



**AGRICULTURAL RESOURCE MANAGEMENT SURVEY
SORGHUM PRODUCTION PRACTICES
AND COSTS REPORT**



**NATIONAL
AGRICULTURAL
STATISTICS
SERVICE**

for 2019

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VERSION	ID	TRACT	SUBTRACT	T-TYPE	TABLE	LINE
3	_____	01	____	0	000	00



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 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	0004
<i>[MILITARY]</i>	_____
	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

SORGHUM FIELD SELECTION

A

TOTAL PLANTED ACRES

0050	.____
------	-------

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

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

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

TOTAL NUMBER OF FIELDS PLANTED

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

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

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 sorghum questions will be about this selected sorghum field.

[Be sure the operator can identify the selected field.]

OFFICE USE
OY Field Substituted

0022

B FIELD CHARACTERISTICS---SELECTED FIELD

B

1. How many acres of sorghum did this operation plant in this field for the 2019 crop? 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 sorghum production in 2019? YES = 1 CODE
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 2019 sorghum 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 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. On what date was this field planted? MM DD YY
1308

8. Was the sorghum on this field planted with the intention of being harvested as---

1 Grain	CODE	1327
2 Silage			
4 Seed			
25 Other			

a. [If item 8 = 1, ask---]
What was the intended purpose for the grain---

1 Human Food	1316
2 Ethanol		
3 Feed		
4 Other [Specify _____]		
5 Unknown (delivered to elevator)		

UNIT CODES

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

UNITS PER ACRE

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

1322	1323
------	------

INCHES

9. What was the average sorghum row width?.....

1312

UNIT CODE

- 1 = Pounds
- 2 = CWT
- 4 = Bushels
- 23 = 50 Pound Bags

UNITS PER ACRE

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

1313	1314
------	------

ACRES

11. How many acres in this field had to be replanted to sorghum?

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

1315

UNIT CODE

- 1 = Pound
- 2 = CWT
- 4 = Bushel
- 22 = Acre
- 23 = 50 Pound Bag

DOLLARS & CENTS PER UNIT

12. 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 any seed technology fee.).....

1319	1320
------	------

13. Was the sorghum in the field produced under a production contract?
 (Exclude sorghum sold under a marketing contract.) YES = 1

CODE

1329

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

1328

15. Now I need information about the acres harvested (or to be harvested) and the yields from this field.

		1 What yield per acre did you (or do you expect to) get for sorghum---	2 UNIT CODE
ACRES		UNITS PER ACRE	CODE
a. harvested for grain?	1346	1347	1348
b. harvested for grain, ratoon crop?	1336	1337	1338
c. harvested for silage or green chop?	1349	1350	TONS
d. harvested for silage or green chop, ratoon crop?	1352	1353	TONS
e. harvested for commercial seed contract?	1431	1432	1433
f. abandoned?	1351		
g. used for some other purpose?	1439		

16. Did any livestock graze this sorghum field after harvest of the 2019 sorghum crop?
 YES - [Enter code 1 and continue] NO - [Go to item 18].

CODE

1400

17. What type of livestock grazed this sorghum field after harvest of the 2019 sorghum crop?

1 Cattle
2 Sheep
3 Other [Specify: _____]

CODE

1361

a. About how many **head** of livestock (item 17) grazed this sorghum field?

HEAD

1362

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

DAYS

1363

CROP CODE LIST for item 18 – 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
	20 Potatoes	31 Sweet Potatoes	during this period

18. Next, I need to know what crops were previously PLANTED on the majority of this field, including cover crops.

1			2
What crops were PLANTED on this field in---			Was this field no-tilled? 1/
SEASON AND YEAR	CROP NAME	CROP CODE	YES = 1
a. FALL of 2010?		1343	1345
b. SPRING/SUMMER of 2010?		1369	1371
c. FALL of 2009?		1372	1374
d. SPRING/SUMMER of 2009?		1375	1377
e. FALL of 2008?		1378	1380
f. SPRING/SUMMER of 2008?		1381	1383
g. FALL of 2007?		1366	1368
h. SPRING/SUMMER of 2007?		1340	1342

1/ Soil and previous crop residue left undisturbed from harvest to planting.

i. [If a cover crop was planted in Spring/Summer/Fall 2010, ask--]

