox"/> d. Custom harvesting	1126
<input type="checkbox"/> e. Custom hauling to storage or point of first sale $\frac{\text{---.---}}{\text{(Dollars \& cents per unit)}} \times \frac{\text{---}}{\text{Total units hauled from field}} \div \frac{\text{---}}{\text{Acres harvested in field}} = \frac{\text{---.---}}{\text{Dollars \& cents per acre}}$	1127
<input type="checkbox"/> f. Custom harvesting and hauling from field to storage or point of first sale $\frac{\text{---.---}}{\text{(Dollars \& cents per unit)}} \times \frac{\text{---}}{\text{Total units hauled from field}} \div \frac{\text{---}}{\text{Acres harvested in field}} = \frac{\text{---.---}}{\text{Dollars \& cents per acre}}$	1127

8. Did you hire any technical or consultant services to make recommendations (such as for nutrient, pest control, irrigation, or precision farming) for this field?

YES – [Continue] NO – [Go to item 10]

Which of the following services did you obtain?

	CODE
a. Nutrient recommendations/management service? YES = 1	1129
b. Soil or tissue sample collection? YES = 1	1130
c. Pest control recommendations/management service? YES = 1	1131
d. Pest scouting? YES = 1	1132
e. Irrigation management service (i.e. irrigation scheduling)? YES = 1	1133
f. Yield map or remote sensing map development/interpretation? YES = 1	1134
g. Other custom or technical service? [Specify: _____] YES = 1	1135

9. If YES to any of these services, what was the cost for all of these services? (Include operator, landlord, and contractor costs. Exclude cost of soil/tissue tests or scouting cost reported earlier. Do not report costs for any of these services if they were previously reported as part of the costs of materials and/or application.)

DOLLARS & CENTS PER ACRE	OR	TOTAL DOLLARS
1136 _____		1137 _____

CODE

--

10. Were there (or will there be) any data collection tools (yield monitors, GPS mapping, etc) used during field operations on this corn field? YES = 1

[If YES, continue; else go to item 11]

Please report the data collection technologies you used on this field to produce this crop. Also indicate if the data is collected with Global Positioning System (GPS) coordinates and if the data will be used to create a map.

Data Collection Tool	1 Tool Used YES = 1	2 Collected with GPS YES = 1	3 Data was/will be mapped to create a map YES = 1
Yield monitor.			
Soil tests on core samples (performed on-farm or sent out to a laboratory)			
Soil sensor tests			
Hard-wired crop condition sensors.			
Wireless crop condition sensors.			
Drones, aircraft or satellites.			
Custom service applications (data from completed work on your field)			
Public data downloaded from the online sources.			

11. Please report how your farm data will be stored and accessed. [Enter code "1" for all that apply.]

a. Did you access the data collected from this field on a.

CODE

- 1. Paper hard copy. YES = 1
- 2. Personal computer. YES = 1
- 3. c. Mobile device. YES = 1

b. Did you access the data collected from this field through an agricultural technology provider website? YES = 1

IRRIGATION

G

G

ACRES

1. How many acres in this field were irrigated for the 2016 corn crop?

[If none, go to **Conclusion**].

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

2. Now, I have some questions about irrigation systems and water used on this field for the 2016 corn crop.

	UNIT	SYSTEM 1	SYSTEM 2
↓			
a. What type(s) of irrigation system(s) was (or were) used to irrigate this field? [Show System Type Codes in the Respondent Booklet. Enter System Type Code for up to two systems covering the most field acres].	SYSTEM TYPE CODE	1161	1175
b. What was the total quantity of water applied to this field during the entire growing season? (Include ALL water used from both on-farm and off-farm sources.).	INCHES PER ACRE	1162	1176
	OR TOTAL ACRE-FEET	1163	1177
[If operator cannot provide item 2b, ask (i) & (ii), else go to 2c]			
(i) What is the total number of hours this system was used to apply water to this field during the corn growing season?	TOTAL HOURS	1164	1178
(ii) How many gallons per minute were applied?	GALLONS PER MINUTE	1165	1179
c. What percent of the water used to irrigate this field through this system came from surface water sources?	PERCENT	1166	1180
d. What was the number of times this field was irrigated during the corn growing season using this system? (Include any pre-plant irrigation.)	NUMBER OF IRRIGATIONS	1167	1181
e. Was the pump type--- [If more than one pump in the system, enter type for pump closest to water source.]	CODE	1168	1182
	1 TURBINE? 2 SUBMERSIBLE? 3 CENTRIFUGAL? 4 BOOSTER? 5 SIPHON? 99 NO PUMP? [If code 99, go to item j.]		
f. What was the average pumping rate?	GALLONS PER MINUTE	1169	1183
g. [If item 2a = code 1-9 (PRESSURE SYSTEM), ask---] What was the system operating pressure?	POUNDS PER SQUARE INCH	1170	1184
h. What was the primary motor type used to pump the water?	CODE	1171	1185
	1 DIESEL 2 GASOLINE 3 LP GAS 4 NATURAL GAS 5 ELECTRICITY 6 SOLAR POWER		
i. What was the average motor size?	HORSEPOWER	1172	1186
j. [If NO PUMP was used (item 2e = 99), ask---] What was the average flow rate?	GALLONS PER MINUTE	1173	1187
k. How many other acres on this operation were irrigated using this field's irrigation system during the 2016 growing season? (Exclude this field.)	ACRES	1174	1188

