

AGRICULTURAL RESOURCE MANAGEMENT SURVEY

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SORGHUM PRODUCTION PRACTICES AND COSTS REPORT FOR 2019

VERSION 13	ID _____	TRACT 01	SUBTRACT __	C-TYPE 117
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CONTACT RECORD

DATE	TIME	NOTES

INTRODUCTION:

[Introduced 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.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number is 0535-0218. 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.

BEGINNING TIME H H M M
[MILITARY] 0004

SCREENING BOX
0006

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

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

SORGHUM FIELD SELECTION

Total Planted Acres

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

0050

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

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

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

0020

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

3. Please list the field(s) 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

[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

4. 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.]

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

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

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

Number

1070
1071
1072

OFFICE USE
OY Field Substituted

0022

B

FIELD CHARACTERISTICS--SELECTED FIELD

B

1. How many acres of sorghum did this operation plant in the selected field for the 2019 crop?.....

Acres

1301

a. Are the acres in the selected field Certified Organic?.....

Yes=1
No=3

1300

[If item 1a = 1, go to item 2.]

b. Was the selected field transitioning into organic sorghum production in 2019?.....

Yes=1
No=3

1399

2. Were the acres in the selected field--.....

- 1 owned by this operation?
2 rented for cash with the payment being a fixed cash amount?
3 rented for cash with the payment being a flexible cash amount?
4 rented or a share of the crop?
5 rented for some combination of cash and share of the crop?
6 used rent free?

Code

1302

[If field is cash rented (item 2 = 2, 3, or 5), ask item 3, otherwise go to item 4.]

3. What was the cash rent paid per acre for this 2019 sorghum field?.....

Dollars & Cents
per Acre

1303

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

4. What was the landlord's share of the crop from the selected field?.....

Percent

1304

[If field is rented (item 2 = 2, 3, 4, 5, or 6) ask--]

5. What was the total cost for all inputs provided by any landlord for the 2019 crop on the selected field? INCLUDE the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, drying, and irrigation. EXCLUDE real estate tax expenses and lime costs paid by the landowner.....

Dollars & Cents
per Acre

1305

OR

Total Dollars

1306

6. In what year did you (the operator listed on the label) start operating the selected field?.....

Year

1312

M M D D

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

1308

____ 2019

Unit Codes

- 1 Pounds
2 CWT
3 Tons
4 Bushels

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

Units per Acre

1311

0217

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

- 1 Grain
2 Silage
4 Seed
25 Other

Code

3327

9. How was the sorghum seeded in the selected field for the 2019 crop?.....

1 Broadcast
2 Drilled
3 Planted in standard rows
4 Planted in twin rows

Code

1316

[If item 9 = 3 or 4, ask--]

a. What was the average sorghum row width for the selected field?.....

Inches

1322

10. What was the source of the sorghum seed--.

1 Purchased?
2 Homegrown or traded?
3 Both?

Code

1317

[If item 10 = 2 or 3, ask--]

a. How much of the sorghum seed planted in the selected field was grown or received in trade by this operation?.....

Percent

1318

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

Dollars & Cents per Bushel

1321

11. What was the total cost per unit including operator, landlord, and contractor costs of purchased seed for the selected field? INCLUDE cost of seed treatment and any seed technology fee.....

Dollars & Cents per Unit

1319

Unit Code

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

1320

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

Units per Acre

1313

Unit Code

1 Pound
2 CWT
4 Bushel
23 50 Pound Bag

1314

13. For the 2019 sorghum crop, was the sorghum seed--.....

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

Code

3062

[If item 13 = 1 or 2, ask --]

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

Seed Treatment Name

1289

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

Code

2325

14. For the 2019 sorghum crop, did you plant a commercial seed product on the selected field?.....

Code

2340

Yes=1
No=3

[If item 14 = 1, ask--]

a. What was the name of the seed product? Write the seed product name in the box provided (e.g. DKS30-28, M59GB57, 722B, HG 35-W).....

Commercial Seed Product Name

2342

15. How many acres in the selected field had to be replanted to sorghum?
 (Acres replanted = number of acres x number of times replanted).....

