

# 2019 AGRICULTURAL RESOURCE MANAGEMENT SURVEY

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 Phase II



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## COTTON PRODUCTION PRACTICES AND COSTS REPORT FOR 2019

VERSION <b>11</b>	ID _____	TRACT <b>01</b>	SUBTRACT ___	C-TYPE <b>106</b>
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CONTACT RECORD		
DATE	TIME	NOTES

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

The information you provide will be used for statistical purposes only. Your responses 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 provisions of Title V, Subtitle A, Public Law 107-347 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**. You may skip any question(s) you prefer not to answer.

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 45 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.

<p style="text-align: center;">H H M M</p> <p><b>BEGINNING TIME</b> <span style="border: 1px solid black; padding: 2px 10px;">0004</span>                  [MILITARY] _____</p>	<p><b>SCREENING BOX</b></p> <div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto;">0006</div>
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*[Name, address and partners verified and updated if necessary]*

<b>POID</b> _____	<b>POID</b> _____
PARTNER NAME	PARTNER NAME
ADDRESS	ADDRESS
CITY                      STATE      ZIP                      PHONE NUMBER	CITY                      STATE      ZIP                      PHONE NUMBER
<b>POID</b> _____	<b>POID</b> _____
PARTNER NAME	PARTNER NAME
ADDRESS	ADDRESS

CITY	STATE	ZIP	PHONE NUMBER	CITY	STATE	ZIP	PHONE NUMBER
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**A**

**COTTON FIELD SELECTION**

**A**

**TOTAL PLANTED  
ACRES**

0050
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1. **How many acres of cotton did this operation plant for the 2019 crop year?** .....

*[If no acres were planted, review Screening Survey Information Form, make notes, then go to item 4 on back page.]*

*[If skip row cotton was planted, exclude the acreage in the skips.]*

2. **I will follow a simple procedure to make a random selection from the cotton fields planted for the 2019 crop.**

**TOTAL NUMBER OF  
FIELDS PLANTED**

**What is the TOTAL number of cotton fields that were planted on this operation?**

*[If only one field, enter "1" and go to item 5.]* .....

0020
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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 Operation Label’

**SELECTED FIELD  
NUMBER**

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.]

0021

5. **The field selected is** \_\_\_\_\_ *(field name/number/description).*  
**During this interview, the cotton questions will be about this selected cotton 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 cotton did this operation plant in this field for the 2019 crop? [If skip-row cotton was planted, exclude acreage in the skips.] ..... ACRES  
1301

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

[If YES, skip 1b and ask item 2]

b. Was this field transitioning into organic cotton production in 2019? ..... 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

[If field is CASH RENTED (item 2 = 2, 3 or 5), ask item 3, else go to item 4.]

3. What was the cash rent paid per acre for this 2019 COTTON 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 this field? ..... PERCENT  
1304

[If field is RENTED (item 2 = 2, 3, 4, or 5), ask--]

5. What was the total cost for all inputs provided by any landlord for the 2019 crop on the selected field? (Include the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, 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 2019 crop on the selected field? (Include the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, 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

8. On what date was this field planted? ..... MM DD YY  
1308

a. What was your yield goal for cotton lint at planting for this field? (Exclude pounds of seed cotton.) ..... POUNDS PER ACRE  
3316

9. What type of cotton was planted on this field? . . . . CODE  
1 Upland  
2 Pima-extra long staple or ELS ..... 3317

10. **What was the source and cost of---**

(**Include** operator, landlord, and contractor costs. **Include** cost of seed treatment and technology fee. **Exclude** any Bt seed payment received for participating in the Pink Bollworm program.)

- a. GMO/GE purchased seed? .....
- b. Non-GMO/GE purchased seed? .....
- c. Homegrown seed? .....

DOLLARS & CENTS PER UNIT	UNIT CODE		PERCENT of SEED PLANTED
	1=POUNDS	22=ACRE	
1214	23=APPROX 50 LB. BAG	1215	1216
1217	40 =250,000 SEED BAG	1218	1219
			1318

100%

CENTS PER POUND

3321

[If homegrown, ask---]

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

**UNIT CODES for Seeding Rate**  
 1 = POUNDS/ACRE  
 23 = 50 LB BAGS/ACRE  
 25 = SEEDS/ACRE  
 38 = SEEDS/FOOT  
 40 = 250,000 SEED BAGS/ACRE

UNITS

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

1313

3314

1 Drilled?
2 Planted in Conventional Rows?
3 Broadcast on this field?

CODE

1316

- a. What method of seeding did you use on this field? . . . . .

[If drilled or planted (item 11 = 1 or 2), ask---]

- b. What was the average cotton row width? .....

INCHES

1322

CODE

12. **Did this field have skip-row cotton?** .....

YES = 1

1323

[If no skip-row, go to item 13]

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

ROWS OF COTTON

BY

ROWS OF SKIP

1324

1325

INCHES

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

1326

ACRES

13. **How many acres in this field had to be replanted to cotton?**

(Acres replanted = Number of acres X the number of times replanted.) .....