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

**DOLLARS &
CENTS
PER ACRE**

1468

. _ _

19. In 2019, did your land-use practices for this field include any of the following---

1 LAND-USE PRACTICE	2 Was this practice used? YES = 1	3 What year was this practice first used? YEAR	4 Was (or will there be) an incentive or cost-share received from: 1 Environmental Quality Incentives Program (EQIP)? 2 Conservation Security or Conservation Stewardship Programs (CSP)? 3 Conservation Reserve Program (CRP)? 4 Any other Federal, State, Local or non-government source? CODE
a. Structures for soil erosion control?	1421		
(i) Terraces.	1420	1441 _ _ _ _ _	1451
(ii) Grade stabilization structures.	1422	1442 _ _ _ _ _	1452
b. Structures for storm water runoff control/handling?	1423		
(i) Grassed waterways.	1438	1443 _ _ _ _ _	1453
(ii) Structures for water control basins.	1424	1444 _ _ _ _ _	1454
c. Filter strips or other conservation buffers?	1425		
(i) Filter strips.	1426	1445 _ _ _ _ _	1455
(ii) Field borders.	1427	1446 _ _ _ _ _	1456
(iii) Riparian buffers (<i>i.e., grass buffers</i>).	1428	1447 _ _ _ _ _	1457
d. Other Practices?	1435		
(i) Contour farming and strip cropping.	1434	1448 _ _ _ _ _	1458
(ii) Conservation tillage / no-till.	1437	1449 _ _ _ _ _	1459
(iii) Other Practices [<i>Specify: _____</i>] . . .	1436	1450 _ _ _ _ _	1460

OFFICE USE

1440

20. 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.)

CODE

(A “written plan” is a plan prepared in accordance with Federal, State, or district standards.)

..... **YES = 1**

1404

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

1405

22. During 2019, did any written plan of the following types cover this field---

(Be sure to include soil conservation plans required under Highly Erodible Land Conservation (conservation compliance) provisions. Producers who have been notified of highly erodible land are subject to HELC requirements and must have (and apply) a written soil conservation plan to be eligible for most farm program payments.)

(A “written plan” is a plan prepared in accordance with Federal, State, or district standards.)

<p style="text-align: center;">1</p> <p style="text-align: center;">WRITTEN PLAN TYPE</p>	<p style="text-align: center;">2</p> <p style="text-align: center;">Was this type of written plan used?</p> <p style="text-align: center;">YES = 1</p>	<p style="text-align: center;">3</p> <p style="text-align: center;">What year was this plan implemented?</p> <p style="text-align: center;">YEAR</p>	<p style="text-align: center;">4</p> <p style="text-align: center;">For any practice that is part of this plan, was (or will there be) an incentive or cost-share payment received from:</p> <p>1 Environmental Quality Incentives Program (EQIP)?</p> <p>2 Conservation Security or Conservation Stewardship Programs (CSP)?</p> <p>3 Conservation Reserve Program (CRP)?</p> <p>4 Any other Federal, State, Local or non-government source?</p> <p style="text-align: center;">CODE</p>
<p>a. Conservation plan specifying practices to reduce soil erosion?</p>	<p>1408</p>	<p>1409</p> <p style="text-align: center;">_ _ _ _ _</p>	<p>1461</p>
<p>b. Comprehensive nutrient management plan specifying practices for applying both fertilizer and manure?</p>	<p>1410</p>	<p>1411</p> <p style="text-align: center;">_ _ _ _ _</p>	<p>1462</p>
<p>c. Nutrient management plan specifying practices for land application of manure only?</p>	<p>1412</p>	<p>1413</p> <p style="text-align: center;">_ _ _ _ _</p>	<p>1463</p>
<p>d. Pest management plan to implement Integrated Pest Management (IPM) practices to control weeds, insects, and/or plant diseases?</p>	<p>1414</p>	<p>1415</p> <p style="text-align: center;">_ _ _ _ _</p>	<p>1464</p>
<p>e. Irrigation water management plan specifying practices for applying or conserving irrigation water?</p>	<p>1416</p>	<p>1417</p> <p style="text-align: center;">_ _ _ _ _</p>	<p>1465</p>

23. Was the sorghum in this field covered by Federal Crop Insurance in 2019?

CODE

YES - [Enter code 1 and continue] NO - [Go to item 24].

1385

CODE

a. Which coverage did you obtain? . . .

- 1 Federal CAT (basic catastrophic insurance)
- 2 Buy-up above Federal CAT yield and/or price level
- 3 Revenue insurance
- 4 Organic plan insurance
- 5 Other Federal Crop insurance

1386

PERCENT

(i) [If item a = 3, ask---]

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

1389

YEAR

b. In what year did you (the operator listed on the label) first enroll this field in the Federal crop insurance program?