Acres

1315

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

Code

1328

Yes=1
No=3

17. Now I need information about the acres harvested or to be harvested and the yields from the selected field.

How many acres in this sorghum field were or will be--

- a. harvested for grain or seed?.....
- b. harvested for grain or seed, ratoon crop?.....
- c. harvested for silage or green chop?.....
- d. harvested for silage or green chop, ratoon crop?.....
- e. abandoned?.....
- f. used for some other purpose?.....

Acres	What yield per acre did you get or do you expect to get for sorghum--	Unit Code
	Units per Acre	Code
1346	1347	1348
1332	1333	1334
1349	1350	Tons
1337	1338	Tons
1351		
1439		

18. Did any livestock graze this sorghum field after harvest of the 2019 sorghum crop?.....

Code

1339

Yes=1
No=3

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

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

1 Cattle 2 Sheep 3 Other [Specify: _____]

Code

1341

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

Head

1362

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

Number of Days

1363

20. Was any of the residue from the prior crop, such as corn stover, wheat straw, etc., removed post-harvest?.....

Code

1373

Yes=1
No=3

[If item 20 = 1 ask--]

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

Tons

1376

Crop Code List for item 22 - Previously Planted Crops

190 Barley	311 Grasses including clover	22 Rye	165 Wheat, winter
6 Corn for grain	1 Hay, alfalfa	240 Sorghum, all	318 No crop planted
5 Corn for silage	11 Hay, all other	26 Soybeans	291 Other field crop
283 Cotton, all	15 Oats	30 Sunflowers	292 Other crop
302 CRP	34 Ryegrass	263 Wheat, durum or spring	312 Cover crop mix

22. Please report the history of crops on the majority of the selected field, including cover crops.

1 What crops were planted on the selected field in-- [For perennial crops (1, 11, 34, 292, 302, and 311), report the crop code in all seasons when the crop is growing.]			2 Was this a cover crop?	3 If a cover crop was planted, how did you terminate this cover crop? 1 Tilled-in 2 Herbicide 3 Rolled 4 Grazed 5 Harvested for forage 6 Harvested for grain	4 Was the selected field irrigated?	5 Was the selected field no-till or strip-tilled? ^{1/}
Season and Year	Crop Name	Crop Code	Yes=1 No=3	Code	Yes=1 No=3	Yes=1 No=3
a. Spring/Summer of 2019?.....	Sorghum	240			2345	1344
b. Fall of 2018?.....		1343	1470	1471	2344	1345
c. Spring/Summer of 2018?.....		1369	1472	1473	2370	1371
d. Fall of 2017?.....		1372	1474	1475	2373	1374
e. Spring/Summer of 2017?.....		1375	1476	1477	2376	1377
f. Fall of 2016?.....		1378	1478	1479	2379	1380
g. Spring/Summer of 2016?.....		1381	1480	1481	2382	1383
h. Fall of 2015?.....		1366	1482	1483	2367	1368
i. Spring/Summer of 2015?.....		1340	1484	1485	2341	1342

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

[If a cover crop was planted in Spring/Summer/Fall 2018, ask--]

- j. What was the seed cost per acre for the cover crop?.....
- k. What was the per-acre cost-share or financial assistance payments received for the cover crop?
[Enter zero if no program payment was received.].....

Dollars & Cents
per Acre

1468	•__ __
1495	•__ __

23. Has any part of the selected field been classified as "Highly Erodible Land"? Cropland identified as highly erodible is subject to highly erodible land conservation (HELIC) requirements. Producers who receive farm program payments are required to have and apply a written soil conservation plan. A "written plan" is a plan prepared in accordance with Federal, State, or district standards.....

	Code
Yes=1	1404
No=3	
Yes=1	0702
No=3	

24. Do you have a written conservation plan that specifies practices to control soil erosion?.....

25. Does the selected field contain a wetland? Wetlands are subject to Wetland Conservation (WC) or "swampbuster" requirements. Producers who receive farm program payments must refrain from draining wetlands to make them ready for crop production.....