1315

CODE

- 14. Was a hybrid cotton seed planted in this field? .....

YES = 1

1327

	<b>2019</b> Yes = 1	<b>2014</b> Yes = 1 N/A no cotton in field = 4
15. Did you plant GMO/GE seeds for the 2019 or 2014 crop years? .....	2300	2301

[If item 15 = 1 for either year, continue. Otherwise, go to item 17.]

	<b>2019</b> YES = 1	<b>2014</b> YES = 1
16. Did the cotton planted on this field have any of the following GMO/GE traits in 2019 or 2014? [Leave the second column blank if field was not planted with cotton in 2014.]--		
a. Lepidopteran Resistance (Single Mode of Action) .....	2302	2303
b. Lepidopteran Resistance (Pyramided Modes of Action) .....	2304	2305
c. Glyphosate Tolerance .....	2306	2307
d. 2, 4-D Tolerance .....	2308	2309
e. Dicamba Tolerance .....	2310	2311
f. Glufosinate Tolerance .....	2312	2313
g. Other HT Trait .....	2314	2315

	<b>2019</b> YES = 1	<b>2014</b> YES = 1 N/A No cotton in field = 4
17. Was a non-GMO/GE seed planted in-- .....	2316	2317

[If item 17 = 1 for either year, then continue. Otherwise, go to item 18]

	<b>2019</b> YES = 1	<b>2014</b> YES = 1 N/A No cotton in field = 4
a. Was this non-GMO/GE seed herbicide tolerant in-- .....	2318	2319

		<b>CODE</b>
18. For the 2019 cotton crop, did you purchase pre-treated seed or have the seed treated after purchase with --		2320
a. a fungicide (e.g., Trilex, Allegiance, or other seed treatments): .....	YES = 1	2321
b. a nematicide (e.g., Acceleron, Avicta, or AERIS seed treatment)? .....	YES = 1	2322
c. an insecticide (e.g., Poncho, Gaucho, Cruiser, Amparo seed treatment)? .....	YES = 1	

[If item 18c = 1 continue, otherwise go to item 20]

19. Did you use an "air delivery and/or vacuum planter (pneumatic)" for the seed purchased with an insecticide seed treatment? ..... YES = 1

[If item 19 = 1, ask--]

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

**SEED TREATMENT PRODUCTS CODE LIST for item 20 – SEED TREATMENT**

100 Acceleron	104 Apron	108 Avicta Complete	112 Gaucho Grande
101 Acceleron I	105 Cruiser	109 Aeris	113 Genero
102 Acceleron FI	106 Cruiser Dynasty	110 Aeris + Trilex Advanced	999 Other
103 Acceleron N	107 Avicta	111 Gaucho	3 Seed was not treated

20. Enter the appropriate product code from above (enter 3 if a seed treatment was not applied)... ..

21. Did you use a GMO/GE insect resistant seed variety? ..... YES = 1

[If item 21 = 1 continue, otherwise go to item 23]

a. 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 <input type="text" value="2327"/>
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22. What percent of the field was used as refuge in order to comply with Bt cotton insect resistant management guidelines? .....

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

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

a. How many ACRES in the cotton field were (or will be) harvested for lint? .....

(i) How many pounds of lint PER ACRE were harvested (do you expect to get if not harvested)? .....

b. How many ACRES in the cotton field were (will be) abandoned? .....

**CROP CODE LIST for item 25 – 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 <b>No crop planted during this period</b>
	20 Potatoes	31 Sweet Potatoes	

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

1			2	3	4	5
What crops were PLANTED on this field in---			Was this a cover crop?	How did you manage this crop?	Was this field irrigated?	Was this field no-tilled or strip-tilled? <sup>1/</sup>
SEASON AND YEAR	CROP NAME	CROP CODE	YES = 1	CODE	YES = 1	YES = 1
a. FALL of 2014? . . . . .		1343	1470	1471	2344	1345
b. SPRING/SUMMER of 2014? . . . . .		1369	1472	1473	2370	1371
c. FALL of 2013? . . . . .		1372	1474	1475	2373	1374
d. SPRING/SUMMER of 2013? . . . . .		1375	1476	1477	2376	1377
e. FALL of 2012? . . . . .		1378	1478	1479	2379	1380
f. SPRING/SUMMER of 2012? . . . . .		1381	1480	1481	2382	1383
g. FALL of 2011? . . . . .		1366	1482	1483	2367	1368
h. SPRING/SUMMER of 2011? . . . . .		1340	1484	1485	2341	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 2014, ask—]