1387

BUSHEL PER ACRE

c. What is the 2019 Approved APH (actual production history) yield for this field?

1388

DOLLARS & CENTS PER ACRE

OR

TOTAL DOLLARS

d. What was the premium paid for Federal crop insurance for this field in 2019? (Exclude any sign-up fee).

1390

1391

CODE

e. Did you (or will you) collect an indemnity payment for this field from federal crop insurance during 2019?

YES = 1

1392

24. Was the sorghum in this field covered by private crop insurance in 2019 (hail, wind, freeze, etc.)?

CODE

YES - [Enter code 1 and continue] NO - [Go to Section C].

1393

DOLLARS & CENTS PER ACRE

OR

TOTAL DOLLARS

a. What was the premium paid for private crop insurance for this field in 2019? (Exclude any sign-up fee).

1395

1396

YEAR

b. In what year did you (the operator listed on this label) first purchase private crop insurance for this field?

1397

CODE

c. Did you (or will you) collect an indemnity payment for this field from private crop insurance during 2019?

YES = 1

1394

NOTES

C NUTRIENT or FERTILIZER APPLICATIONS---SELECTED FIELD

C

1. Were commercial nutrients or fertilizers applied to this field for the 2019 sorghum crop? YES = 1	CODE 0202	EDIT TABLE 0201
--	--------------	--------------------

2. [If COMMERCIAL nutrient or fertilizer applied, continue; else go to item 7.]	NUMBER
3. How many commercial nutrient or fertilizer applications were made to this field for the 2019 crop? (Include applications made by airplanes and custom applicators.)	0203

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

CHECKLIST		T-TYPE	TABLE
<input checked="" type="checkbox"/> INCLUDE	<input checked="" type="checkbox"/> EXCLUDE	2	001
<input type="checkbox"/> Custom applied nutrients or fertilizers	<input type="checkbox"/> Micronutrients		
<input type="checkbox"/> Nutrients or fertilizers applied in the fall of 2010 and those applied earlier if this field was fallow in 2010	<input type="checkbox"/> Unprocessed manure		
<input type="checkbox"/> Commercially prepared manure or compost	<input type="checkbox"/> Lime and gypsum/landplaster	LINE 99	OFFICE USE LINES IN TABLE 0213

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	P2O5 Phosphate	K2O Potash	S Sulfur					
01	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__
02	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__
03	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__
04	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__
05	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__
06	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__
07	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__
08	0205	0206	0207	0214	0208	0209	0210	0211	0212 .__

T-TYPE 0	TABLE 000	LINE 00
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5. **Were any nutrients or fertilizers applied by custom applicators?**

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

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

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

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 6.]

**DOLLARS & CENTS
PER ACRE**

OR TOTAL DOLLARS

0219

0220

6. **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 materials 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 2010. Exclude lime, gypsum, purchased manure and purchased compost.*) . . .

**DOLLARS & CENTS
PER ACRE**

OR TOTAL DOLLARS

0221

0222

CODE

0218

7. **Was gypsum applied to this field for the 2019 sorghum crop?** **YES = 1**

8. **Was a soil or plant tissue test performed on this sorghum field in 2010 or 2019 for the 2019 crop?**

- YES** [Continue] **NO** [Go to item 13]

CODE

0225

9. **Was a soil test for phosphorus performed on this sorghum field in 2010 or 2019 for the 2019 crop?** **YES = 1**

a. [If phosphorus test done, ask---]

POUNDS PER ACRE

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

0226

CODE

0227

10. **Was a soil test for nitrogen performed on this sorghum field in 2010 or 2019 for the 2019 crop?** **YES = 1**

a. [If nitroaen test done, ask---]

POUNDS PER ACRE

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

0228

CODE

0229

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

**DOLLARS & CENTS
PER ACRE**

OR TOTAL DOLLARS

0230

0231

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

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 6

CODE

0232

13. [ENUMERATOR ACTION: Refer to the Fertilizer Table, column 2. If nitrogen (N) was applied, complete items 14 and 15. If NO nitrogen applied, go to item 16.]

14. 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

15. Did you purchase any commercial nitrogen fertilizer applied to this field under contract or otherwise pre-purchase the fertilizer at a pre-determined price prior to planting?