	Code
Yes=1	1405
No=3	

26. What is the slope of the selected field?.....

- | | |
|---|-----------------------------|
| 1 | Nearly level 0 - 2% |
| 2 | Even, moderate grade 3 - 9% |
| 3 | Variable, moderate grade |
| 4 | Even, steep grade over 10% |
| 5 | Variable, steep grade |

	Code
	2400

27. What is the primary soil texture of the selected field?.....

- | | |
|---|-------|
| 1 | Loam |
| 2 | Clay |
| 3 | Sandy |
| 4 | Mixed |
| 5 | Silty |

	Code
	2401

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

In the selected field, are you concerned about any of the following?	Code Yes=1 No=3	Have you received technical assistance from any of the following sources to evaluate this resource concern? Report up to 2 sources that you received assistance from: 1 USDA - NRCS 2 Cooperative Extension Service 3 Other USDA staff, including Forest Service 4 Other (e.g. Soil and Water Conservation District, state agency)	
		Source 1	Source 2
a. Water-driven erosion.....	2407	2417	2427
b. Wind-driven erosion.....	2408	2418	2428
c. Soil compaction.....	2409	2419	2429
d. Poor drainage.....	2410	2420	2430
e. Low organic matter.....	2411	2421	2431
f. Water quality.....	2412	2422	2432
g. Other concerns.....	2413	2423	2433
h. *No significant concerns.....	2414		

*Enumerator Note: Enter Yes=1 for item h, No significant concerns, only if the respondent replies No=3 to all other concerns (items a - g).

29. Has the selected field been in any conservation program contracts for which you or your landlord received or expected to receive cost-sharing payments, stewardship payments, or incentive payments?.....

- | | |
|---|-----------|
| | Unit Code |
| 1 | Current |
| 2 | Past |
| 3 | Never |

- a. Environmental Quality Incentives Program (EQIP).....
- b. Conservation Stewardship Program (CSP).....
- c. Conservation Reserve Program (CRP).....
- d. Other Federal, State, Local, or non-Government source.....

	2611
	2612
	2613
	2614

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

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

On-field Soil and Crop Management		
<input type="checkbox"/> 1 No-till/strip-till	<input type="checkbox"/> 12 Grass waterway	<input type="checkbox"/> 30 Implement an integrated pest management plan - written plan
<input type="checkbox"/> 2 Conservation tillage except no-till/strip-till	<input type="checkbox"/> 20 Implement a nutrient management plan - written plan.	<input type="checkbox"/> 31 Drift reducing spray nozzles
<input type="checkbox"/> 3 Cover crop - single species	<input type="checkbox"/> 26 Split nitrogen application with at least 50% applied after planting	<input type="checkbox"/> 32 Targeted sprayer - electrical control
<input type="checkbox"/> 4 Cover crop mix	<input type="checkbox"/> 21 Precision nutrient application	Adjacent to Field
<input type="checkbox"/> 5 Contour farming	<input type="checkbox"/> 23 No fertilizer application more than 30 days before planting	<input type="checkbox"/> 33 Filter strip
<input type="checkbox"/> 6 Conservation crop rotation	<input type="checkbox"/> 24 Controlled release fertilizer	<input type="checkbox"/> 34 Field border
<input type="checkbox"/> 10 Terraces	<input type="checkbox"/> 22 Subsurface phosphorous application	<input type="checkbox"/> 35 Riparian buffer - grass or forest

- b. For each practice or activity checked in 30a, please complete one line of this table.

1	2	3		4	5
Practice or Activity on the Selected Field	Practice Code (see item 30a)	On the selected field for this practice, have you ever received at any time--		Does this practice or activity help satisfy--	Was this practice or plan used on the selected field in 2019?
		Technical or planning assistance?	Financial Assistance?		
		1 USDA NRCS field staff, cooperative extension, or technical service providers 2 Other sources of assistance 3 No assistance needed	1 Environmental Quality Program (EQIP) 2 Conservation Stewardship Program (CSP) 3 Conservation Reserve Program (CRP) 4 Other Federal, State, and Local Programs 5 No assistance needed	1 A federal regulatory requirement 2 Highly erodible land conservation compliance 3 Does not relate to any regulation or compliance requirement	Yes=1 No=3
	1610	1611	1612	1613	1614
	1615	1616	1617	1618	1619
	1620	1621	1622	1623	1624
	1625	1626	1627	1628	1629
	1630	1631	1632	1633	1634
	1635	1636	1637	1638	1639
	1640	1641	1642	1643	1644
	1645	1646	1647	1648	1649

31. In 2019, was the sorghum in the selected field covered by a single or named peril crop insurance policy (e.g. hail, replant, wind, freeze)?.....