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

DOLLARS &  
CENTS

1468	__	__
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## 26. 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 2019  <b>YES = 1</b>	3 For 2011-2019, how many years was this practice or plan used?  <b>NUMBER</b>	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?  <b>CODE</b>
			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  <b>CODE</b>	Financial assistance?  1 Environmental Quality Incentives Program (EQIP)? 2 Conservation Reserve Program (CRP)? 3 Conservation Stewardship Programs (CSP)? 4 Other Federal, State, local program  <b>CODE</b>	
a. Conservation tillage [include no-till/direct seeding, mulch till, and ridge till]. . . . .	706	716	726	736	746
b. Cover crops [include grasses, legumes, forbs, or other herbaceous plants for seasonal cover and conservation]. . . . .	707	717	727	737	747
c. Structural practices to conserve soil? [include grass waterways, terraces, grade stabilization, contour buffer strips, etc.]. . . . .	708	718	728	738	748
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]. . . . .	709	719	729	739	749
e. Conservation plan specifying practices to reduce soil erosion? . . .	702	712	722	732	742
f. Nutrient management plan specifying practices for fertilizer/manure application? . . . . .	703	713	723	733	743
g. Pest management plan to implement Integrated Pest Management (IPM) to control weeds, insects, or disease? . . . . .	704	714	724	734	744
h. Irrigation water management plan specifying irrigation practices? . . . . .	705	715	725	735	745

27. 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/ YES = 1	How many practices or practice enhancements are included in the contract? NUMBER	Does the contract include livestock related practices? YES = 1	During the past 4 years, was this field included in an application that was rejected or has not yet been funded? YES = 1
a. Environmental Quality Incentive Program (EQIP)	2236	2237	2238	2239
b. Conservation Security or Conservation Stewardship Programs (CSP)	2240	2241	2242	2243
c. Conservation Reserve Program (CRP)	2244	2245	2246	2247
d. Other Federal, State, Local or non-government source	2248	2249	2250	2251

<sup>1/</sup> [Include conservation program contracts that provide assistance for grass waterways, filter strips, riparian buffers, or similar practices on or adjoining this field.]

[In item 27 if you answered yes = 1 in column 1 or column 4 for any program continue, else go to item 30.]

28. In applying for the Conservation Program you listed in item 27, 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.] HOURS	What was the cost of the consultation? DOLLARS & CENTS	
a. Hire a consultant to help prepare the application? . . . . .	2252	2253	2254	_____
b. Receive assistance free of charge? [Include assistance received from USDA, and extension agent, an environmental organization, or a farm organization.] . . . . .	2255	2256		

29. In applying for and participating in the conservation program you listed in item 27, 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

30. **Did you apply for conservation funding** (through any Federal, State, or local program) **for this field in the last four years?** ..... **YES =** 2357  
1

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

31. **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	2358
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	2359
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	2360
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	2361
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	2362
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	2363
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	2364

32. **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 (HELC) 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  
1404

33. **Have you been notified by NRCS that this field contains a wetland?** ..... **YES = 1** CODE  
1405

34. **What is the slope of this field? . . .** 
 Nearly level (0 - 2%)  
 Even, moderate grade (3 – 9%)  
 Variable, moderate grade  
 Even, steep grade (over 10%)  
 Variable, steep grade
  ..... CODE  
2400

35. **What is the primary soil type of this field? . . . . .** 
 Loam  
 Clay  
 Sandy  
 Mixed
  ..... CODE  
2401

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

YES = 1

CODE

2402

[If YES, ask--]

YEAR

2403

a. What year was the subsurface drainage installed? .....

CUBIC FEET PER SECOND

OR

INCHES OF WATER REMOVED PER DAY

2404

2405

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

2406

37. 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.)		
		Source 1	Source 2	Source 3
a. Water-driven erosion. ....	2407	2417	2427	2437
b. Wind-driven erosion. ....	2408	2418	2428	2438
c. Soil compaction. ....	2409	2419	2429	2439
d. Poor drainage. ....	2410	2420	2430	2440
e. Low organic matter. ....	2411	2421	2431	2441
f. Water quality. ....	2412	2422	2432	2442
g. Other concerns. ....	2413	2423	2433	2443
h. No significant concerns. ....	2414	2424	2434	2444

38. Was the cotton in this field covered by Federal Crop Insurance in 2019?

CODE

YES – [Enter code 1 and continue.]

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

1385

a. Which coverage did you obtain? .....

- 1 Federal CAT (basic catastrophic insurance)
- 2 Stacked Income Protection Plan (STAX) only
- 3 Yield protection
- 4 Yield plus STAX
- 5 Yield plus SCO (supplemental coverage option)
- 6 Revenue protection
- 7 Revenue plus STAX
- 8 Revenue plus SCO
- 9 Other Federal Crop insurance

CODE

3386

**[If item 38a = 3, ask--]**

**PERCENT**

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

1387
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c. What was your price level of your buy-up coverage for this field? . . . . .

1388
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**[If item 38a = 6, 7, or 8, ask--]**

**PERCENT**

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

1389
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**C NUTRIENT or FERTILIZER APPLICATIONS---SELECTED FIELD**

**C**

	<b>CODE</b>	<b>EDIT TABLE</b>
1. <b>Were commercial nutrients or fertilizers applied to this field for the 2019 cotton crop?</b> <i>(Include those from operators, landlords, and contractors.)</i> ..... <b>YES = 1</b>	0202	0200

[If **COMMERCIAL** nutrient or fertilizer applied, continue; else go to item 6.]