3. What was the cost of the fuel or electricity used to irrigate this field?

(**Include operator, landlord, and contractor costs.**)

	DOLLARS & CENTS PER ACRE	OR TOTAL DOLLARS
	1189	1190
	. ____	. ____

4. Was any water purchased to irrigate this field? (Include landlord's share and purchases from all sources.)

YES - [Enter code 1 and continue.] NO - [Go to item 5.]

CODE

1191

a. What was the total cost for the water purchased for this field during the 2016 growing season? (Include operator, landlord, and contractor costs and ditch maintenance costs for this field.)

DOLLARS & CENTS PER ACRE

1193

OR TOTAL DOLLARS

1194

TOTAL DOLLARS

1201

5. [If SIPHON TUBES were used (item 2a = 10 or 11), ask--]

What would be the total cost to replace all the siphon tubes used on this field?

TOTAL DOLLARS

1202

6. [If POLY PIPE system was used (item 2a = 14) ask--]

What was the total amount spent for poly pipe used on this field during the 2016 growing season? (Include operator, landlord, and contractor costs.)

INCHES

1203

a. What was the average diameter of gated pipe used to irrigate this field?

FEET

1204

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

CODE

1205

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

YES - [Enter code 1 and continue] NO - [Go to item 9.]

NUMBER

1206

a. How many wells were used to irrigate this field?

INCHES

1207

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

FEET

1208

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.]

CODE

1210

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

YES - [Enter code 1 and continue] NO - [Go to item 9.]

ACRES

1211

e. Excluding this field, how many other acres on this operation were irrigated using the same wells during the 2016 growing season?

9. Was any additional mainline or lateral pipe used to carry water from the source to the system in this field? (Include underground pipe. Exclude any system pipe within the selected field.)

YES - [Continue] NO - [Go to item 10]

INCHES

1212

a. What was the average diameter (in inches) of the most common type of this additional pipe used?

FEET

1213

b. How many feet of this additional pipe were used to bring water to this field?

CONCLUSION

H

H

LOCATION OF SELECTED FIELD

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

2. What county is the selected corn field in?

COUNTY NAME

OFFICE USE
COUNTY FIPS CODE

0010

Field description

FOR STATES WITH GPS UNITS ONLY

Field location

N

LATITUDE

0054	_	_	_	_	_	_	_	_	_
<small>d d m m s s</small>									

W

LONGITUDE

0055	_	_	_	_	_	_	_	_	_
<small>d d d m m s s</small>									

3. [ENUMERATOR ACTION: Mark map to indicate where the selected corn field is located. Be sure the "X" marked on map is in the county identified above.]

4. We will need additional information to complete this study. We will contact you in February or March 2017 to collect it. I'll call you then to set up a time that is good for you.

5. To receive the complete results of this survey on the release date, go to www.nass.usda.gov/results/. Would you rather have a brief summary mailed to you at a later date?

YES = 1

CODE

0099

HH MM

0005

6. ENDING TIME [MILITARY]

RECORDS USE

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

a. [fertilizer data?]

YES = 1

b. [pesticide data?]

YES = 1

c. [majority of this expense data?]

YES = 1

CODE

0011
0012
0013

NUMBER

0041
0042
0043

SUPPLEMENTS USED

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

FERTILIZER APPLICATIONS

PESTICIDE APPLICATIONS

FIELD OPERATIONS

Reported by: _____	9910	9911	Telephone: (____) _____								
	<table style="margin: auto;"> <tr> <td style="text-align: center;">_</td> <td style="text-align: center;">_</td> <td style="text-align: center;">_</td> <td style="text-align: center;">_</td> </tr> <tr> <td style="text-align: center;"><small>M</small></td> <td style="text-align: center;"><small>M</small></td> <td style="text-align: center;"><small>D</small></td> <td style="text-align: center;"><small>D</small></td> </tr> </table>	_	_	_	_	<small>M</small>	<small>M</small>	<small>D</small>	<small>D</small>	16	
_	_	_	_								
<small>M</small>	<small>M</small>	<small>D</small>	<small>D</small>								

R. Unit	SSO 1	Optional Use		Eval.	Change	
9921	9907	9906	9916	9900	9985	
Response		Respondent		Mode		Enum.
1-Comp 2-R 3-Inac 4-Office Hold	9901	1-Op/Mgr 2-Sp 3-Acct/Bkpr 4-Partner 9-Other	9902	2-Tel 3-Face-to-Face	9903	9998