Code

Yes=1	2520
No=3	

[If item 31 = 1 continue, otherwise go to item 32.]

a. In 2019, was the sorghum in the selected field covered by more than one single or named peril crop insurance policies (e.g. hail, replant, wind, freeze)?.....

Code

Yes=1	2517
No=3	

b. What was the dollar amount of coverage per acre for the single peril policy covering the selected field?.....

Dollar & Cents
per Acre

2521	.	_	_
------	---	---	---

c. What was the percent deductible for the single peril policy covering the selected field? [Record no deductible as "0"]......

Percent

2522

d. What premium cost per acre did you pay for the single peril policy covering the selected field?....

Dollar & Cents
per Acre

2523	.	_	_
------	---	---	---

e. Did you or will you collect an indemnity payment for the selected field from the single peril policy during 2019?.....

Code

Yes=1	1394
No=3	

32. In 2019, was the sorghum in the selected field covered by a multi-peril crop insurance policy?.....

Code

Yes=1	1385
No=3	

[If item 32 = 1 continue, otherwise go to Section C]

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

- | |
|----------------------------------------------|
| 1 Federal CAT - basic catastrophic insurance |
| 2 Yield Protection (YP) |
| 3 Revenue Protection (RP) |
| 4 Other multi-peril crop insurance |

Code

1386

[If item 32a = 2, ask--]

i. What percent of yield coverage did you select for the selected field?.....

Percent

1387

ii. What percent of price coverage did you select for the selected field?.....

Percent

1388

[If item 32a = 3, ask--]

iii. What percent of revenue coverage did you select for the selected field?.....

Percent

1389

b. What type of unit coverage did you purchase for the selected field?.....

- | |
|--------------|
| 1 Basic |
| 2 Optional |
| 3 Enterprise |

Code

2524

c. In what year did you, the operator listed on the label, first purchase multi-peril crop insurance on the selected field?.....

Year

2525	_	_	_	_
------	---	---	---	---

d. What is the 2019 Approved Actual Production History (APH) yield for the selected field?.....	Bushels per Acre	2526
e. What was the premium paid for multi-peril crop insurance for the selected field in 2019? EXCLUDE any sign-up fee.....	Dollars & Cents per Acre	2527
f. Did you or will you collect an indemnity payment for the selected field from multi-peril crop insurance during 2019?.....	Code	2528

Yes=1
No=3

NOTES:

1. Were commercial nutrients or fertilizers applied to the selected field for the 2019 sorghum crop? INCLUDE those from operators, landlords, and contractors.....

Code	Office Use Edit Table
0202	0200
Yes=1 No=3	

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

2. How many commercial nutrient or fertilizer applications were made to the selected field for the 2019 crop? INCLUDE applications made by airplanes and custom applicators.....

Number
0203

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

CHECKLIST

INCLUDE

EXCLUDE

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Custom applied nutrients or fertilizers

<input type="checkbox"/> Nutrients or fertilizers applied in the fall of 2018 and those applied earlier if the selected field was fallow in 2018.