2. <b>How many commercial nutrient or fertilizer applications were made to this field for the 2019 crop?</b> <i>(Include applications made by airplanes and custom applicators.)</i> .....	<b>NUMBER</b> 0203
--	-----------------------

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

**CHECKLIST**

<input type="checkbox"/> <b>INCLUDE</b> <input type="checkbox"/> Custom applied nutrients and fertilizers <input type="checkbox"/> Nutrients or fertilizers applied in the fall of 2014 and those applied earlier if this field was fallow in 2014. <input type="checkbox"/> Commercially prepared manure or compost	<input type="checkbox"/> <b>EXCLUDE</b> <input type="checkbox"/> Micronutrients <input type="checkbox"/> Unprocessed manure <input type="checkbox"/> Nutrients or fertilizers applied to previous crops in this field <input type="checkbox"/> Lime and Gypsum/landplaster
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<b>Office Use Lines in Table</b>	<b>TABLE 001</b>	0299
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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 <i>[Enter percentage analysis or actual pounds of plant nutrients applied per acre.]</i> <i>[Show Common Nutrients or Fertilizers in Respondent Booklet.]</i>				3 What quantity was applied per acre? <i>[Leave this column blank if actual pounds of nutrients were reported.]</i>	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? <i>[Refer to code list above.]</i>	7 How many acres were treated in this application?  <b>ACRES</b>
	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
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

<b>TABLE 000</b>	<b>LINE 00</b>
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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 2014. Exclude lime,

DOLLARS & CENTS PER ACRE

0221

OR TOTAL DOLLARS

0222

CODE

0218

6. Was gypsum applied to this field for the 2019 cotton crop? . . . . . YES = 1

7. Was a soil or plant tissue test performed on this cotton field in 2014 or 2019 for the 2019 crop?

YES [Continue.]  NO [Go to item 13.]

8. Was a soil test for phosphorus performed on this cotton field in 2014 or 2019 for the 2019 crop? . . . . . YES = 1

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

CODE

0225

POUNDS PER ACRE

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

0226

CODE

9. Was a soil test for nitrogen performed on this cotton field in 2014 or 2019 for the 2019 crop? . . . . . YES = 1

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

0227

POUNDS PER ACRE

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

0228

CODE

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

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

3225

PERCENT

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

3226

NUMBER

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

3227

[If item 10b is more than 1 ask---]

CODE

c. Based on these tests, is your Soil Organic Matter content: . . . . .

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

3228

11. Was a plant tissue test or leaf analysis for nutrient deficiency performed on this field in 2014 or 2019 for the 2019 crop? . . . . . YES = 1

0229

DOLLARS & CENTS PER ACRE

TOTAL DOLLARS

12. How much was spent for these soil and plant tissue tests on this field? *[Include landlord and contractor costs.]*.....

0230	<b>OR</b>	0231
------	-----------	------

a. If tests were done at no cost explain---

- |   |  |
|---|--|
| 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**

3231
------

**[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---

**CODE**

a. Results of a soil or plant tissue test?.....

**YES = 1**

0233
------

b. Crop consultant recommendation?.....

**YES = 1**

0234
------

c. Fertilizer dealer recommendation?.....

**YES = 1**

0235
------

d. Extension Service recommendation?.....

**YES = 1**

0236
------

e. Cost of nitrogen and/or expected commodity price?.....

**YES = 1**

0237
------

f. Contractor recommendation?.....

**YES = 1**

0238
------

g. Routine practice (operator's own determination based on past experience, yield goal, etc.)?.....

**YES = 1**

0239
------

**CODE**

14. Is lime ever applied to this field?.....

**YES = 1**

0242
------

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

**YEARS**

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

0243
------

**TONS PER ACRE**

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

0244
------

**CODE**

c. Was **lime** applied to this field in 2014 or 2019 for the 2019 crop?.....

**YES = 1**

0240
------

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

**PERCENT**

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

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 2019 cotton crop? (Exclude commercially prepared manure.)

CODE

0246

YES - [Enter code 1 and continue]

NO - [Go to item 17]

ACRES

0247

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

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

- 1 Tons
- 2 Gallons
- 3 Bushels

CODE

0248

AND

UNITS PER ACRE

0249

OR

TOTAL UNITS

0250

MILES

0251

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

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

- 1 Tons
- 2 Gallons
- 3 Bushel

CODE

0252

AND

TOTAL UNITS

0253

e. Of the total manure applied to this field for the 2019 crop, what was the percent of manure applied---

PERCENT

(i) in the fall before planting? .....