CODE

	YES = 1	0223
a. [If YES, ask--] What month prior to planting for the 2019 crop did you contract for the fertilizer used on this field? [Enter code "1" for January, "2" for February, etc.]		0224

16. Is lime ever applied to this field?

CODE

	YES = 1	0242
--	---------	------

[If no lime applied, go to item 17; 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 2010 or 2019 for the 2019 crop?	YES = 1	0240
--	---------	------

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

PERCENT

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
---	--	------

17. Was non-commercial (unprocessed) manure (from own farm, from a neighbor's farm, etc.) or other organic material (excluding compost) applied to this field for the 2019 sorghum crop? (Exclude commercially prepared manure.)

YES - [Enter code 1 and continue]

NO - [Go to item 19].

CODE
0246

ACRES

0247

a. To how many acres in this field was manure applied?

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

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 2019 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?	CODE 0259
2 Dairy cattle?	
3 Hogs?	
4 Sheep?	
5 Poultry?	
6 Equine?	
7 Biosolids (municipal sludge)?	
8 Food waste?	
9 Other? [Specify: _____]	

i. Was the manure---

1 Produced on this operation?	CODE 0260
2 Purchased?	
3 Obtained at no cost off this operation?	
4 Obtained with compensation? (Operator received payment for accepting the manure)	

(i) [If item i = 2, ask---]
 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
028 4 . ____	0285

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

CODE 0286

(1) [If YES, ask---]
 What was the total cost paid to have manure custom applied to this field? (Include operator, landlord, and contractor costs.)

DOLLARS & CENTS PER ACRE OR	TOTAL DOLLARS
028 7 . ____	0288

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

CODE 0261

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

CODE 0262

(i) [If YES, ask---]
 By what percent did you reduce the commercial nitrogen fertilizer application rate on this field?

PERCENT 0263

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

CODE 0280

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

CODE 0264

a. [If item 18 is YES, ask---]
 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	CODE 0266

19. Was compost applied to this field for the 2019 sorghum crop?

CODE

YES - [Enter code 1 and continue] NO - [Go to Section D].

0267

ACRES

a. To 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
2 Cubic Yards				0271

[Enter up to 3 source codes]

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

1 Beef cattle?		FIRST	0281
2 Dairy cattle?			
3 Hogs?		SECOND	0282
4 Sheep?			
5 Poultry?		THIRD	0283
6 Equine?			
7 Biosolids (municipal sludge)?			
8 Food waste?			
9 Crop? [Specify: _____]			
10 Other? [Specify: _____]			

d. Was the compost---

1 Produced on this operation?		CODE	0272
2 Purchased?			
3 Obtained at no cost off this operation?			
4 Obtained with compensation? (Operator received payment for accepting the			

(i) [If item 19d = 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	TOTAL DOLLARS
OR	
0273	0274

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

(1) [If YES, ask--]

What was the total cost paid to have compost custom applied to this field? (Include operator, landlord, and contractor costs.)

DOLLARS & CENTS PER ACRE	TOTAL DOLLARS
OR	
0276	0277

(iii) [If item 19d = 1, ask--]

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

MILES
0299

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 sorghum 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 sorghum field for the 2019 crop? YES = 1

CODE	EDIT TABLE
0302	0301

[Probe for applications made in the fall of 2010 (and those made earlier if this field was fallow).]

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

Include defoliants, fungicides, herbicides, insecticides, and other pesticides. Include biological and botanical pesticides.	Exclude nutrients or fertilizers reported earlier and seed treatments.	T - TYPE 3	TABLE 001
		LINE 99	OFFICE USE LINE IN TABLE 0319

CHEMICAL PRODUCT NAME	LINE	2	3	4	5	6	OR	7	8	
		What products were applied to this field? <small>[Show product codes from Respondent Booklet.]</small>	Was this product bought in liquid or dry form? <small>[Enter L or D]</small>	Was this part of a tank mix? <small>[If tank mix, enter line number of first product in mix.]</small>	When was this applied? 1 BEFORE planting 3 AT planting 4 AFTER planting	How much was applied per acre per application?		What was the total amount applied per application in this field?	<small>[Enter unit code.]</small> 1 Pounds 12 Gallons 13 Quarts 14 Pints 15 Liquid Ounces 28 Dry Ounces 30 Grams	
	01	0305		0306	0307	0308	_____	0309	_____	0310
	02	0305		0306	0307	0308	_____	0309	_____	0310
	03	0305		0306	0307	0308	_____	0309	_____	0310
	04	0305		0306	0307	0308	_____	0309	_____	0310
	05	0305		0306	0307	0308	_____	0309	_____	0310
	06	0305		0306	0307	0308	_____	0309	_____	0310
	07	0305		0306	0307	0308	_____	0309	_____	0310
	08	0305		0306	0307	0308	_____	0309	_____	0310
	09	0305		0306	0307	0308	_____	0309	_____	0310
	10	0305		0306	0307	0308	_____	0309	_____	0310
	11	0305		0306	0307	0308	_____	0309	_____	0310
	12	0305		0306	0307	0308	_____	0309	_____	0310
	13	0305		0306	0307	0308	_____	0309	_____	0310
	14	0305		0306	0307	0308	_____	0309	_____	0310

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, defoliant, herbicides, insecticides, fungicides, surfactants, wetting agents, growth regulators, and materials applied before planting and during 2010 fallow period. Exclude seed treatments.)