<input type="checkbox"/> Commercially prepared manure or compost | <input type="checkbox"/> Micronutrients

<input type="checkbox"/> Unprocessed manure

<input type="checkbox"/> Nutrients or fertilizers applied to previous crops in the selected field

<input type="checkbox"/> Lime and gypsum/landplaster |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

Application Codes for Column 6

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

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 in the selected field were treated in this application? Acres
	N Nitrogen	P ₂ O ₅ Phosphate	K ₂ O Potash	S Sulfur					
	01	31	32	33					
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

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

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

a. Are you able to report the cost of nutrient or fertilizer materials and custom application separately?..... Code
Yes=1 0216
No=3

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

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

Dollars & Cents per Acre OR Total Dollars

0219 0220

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

5. What was the total cost of all nutrient or fertilizer products applied to the selected field? INCLUDE operator, landlord, and contractor costs as well as the costs for sulfur and micronutrients. INCLUDE materials applied to the selected field if it was fallow in 2018. EXCLUDE lime, gypsum, purchased manure, and purchased compost..... Dollars & Cents per Acre OR Total Dollars
0221 0222

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

6. Was gypsum applied to the selected field for the 2019 sorghum crop?..... Code
Yes=1 0218
No=3

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

[If item 7 = 1, ask--]

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

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

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

c. Based on these tests, is your soil organic matter content?..... Code
3228

1 Increasing
 2 Decreasing
 3 Staying roughly the same

8. Was a soil or plant tissue test performed on the selected sorghum field in 2018 or 2019 for the 2019 crop?..... Code
Yes=1 0224
No=3

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

9. Was a soil test for phosphorus performed on the selected sorghum field in 2018 or 2019 for the 2019 crop?..... Code
Yes=1 0225
No=3

[If item 9 = 1 ask--]

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

10. Was a soil test for nitrogen performed on this sorghum field in 2018 or 2019 for the 2019 crop?.....

	Code
Yes=1	0227
No=3	

[If item 10 = 1, ask--]

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

Pounds per Acre
0228

11. Was a plant tissue test or leaf analysis for nutrient deficiency performed on the selected field in 2018 or 2019 for the 2019 crop?.....

	Code
Yes=1	0229
No=3	

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

Dollars & Cents per Acre
0230
. _ _

OR	Total Dollars
	0231

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

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

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

	Code
.....	0232

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

	Code
Yes=1	3231
No=3	

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

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

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

	Code
Yes=1	0233
No=3	

b. Crop consultant recommendation?.....

Yes=1	0234
No=3	

c. Fertilizer dealer recommendation?.....

Yes=1	0235
No=3	

d. Extension Service recommendation?.....

Yes=1	0236
No=3	

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

Yes=1	0237
No=3	

f. Contractor recommendation?.....

Yes=1	0238
No=3	

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

Yes=1	0239
No=3	

[If nitrogen inhibitors were used, continue, otherwise go to item 14.]

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

None	Pounds per Acre
<input type="checkbox"/>	2561
	. _ _

OR	Gallons per Acre
	2562
	. _ _

14. Is lime ever applied to the selected field?.....

[If item 14 = 1 continue, otherwise go to item 15.]

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

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

c. Was lime applied to the selected field in 2018 or 2019 for the 2019 crop?.....

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

[If item 15 = 1 continue, otherwise go to Section D.]

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

b. What was the amount of manure or compost applied to the selected field?.....

c. Of the total manure or compost applied to the selected field for the 2019 sorghum crop, what was the percent of manure or compost applied--

i. in the Fall before planting?.....

ii. in the Spring before planting?.....

iii. after planting?.....

d. Was the manure or compost--.....

e. Was the manure or compost--...

f. Was the major source of manure or compost--.....

Code 0242
Yes=1
No=3

Years 0243

Tons per Acre 0244

Code 0240
Yes=1
No=3

Code 0246
Yes=1
No=3

Acres 0247

Code 0248 AND Units per Acre 0249 OR Total Units 0250

1 Tons
2 Gallons
3 Bushels
4 Cubic yards

Percent 0254
+
0255
+
0256
+
100%

Code 0257

Code 0258

Code 0259

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

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

1 Beef cattle?
2 Dairy cattle?
3 Hogs?
4 Sheep?
5 Poultry?
6 Equine?
7 Biosolids - municipal sludge?
8 Food waste?
9 Other? Specify: _____

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

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

Code

0260

[If item 15g = 2, continue, otherwise go to item 15h.]