+

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 dr

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

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

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

	DOLLARS & CENTS PER ACRE	OR	TOTAL DOLLARS
	0284		0285

(i) Did you hire someone to custom apply the manure? ..... **YES = 1**

	CODE
	0286

**[If YES, ask---]**

(ii) 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	OR	TOTAL DOLLARS
	0287		0288

k. Was any manure that was applied to this field tested for nutrient content prior to application? ..... **YES = 1**

	CODE
	0261

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

	CODE
	0262

**[If YES, ask---]**

(i) By what percent did you reduce the commercial nitrogen fertilizer application rate on this field? ..... **PERCENT**

0263
------

m. Did you adjust the cotton harvest date for this field due to the application of manure? ..... **YES = 1**

	CODE
	0280

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

	CODE
	0264

**[If item 16 is YES, ask---]**

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

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

	CODE
	0265

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

0266
------

17. Was compost applied to this field for the 2019 cotton crop?

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

	CODE
	0267

ACRES

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

0268	.____
------	-------

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

	CODE		UNITS PER ACRE	OR	TOTAL UNITS
1 Tons	0269	AND	0270		0271
2 Cubic Yards					

[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 ( <i>municipal sludge</i> )? 8 Food waste? 9 Crop? [ <i>Specify: _____</i> ] 10 Other? [ <i>Specify: _____</i> ]	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? ( <i>Operator received payment for accepting the compost</i> )	CODE	0272
--	------	------

[If item 17d = 2, ask---]

(i) 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

(ii) Did you hire someone to custom apply the compost? .....

	CODE
YES = 1	0275

[If YES, ask---]

(a) 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

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

(iii) What is the distance between the compost storage/production location and this field? .....

	MILES
	0291

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

		CODE
a.	Change the type of commercial fertilizer products applied on this field [e.g. less anhydrous ammonia and more urea]. . . . .	1226
	<b>YES=1</b>	
b.	Manage fertilizer use more closely, with such practices as soil testing, split applications, variable rate applications, or soil incorporation on this field? . . . . .	1228
	<b>YES=1</b>	
c.	Change your crop rotation [e.g. plant cotton on this field rather than usual crop rotation]? . . . . .	1227
	<b>YES=1</b>	
d.	Reduce the application of commercial nitrogen fertilizer? . . . . .	1224
	<b>YES=1</b>	

**[If YES, ask--]**

		PERCENT
(i)	By what percent did you reduce the amount of commercial nitrogen fertilizer applied for 2019? . . . . .	1225

---

**NOTES**

**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 2019 cotton crop, including both custom applications and applications made by this operation.

CODE	EDIT TABLE
0302	0300

1. Were any herbicides, insecticides, fungicides or other biocontrols or pesticides used on this cotton field for the 2019 crop? . . . . . YES = 1

[Probe for applications in the fall of 2014 (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
------------------------------	--------------	------

LINE	CHEMICAL PRODUCT NAME	2	3	4	5	6	OR	7	8
		What products were applied to this field? <i>[Show product codes from Respondent Booklet.]</i>	Was this product bought in liquid or dry form? <i>[Enter L or D]</i>	Was this part of a tank mix? <i>[If tank mix, enter line number of first product in mix.]</i>	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 this field?	<i>[Enter unit code.]</i> 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 <i>(Herbicide, Insecticide Fungicide, etc.)</i>	EPA No. or Trade name and Formulation	Form Purchased <i>(Liquid or Dry)</i>	Where Purchased <i>[Ask ONLY if EPA No. cannot be reported.]</i>



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 2014 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
3034 _____		3035

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
3036 _____		3037

**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.

5. Was the cotton that was grown in this field in 2019 covered by the boll weevil eradication program (BWEP)? . . . . .

YES = 1	0325
---------	------

[If YES, ask--]

a. What phase has the eradication program reached in this field? . . . . .

1 Active eradication phase? 2 Post-eradication phase?	0336
--	------

b. For 2019, what was your assessment on this field to participate in the BWEP: (**Include** operator, landlord and contractor charges for 2019.) . . . . .

DOLLARS & CENTS PER ACRE	OR	DOLLARS & CENTS PER BALE
0337 _____		0338

c. How did the level of secondary cotton pests in 2019 compare with the level prior to participating in the BWEP? (e.g. best armyworm; budworms; plant bugs; or aphids). . . . .

1 Increased? 2 Decreased? 3 No Change?	0339
--	------

ASK FOR CALIFORNIA AND TEXAS ONLY

6. Was the cotton in this field covered by an area-wide pink bollworm eradication or suppression program (PBWP)? .....

YES = 1

CODE

0341

[If YES, ask--]

DOLLARS & CENTS PER ACRE

OR

DOLLARS & CENTS PER BALE

a. For the current crop year, what was the costs on this field to participate in the PBWP?.....

0342

0343

(Include operator, landlord, and contractor costs per acre and/or per bale charges for this year's cotton. If you receive a credit on your PBWP assessment for planting Bt cotton to control pink bollworm, report only the amount of the assessment you, your landlord, or your contractor paid.)