DOLLARS & CENTS PER ACRE

OR TOTAL DOLLARS

0334 .__ __

0335

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.

NOTES

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 sorghum crop. By pests, we mean WEEDS, INSECTS, and DISEASES.

T-TYPE	TABLE	LINE
0	000	00

1. [ENUMERATOR ACTION: Were PESTICIDE applications reported in Section D?]
 YES - [Continue] NO - [Go to item 8]

2. Was weather data used to assist in determining either the need or when to make pesticide applications? YES = 1

CODE	
0800	

3. Were any biological pesticides such as Bt (*Bacillus thuringiensis*), insect growth regulators, neem or other natural/biological based products sprayed or applied to manage pests in this field? YES = 1

0801

4. 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

5. [ENUMERATOR ACTION: Were HERBICIDE (pesticide product codes 3000-4999) applications reported in Section D, item 1, column 2?]
 YES - [Continue] NO - [Go to item 8]

6. Were herbicides applied to this sorghum field BEFORE weeds emerged? YES = 1

0803

7. Were herbicides applied to this sorghum field AFTER weeds emerged? YES = 1

0805

8. 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 9.]

2 By conducting general observations while performing routine tasks [Enter code 2 and go to item 11.]

3 This field was not scouted. [Enter code 3 and go to item 16.]

CODE	
0808	

9. Was an established scouting process (systematic sampling, recording counts, etc.) used or were insect traps used in this field? YES = 1

0809

10. 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 is 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
YES = 1	CODE	CODE
11. Was this sorghum field scouted for---		
a. weeds?	0812	0813
b. insects or mites?	0815	0816
c. diseases?	0818	0819
		0820

[If scouted by crop consultant or commercial scout, ask item 12; else go to item 13.]

	DOLLARS & CENTS PER ACRE	OR	TOTAL DOLLARS
12. How much was charged for the scouting services for this field?	0821		0822
a. [If scouting performed at no cost, explain: _____]			0333
			CODE
13. Were written or electronic records kept for this field to track the activity or numbers of weeds, insects or diseases?			0823
			YES = 1
14. Were scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests in this field?			0824
			YES = 1
15. Did you use field mapping of previous weed problems to assist you in making weed management decisions?			0825
			YES = 1

16. Did you do any of the following other types of pest management for the specific purpose of managing or reducing the spread of pests in 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 nest 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 nests?	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 sorghum 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

		CODE
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 nest controls used on this field?	YES = 1	0858
---	---------	------

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.)

DOLLARS & CENTS PER ACRE	OR	TOTAL DOLLARS
0859		0860

19. Was a trap crop (excluding fallow) grown to help manage insects in this field? YES = 1 CODE
0863
20. Was this field left fallow in 2010 to help manage insects on this field? YES = 1 0864
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 0861

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] CODE
0862
- a. Did you change timing of, reduce application rate of, or eliminate a pesticide application? YES = 1 0866
- b. Did you change to an alternative pesticide, biocontrol, or non-pesticide practice? YES = 1 0867
23. Did you cultivate this field for weed control? YES = 1 0868
- a. [If yes, ask---]
How many times? NUMBER
0869

PEST MANAGEMENT INFORMATION

24. [Show Pest Management Information Sources Code List from Respondent Booklet.]
Which outside sources of information on pest management practices and products were used for the 2019 sorghum crop?
 [Starting with the most influential in determining the pest management practices used on this operation, enter codes for up to three sources.]

PEST MANAGEMENT INFORMATION SOURCES CODE LIST

[Enter up to 3 source codes.]