**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 2019 cotton 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 cotton field BEFORE weeds emerged? ..... | YES = 1 | 0803 |
| 5. Were herbicides applied to this cotton field AFTER weeds emerged? .....  | YES = 1 | 0805 |

- |   |   |       |      |      |
|---|---|-------|------|------|
| 6. In 2019, 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.]<br>2 By conducting general observations while performing routine tasks [Enter code 2 and go to item 9.]<br>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? [Exclude traps checked as part of either BWEP or PBWP]. ..... | YES = 1 | 0809 |
| a. Did you measure the damage of budworm or bollworm infestations on this field?   | YES = 1 | 2450 |

- [If item 7a = 1, ask--]**
- |  |  |       |      |
|--|--|-------|------|
| b. If traps were used, what was the average insect count per acre? ..... |  | COUNT | 2451 |
|--|--|-------|------|

- |  |   |       |      |      |
|--|---|-------|------|------|
| (i) If boll damage scores were recorded (1 to 4), what was the average boll damage score per acre? ..... | 1 Damage in 1 locule<br>2 Damage in 2 locules<br>3 Damage in 3 locules<br>4 Damage in all locules<br>5 Not applicable | ..... | CODE | 2452 |
|--|---|-------|------|------|

8. Was scouting for pests done in this field due to---

CODE

- a. a pest advisory warning? ..... YES = 1
- b. a pest development model? ..... YES = 1

0810
0811

1	YES = 1	2	3
		[If YES, ask---] <b>What was the infestation level for [column 1]?—</b>  1 Worse than normal 2 Normal 3 Less than normal	[If column 1 = YES, ask---] <b>Who did the majority of the scouting for [column 1]?</b>  1 Operator, partner or family member 2 An employee 3 Farm supply or chemical dealer 4 Independent crop consultant or commercial scout
<b>9. Was this cotton field scouted for--</b>		<b>CODE</b>	<b>CODE</b>
a. Weeds? .....	0812	0813	0814
b. Insects or mites? .....	0815	0816	0817
c. Diseases? .....	0818	0819	0820

[If scouted by crop consultant or commercial scout, ask item 10; 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
------

OFFICE USE

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

0333
------

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

CODE

YES = 1

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 use field mapping of previous weed problems to assist you in making weed management decisions? .....

YES = 1

0825
------

14. **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 ( <i>using conventional tillage</i> )? . . . . .	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. Maintain buffer strips or border rows to isolate organic cotton from non-organic crops or land, or did you take a buffer harvest? . . . . .	YES = 1	0856
p. Use a flamer to kill weeds? . . . . .	YES = 1	0857
q. Plant earlier or later to avoid weeds? . . . . .	YES = 1	0865
15. <b>Were any beneficial organisms (insects, nematodes, fungi) applied or released in this field to manage pests?</b> . . . . .	YES = 1	0853
16. <b>Were floral lures, attractants, repellants, pheromone traps or other biological pest controls used on this field?</b> . . . . .	YES = 1	0858

[If item 15 or item 16 is YES, ask--]

a. **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
0859		0860

		CODE
17. <b>Was a trap crop (<i>excluding fallow</i>) grown to help manage insects in this field?</b> . . . . .	YES = 1	0863

		CODE
18. <b>Was this field left in fallow in 2014 to help manage insects on this field?</b> . . . . .	YES = 1	0864

19. Were water management practices such as irrigation scheduling, controlled drainage, or treatment of retention water used on this field to manage pests 0861

20. Did you cultivate this field for weed control? ..... YES = 1 2453

[If YES, ask---] NUMBER

a. How many times? ..... 2454

CODE

21. 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 Bales 2 Pounds		0828	AND	0829	OR	0830
--	---------------------	--	------	-----	------	----	------

NUMBER OF YEARS

22. If you used Bt seeds on this field in 2019, indicate the number of consecutive years you have planted Bt seeds. [Note: A producer who used Bt cotton in 2015 and 2014, but conventional cotton in 2013, has used Bt cotton for "2" consecutive years.] ..... 0831

[If 22 is greater than 1, ask---]

a. If you have ever switched from a Bt seed with a single mode of action to a Bt seed with multiple (pyramided) modes of action, indicate the year that this change was made..... 0832

CODE

23. Have you ever planted any glyphosate-resistant (GR) crop (e.g. Roundup Ready corn or soybeans) on this field? ..... YES = 1 0867

[If item 23 = YES, continue. If item 23 = NO, go to Section F.]

YEAR

a. What year did you first plant any GR crop on this field? ..... 0868

CODE

24. Have you noticed a decline in the effectiveness of glyphosate (e.g. Roundup) in controlling weeds in this field? ..... YES = 1 0834

[If item 24 = YES, continue. If item 24 = NO, go to item 27.]

YEAR

a. What was the first year you noticed a decline in effectiveness of glyphosate in controlling weeds on this field? ..... 0835

25. 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 0837

b. change tillage practices? ..... YES = 1 0839

26. 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. . . . .	1840	1847	1854	1861	1868
b. fluometuron. . . . .	1841	1848	1855	1862	1869
c. acetochlor/S-metolachlor. . . . .	1842	1849	1856	1863	1870
d. paraquat. . . . .	1843	1850	1857	1864	1871
e. 2, 4-D. . . . .	1844	1851	1858	1865	1872
f. diuron. . . . .	1845	1852	1859	1866	1873
g. herbicides other than those asked above. . . . .	1846	1853	1860	1867	1874

27. 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	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 27 column 2 contains at least one "1", ask: otherwise go to Section F.]

28. 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

0088

Completion Code for Pest Management Data	
1 Incomplete/Refusal	0500

1. Including custom operations, I need to list field work performed by machines on this field for the 2019 cotton 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 2014, list operations starting with fall 2013];
- ▶ 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	
<b>Include</b>	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
<input type="checkbox"/>	Module Building
<input type="checkbox"/>	Hauling from field to gin
<b>Exclude</b>	
<input type="checkbox"/>	Lime & Gypsum/landplaster applications
<input type="checkbox"/>	Non-Commercial Manure applications & Compost

LINE No.	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 7 Bales 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, module building, or hauling? [Example: backhoes, disk border maker, ditcher, rear mounted blade, trucks, wagons, forklifts, etc.] HOURS	10 Which Power Source was used? <sup>1/</sup>  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
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 this field to produce the 2019 cotton crop.  
 (**Exclude** labor that was reported for field work performed by machines.)

TYPE OF WORKERS	How many hours did (type of worker) spend on this field---		
	a.	b.	c.
	scouting for weeds, insects and diseases? <b>HOURS</b>	irrigating? <b>HOURS</b>	performing other work by hand? <b>HOURS</b>
You (the operator)	1101	1102	1103
Partner(s)	1104	1105	1106
Unpaid workers	1107	1108	1109
Paid part-time or seasonal workers ( <b>Exclude</b> custom and contract labor)	1110	1111	1112
Paid full-time workers ( <b>Exclude</b> 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
------

[If YES, 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 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 2019 cotton crop.**

<p>1</p> <p><b>CUSTOM SERVICE</b></p> <p><b>Which of the following services were performed for the 2019 cotton crop on this field?</b></p>	<p>2</p> <p><b>Including operator, landlord, and contractor costs, how much was spent for [column 1] on this field for the 2019 cotton crop?</b></p> <p><b>DOLLARS &amp; CENTS PER ACRE</b></p>
<p>✓ ← [Check box for each service performed; refer to item 1 if necessary.]</p>	



<input type="checkbox"/> a. Custom land preparation and/or shaping $\frac{\text{Cost per hour} \times \text{Total hours}}{\text{Total acres in the field}} = \text{Dollars \& cents per acre}$	1121
<input type="checkbox"/> b. Custom cultivating?	1122
<input type="checkbox"/> c. Custom planting and/or reseeding?	1123
<input type="checkbox"/> d. Custom harvesting?	1124
<input type="checkbox"/> e. Custom module building? $\frac{\text{Dollars \& cents per unit} \times \text{Total units hauled from field}}{\text{Acres harvested in field}} = \text{Dollars \& cents per acre}$	1125
<input type="checkbox"/> f. Custom hauling from field to gin? $\frac{\text{Dollars \& cents per unit} \times \text{Total units hauled from field}}{\text{Acres harvested in field}} = \text{Dollars \& cents per acre}$	1126
<i>[If custom harvesting, module building, and hauling from field to gin cannot be separated, ask--]</i>	
<input type="checkbox"/> g. Custom harvesting, module building, and hauling from field to gin? $\frac{\text{Dollars \& cents per unit} \times \text{Total units hauled from field}}{\text{Acres harvested in field}} = \text{Dollars \& cents per acre}$	2127

**[Note: Do not report cotton ginning costs. If harvesting, module building, and/or hauling costs cannot be separated from ginning costs, report the nonresponse code (-1) for those costs that cannot be separated.]**

**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 ( <b>Exclude</b> any activity for the BWEF or PBWP)? . . . . .	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 cotton field? . . . . .	2460

**[If YES, continue; else go to Section G]**

**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.**

	1 Tool Used YES = 1	2 Collected with GPS YES = 1	3 Data was/will be mapped to create a map Yes = 1
a. Yield monitor. . . . .	2461	2462	2463

b. Soil tests on core sample (performed on-farm or sent out to a laboratory). . . . .	2464	2465	2466
c. Soil sensor tests. . . . .	2467	2468	2469
d. Hard-wired crop condition sensors. . . . .	2470	2471	2472
e. Wireless crop condition sensors. . . . .	2473	2474	2475
f. Drones, aircraft or satellites. . . . .	2476	2477	2478
g. Custom service applications (data from completed work on your field). . . . .	2479	2480	2481
h. Public data downloaded from online sources. . . . .	2482	2483	2484