- | | | |
|--|--------------|---|
| <p>1 County, Cooperative, or University Extension Advisor, Publications or Demonstrations</p> <p>2 Farm Supply or Chemical Dealer</p> <p>3 Commercial Scouting Service</p> <p>4 Independent Crop Consultant or Pest Control Advisor/Custom Applicator</p> <p>5 Other Growers or Producers</p> <p>6 Producer Associations, Newsletters or Trade Magazines</p> <p>7 Electronic Information Services (DTN, Internet, World Wide Web, etc.)</p> <p>8 Employee Pest Advisor</p> <p>9 Other – [Specify: _____]</p> <p>10 None – Operator used no outside information source</p> | <p>.....</p> | <p style="text-align: center;">FIRST</p> <p style="border: 1px solid black; padding: 2px;">0826</p> <p style="text-align: center;">SECOND</p> <p style="border: 1px solid black; padding: 2px;">0827</p> <p style="text-align: center;">THIRD</p> <p style="border: 1px solid black; padding: 2px;">0828</p> |
|--|--------------|---|

Completion Code for Pest Management Data	
1 Incomplete/Refusal	0340

1. Now I need to list all tractors used to produce sorghum on the selected field.

CHECK LIST	
Include	Exclude
<input type="checkbox"/> Tractors owned, rented, leased or borrowed	<input type="checkbox"/> Tractors provided by custom operators

1	2 What tractors were used on this field? <i>(Examples: John Deere & Company, AGCO (Challenger, Massey-Ferguson, Caterpillar), Ford New-Holland (Case), Kubota)</i>	3 What is the model year? <i>(Example: 2004)</i>	4 Is this vehicle a---? 2 2-wheel drive tractor 3 2-wheel drive tractor with front wheel assist 4 4-wheel drive tractor 5 crawler or other tracked-tractor 6 other tractor	5 What is its PTO Horsepower?	6 Is it---? 1 diesel 2 gasoline 3 LP gas 9 other
		YEAR	CODE	PTO HORSEPOWER	CODE
1		0120	0121	0122	0123
2		0124	0125	0126	0127
3		0128	0129	0130	0131
4		0132	0133	0134	0135
5		0136	0137	0138	0139
6		0140	0141	0142	0143
7		0144	0145	0146	0147
8		0148	0149	0150	0151
9		0152	0153	0154	0155
10		0156	0157	0158	0159

2. Was a self-propelled combine used to harvest the sorghum field?

- YES – [Continue] NO – [Go to item 3]

a. What is the model year of the self-propelled harvester(s) used to harvest sorghum from this field? *(Report the average year if more than one was used.)*

YEAR
0830

3. Including custom operations, I need to list field work performed by machines on this field for the 2019 sorghum 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 2010, list operations starting with fall 2009];
- ▶ 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

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

2 S E C T O R I A L N O. E	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 6-10]				
				6 What was the size or swath of the [machine] used?	7 [Record size unit code.] CODE	8 What was the power source? [Record tractor line number from item 1.] OR 66 Animal Drawn 77 Pick up 99 Self-Propelled 1/	9 How many acres were covered? [Exclude land forming and hauling operations] ACRES	10 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
0351		0352	0353	0354	0355	0356	0357	0359
0361		0362	0363	0364	0365	0366	0367	0369
0371		0372	0373	0374	0375	0376	0377	0379
0381		0382	0383	0384	0385	0386	0387	0389
0391		0392	0393	0394	0395	0396	0397	0399
0401		0402	0403	0404	0405	0406	0407	0409
0411		0412	0413	0414	0415	0416	0417	0419
0421		0422	0423	0424	0425	0426	0427	0429
0431		0432	0433	0434	0435	0436	0437	0439
0441		0442	0443	0444	0445	0446	0447	0449
0451		0452	0453	0454	0455	0456	0457	0459
0461		0462	0463	0464	0465	0466	0467	0469
0471		0472	0473	0474	0475	0476	0477	0479
0481		0482	0483	0484	0485	0486	0487	0489
0491		0492	0493	0494	0495	0496	0497	0499
0501		0502	0503	0504	0505	0506	0507	0509
0511		0512	0513	0514	0515	0516	0517	0519
0521		0522	0523	0524	0525	0526	0527	0529

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

OFFICE USE
0032

4. **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 sorghum 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

5. **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
. ____

6. **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
. ____

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

CODE

1116

a. [If YES, ask ---]
 What was the average cost per acre for this contract labor?
 (Include operator, landlord, and contractor costs.)

DOLLARS & CENTS PER ACRE

1117
. ____

8. **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

9. Now I need some information on how much was spent (or will be spent) for custom services used on this field for the 2019 sorghum crop.

1 CUSTOM SERVICE	2 Including operator, landlord, and contractor costs, how much was spent for [column 1] on this field for the 2019 sorghum crop? DOLLARS & CENTS PER ACRE
✓ ← [Check box for each service performed; refer to item 3 if necessary.] a. Custom land preparation, shaping and/or leveling $\frac{\text{Cost per hour} \times \text{Total hours}}{\text{Total acres in the field}} = \text{Dollars \& cents per acre}$	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 _____
e. Custom hauling to storage or point of first sale $\frac{\text{Dollars \& cents per unit} \times \text{Total units hauled from field}}{\text{Acres harvested in field}} = \text{Dollars \& cents per acre}$	1126 _____
f. Custom harvesting and hauling from field to storage or point of first sale $\frac{\text{Dollars \& cents per unit} \times \text{Total units hauled from field}}{\text{Acres harvested in field}} = \text{Dollars \& cents per acre}$	1127 _____

10. 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 12]

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

11. 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

12. Was there (or will there be) a yield monitor on the equipment used to harvest this sorghum field?	YES = 1	1138
[If YES, continue; else go to item 13]		
a. Was there (or will there be) a yield map produced from this harvest using information from the yield monitor?	YES = 1	1139
b. Did you use the yield monitor information to---		
(i) monitor crop moisture content to determine need for crop drying?	YES = 1	1140
(ii) add/improve tile drainage?	YES = 1	1141
(iii) add/improve irrigation equipment / irrigation water application?	YES = 1	1142
(iv) conduct in-field experiments (e.g., compare fertilizer applications, seed varieties, herbicides, pesticides, etc.)?	YES = 1	1143
(v) negotiate new crop leases?	YES = 1	1144
(vi) document yields for crop insurance, real estate tax, or farm program purposes?	YES = 1	1145
(vii) accurately divide crop production among partners and/or for landlord crop shares?	YES = 1	1146
(viii) other uses [specify: _____]	YES = 1	1147
13. During 2010 or 2019, was a GPS (Global Positioning System) device used to produce a map of the soil properties (such as nitrate levels, PH, soil type, etc.) of this field?	YES = 1	1148
a. [If YES, ask---]		
Was the information collected above based on---	<div style="border: 1px solid black; padding: 2px;"> 1 soil tests from this field? 2 a machine that measured electrical conductivity of the soil in this field (e.g. Veris machine)? 3 other? [Specify: _____] </div>	1149
14. Did you have an airplane or satellite provide an image or photograph of this field either at the start or during the 2019 growing season?	YES = 1	1151
15. Was a variable rate applicator used on this field for---		1152
a. fertilization or lime application?	YES = 1	
(i) [If YES, ask---]		
Did you use a variable rate applicator for---		1153
(1) nitrogen applications?	YES = 1	1154
(2) phosphorus applications?	YES = 1	1155
(3) potash applications?	YES = 1	1156
(4) lime applications?	YES = 1	1157
(5) manure applications?	YES = 1	
b. seeding?	YES = 1	1158
c. pesticide applications?	YES = 1	1159
16. Was a guidance or auto-steering system (connected to GPS) used with any machine operation on this field (e.g. light bar)?	YES = 1	1150

NOTES

ACRES

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

[If none, go to Section H].

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

2. Now, I have some questions about irrigation systems and water used on this field for the 2019 sorghum 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 sorghum 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 sorghum 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.]	1 TURBINE? 2 SUBMERSIBLE? 3 CENTRIFUGAL? 4 BOOSTER? 5 SIPHON? 99 NO PUMP? [If code 99, go to item j.]	CODE	1168	1182
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?	1 DIESEL 2 GASOLINE 3 LP GAS 4 NATURAL GAS 5 ELECTRICITY 6 SOLAR POWER	CODE	1171	1185
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? (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
	.____		.____