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

		CODE
a. Did you access the data collected for this field on a --		
(i) Paper hard copy? . . . . .	YES = 1	2485
(ii) Personal computer? . . . . .	YES = 1	2486
(iii) Mobile device? . . . . .	YES = 1	2487
b. Did you access the data collected from this field through an agricultural technology provider website? . . . . .	YES = 1	2488

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

c. Did you opt-out of your agricultural technology provider website sharing data collected From this field with any third party? . . . . .	YES = 1	2489
d. Did you share any of the data collected from this field with a third party through an agricultural technology provider website? . . . . .	YES = 1	2490

12. Did you obtain crop management recommendations (data interpretation) based on that data you collected from--  
[Enter code "1" for all that apply.]

a. Input dealers? . . . . .	YES = 1	2491
b. Integrated input providers? . . . . .	YES = 1	2492
c. Custom service providers? . . . . .	YES = 1	2493
d. USDA/University extension services? . . . . .	YES = 1	2494

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

- (i) monitor crop moisture content to determine need for crop drying? ..... YES = 1
- (ii) add/improve tile drainage? ..... YES = 1
- (iii) negotiate new crop leases? ..... YES = 1
- (iv) other uses [specify: ] \_\_\_\_\_ ..... YES = 1

CODE	
	1140
	1141
	1144
	1147

14. Was any of the following GPS-enabled (Global Positioning System) equipment used to produce crops on this field? [Enter code "1" for all that apply.]

- a. Guidance auto-steering (excluding Light Bar)? ..... YES = 1
- b. Light Bar? ..... YES = 1
- c. Variable rate application for seeding? ..... YES = 1
- d. Variable rate application for fertilizer/lime? ..... YES = 1
- e. Variable rate application for pesticide applications? ..... YES = 1
- f. "Smart" technologies like Google Glass or other head-up cab control displays? ..... YES = 1
- g. Other GPS-enabled equipment? ..... YES = 1

CODE	
	1148
	1149
	1158
	1152
	1159
	1150
	1151

ACRES

1. How many acres in this field were irrigated for the 2019 cotton crop?

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

1160
------

2. Now, I have some questions about irrigation systems and water used on this field for the 2019 cotton crop.

↓	UNIT	SYSTEM 1	SYSTEM 2
a. What type(s) of irrigation system(s) was (or were) used to irrigate this field? [Show <b>System Type Codes</b> in the Respondent Booklet. Enter <b>System Type Code</b> 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? ( <b>Include ALL water used from both on-farm and off-farm sources.</b> ) . . . . .	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 <b>total</b> number of <b>hours</b> this system was used to apply water to this field during the cotton 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 cotton growing season using this system? ( <b>Include any pre-plant irrigation.</b> ) . . . . .	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 2019 growing season? ( <b>Exclude this field.</b> ) . . . . .	ACRES	1174	1188

DOLLARS & CENTS  
PER ACRE OR TOTAL DOLLARS

3. What was the cost of the fuel or electricity used to irrigate this field? (**Include operator, landlord, and contractor costs.**) . . . . .

1189
------

1190
------

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

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

1191

a. What was the total cost for the water purchased for this field during the 2019 growing season? (*Include* operator, landlord, and contractor costs and ditch maintenance costs for this 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 this 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 this field during the 2019 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 this field? . . . . .

INCHES

1203

FEET

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

1204

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

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

CODE

1205

a. How many wells were used to irrigate this 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?

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

CODE

1210

e. Excluding this field, how many other acres on this operation were irrigated using the same wells during the 2019 growing season? . . . . .

ACRES

1211

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 Conclusion]

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

INCHES

1212

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

FEET

1213

---

**NOTES**

# CONCLUSION

**LOCATION OF SELECTED FIELD**

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

2. What county is the selected cotton field in?.....

COUNTY NAME	OFFICE USE COUNTY FIPS CODE
	0010

Field description.....

**FOR STATES WITH GPS UNITS ONLY**

Field location.....

	N	LATITUDE	W	LONGITUDE
		0054		0055
		<small>d d . m m . s s</small>		<small>d d d . m m . s s</small>

3. [ENUMERATOR ACTION: Mark map to indicate where the selected cotton 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 2016 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/](http://www.nass.usda.gov/results/). Would you rather have a brief summary mailed to you at a later date?.....

	CODE
YES = 1	9990

6. ENDING TIME [MILITARY].....

HH MM
0005

**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

**SUPPLEMENTS USED**

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

NUMBER
FERTILIZER APPLICATIONS 0041
PESTICIDE APPLICATIONS 0042
FIELD OPERATIONS 0043

Reported by: _____	9910	9911
	<small>M M D D</small> 15	Telephone: (____) _____

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	9901	1-Op/Mgr	9902	2-Tel	9903	9998	9989		
2-R		2-Sp		3-Face-to-Face					
3-Inac		3-Acct/Bkpr							
4-Office Hold		4-Partner							
		9-Other							
								Eval.	Change
								9900	9985