<p>4. Was any water purchased to irrigate this field? <i>(Include landlord's share and purchases from all sources.)</i> <input type="checkbox"/> YES – [Enter code 1 and continue.] <input type="checkbox"/> NO – [Go to item 5].</p>	<p>CODE 1191</p>						
PERCENT							
<p>a. What percent of the water used on this field was purchased?</p>	<p>1192</p>						
<p>b. What was the total cost for the water purchased for this field during the 2019 growing season? <i>(Include operator, landlord, and contractor costs and ditch maintenance costs for this field.)</i>.</p>	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">DOLLARS & CENTS PER ACRE</td> <td style="text-align: center;">OR</td> <td style="text-align: center;">TOTAL DOLLARS</td> </tr> <tr> <td style="text-align: center;">1193</td> <td></td> <td style="text-align: center;">1194</td> </tr> </table>	DOLLARS & CENTS PER ACRE	OR	TOTAL DOLLARS	1193		1194
DOLLARS & CENTS PER ACRE	OR	TOTAL DOLLARS					
1193		1194					
TOTAL DOLLARS							
<p>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?.</p>	<p>1201</p>						
TOTAL DOLLARS							
<p>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 2019 growing season? <i>(Include operator, landlord, and contractor costs.)</i>.</p>	<p>1202</p>						
TOTAL DOLLARS							
<p>7. [If GATED PIPE system was used (item 2a = 15 or 16), ask---]</p>	<p>INCHES</p>						
<p>a. What was the average diameter of gated pipe used to irrigate this field?</p>	<p>1203</p>						
FEET							
<p>b. What was the total length of gated pipe used?</p>	<p>1204</p>						
CODE							
<p>8. Were wells used to supply irrigation water for this field? <input type="checkbox"/> YES – [Enter code 1 and continue] <input type="checkbox"/> NO – [Go to item 9].</p>	<p>1205</p>						
NUMBER							
<p>a. How many wells were used to irrigate this field?</p>	<p>1206</p>						
INCHES							
<p>b. What was the average diameter of the outer well casing?</p>	<p>1207</p>						
FEET							
<p>c. What was the average pumping depth of these wells during the irrigation season? <i>[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.]</i>.</p>	<p>1208</p>						
CODE							
<p>d. Did the well(s) have a water meter or other flow measurement device? YES = 1</p>	<p>1209</p>						
CODE							
<p>e. Were other fields irrigated using water pumped from wells that supplied water to the selected field? <input type="checkbox"/> YES – [Enter code 1 and continue] <input type="checkbox"/> NO – [Go to item 9].</p>	<p>1210</p>						
ACRES							
<p>f. Excluding this field, how many other acres on this operation were irrigated using the same wells during the 2019 growing season?</p>	<p>1211</p>						

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 Section H]

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

1. In response to higher or more volatile fuel prices during the 2019 crop year for sorghum, did you---

	CODE
a. reduce the number of field operations such as tillage, cultivation, or nutrient and pesticide applications on this field (i.e., compared to what you would have otherwise applied)? YES = 1	1220
b. reduce the amount of irrigation water on this field (i.e., compared to what you would have otherwise applied)? YES = 1	1222
c. change other production practices on this field? [If yes, specify: _____] YES = 1	1223
d. leave the crop in the field to dry longer than you would have otherwise done on this field? . YES = 1	1221

2. In response to higher or more volatile fertilizer prices during the 2019 crop year for sorghum, did you---

	CODE
a. reduce the application rate of commercial nitrogen fertilizer on this field (i.e., compared to what you would have otherwise applied)? YES = 1	1224
(i) [If YES, ask---] By what percent did you reduce the amount of commercial nitrogen fertilizer applied for 2019?	PERCENT 1225
b. change the type of commercial nitrogen fertilizer products applied on this field (i.e., compared to what you would have otherwise applied)? [e.g. less anhydrous ammonia and more UAN] YES = 1	CODE 1226
c. increase the application rate of manure or other organic fertilizers on this field (i.e., compared to what you would have otherwise applied)? YES = 1	1227
d. manage fertilizer more closely, with such practices as soil testing, split applications, variable rate applications, or soil incorporation on this field (i.e., compared to what you would have otherwise done)? YES = 1	1228

CONCLUSION

LOCATION OF SELECTED FIELD

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

What county is the selected sorghum field in?

Field description.

COUNTY NAME	OFFICE USE COUNTY FIPS CODE
	0010

FOR STATES WITH GPS UNITS ONLY

Field location. N

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

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

3. We will need additional information to complete this study. We will contact you in February or March 2012 to collect it. I'll call you then to set up a time that is good for you.

4. 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

5. ENDING TIME [MILITARY].

RECORDS USE

6. [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

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

NUMBER
0041
FERTILIZER APPLICATIONS
0042
PESTICIDE APPLICATIONS
0043
FIELD OPERATIONS

Reported by: _____ Telephone: (____) _____

Office Use											
Response		Respondent		Mode		Enum	Eval.	R. Unit	Date	Optional	
1-Comp	9901	1- Op/Mgr	9902	2-Tel	0100	0098	0100	0921	9910	0002	0003
2-R		2-Sp		3-Face-to-Face							
3-Inac		3-Acct/Bkpr							11		
		4-Partner							M M D D		
		9-Other									
S/E Name											