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

Dollars & Cents
per Acre

OR

Total Dollars

0284

0285

Code

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

Yes=1
No=3

0286

[If item 15gii = 1, ask--]

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

Dollars & Cents
per Acre

OR

Total Dollars

0287

0288

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

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

Miles

0291

Code

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

Yes=1
No=3

0261

Code

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

Yes=1
No=3

0264

[If item 16 = 1, ask--]

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

Code

i. Nitrogen requirement of the crop?.....

Yes=1
No=3

0265

ii. Phosphorus requirement of the crop?.....

Yes=1
No=3

0266

NOTES:

Now I have some questions about all the biocontrols or pesticides used on the selected 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?.....

	Code	Office Use Edit Table
Yes=1 No=3	0302	0300

[Probe for applications made in the fall of 2018 and those made earlier if the selected field was fallow.]

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

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

Chemical Product Name	L I N E	2 What products were applied to the selected field? [Show product codes from Respondent Booklet.]	3 Was this product bought in liquid or dry form? [Enter L or D]	4 If this was part of a tank mix, enter line number of first product in mix.	5 When was this applied? 1 Before planting 3 At planting 4 After planting 5 Defoliation prior to harvest	6 OR 7		8 [Enter unit code] 1 Pounds 12 Gallons 13 Quarts 14 Pints 15 Liquid Ounces 28 Dry Ounces 30 Grams
						How much was applied per acre per application?	What was the total amount applied per application in the selected field?	
	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 (Herbicide, Insecticide, Fungicide, etc.)	EPA No. or Trade Name and Formulation	Form Purchased (Liquid or Dry)	Where Purchased (Ask only if EPA No. cannot be reported)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

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

Code
Yes=1 0323
No=3

[If item 3 = 1 ask, otherwise go to item 4.]

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

Code
Yes=1 0324
No=3

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

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

Dollars & Cents per Acre	OR	Total Dollars
0331		0332

4. What was the total cost of all chemical, biocontrol, or pesticide products applied to the selected field? INCLUDE operator, landlord, and contractor costs, defoliants, herbicides, insecticides, fungicides, surfactants, wetting agents, growth regulators, and materials applied before planting and during 2018 fallow period. EXCLUDE seed treatments.....

Dollars & Cents per Acre	OR	Total Dollars
0334		0335

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

Dollars & Cents per Acre	OR	Total Dollars
3034		3035

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

Dollars & Cents per Acre	OR	Total Dollars
3036		3037

Note 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.

Now I have some questions about your pest management decisions and practices used on the selected field for the 2019 sorghum crop. By pests, we mean weeds, insects, and diseases.

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

Yes - Continue No - Go to item 6

1. Were weather data used to assist in determining either the need or when to make pesticide applications?.....
2. 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 the selected field?.....
3. Were pesticides with different mechanisms of action rotated or tank mixed for the primary purpose of keeping pests from becoming resistant to pesticides?.....

Code	
Yes=1	0800
No=3	

Code	
Yes=1	0801
No=3	

Code	
Yes=1	0802
No=3	

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

Yes - Continue No - Go to item 6

4. Were herbicides applied to this sorghum field before weeds emerged?.....
5. Were herbicides applied to this sorghum field after weeds emerged?.....
6. Were records kept for the selected field to track the activity or numbers of weeds, insects, or diseases?.....
7. Did you use published information on infestation thresholds to determine when to take measures to manage pests in the selected field?.....

Code	
Yes=1	0803
No=3	

Code	
Yes=1	0805
No=3	

Code	
Yes=1	0823
No=3	

Code	
Yes=1	0824
No=3	

8. In 2019, how was the selected field primarily scouted for insects, weeds, diseases, and/or beneficial organisms?.....

1 By deliberately going to the field specifically for scouting activities [Enter code 1 and go to item 9.]

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

3 The selected field was not scouted. [Enter code 3 and go to item 13.]

Code	
.....	0808

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

Code	
Yes=1	0809
No=3	

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

a. a pest advisory warning?.....

Code	
Yes=1	0810
No=3	

b. a pest development model?.....

Code	
Yes=1	0811
No=3	

1	2	3	4
11. Was this sorghum field scouted for--		[If Yes, ask--] What was the infestation level for [column 1]? 1 Higher than normal 2 Normal 3 Lower than normal Code	[If column 2 = Yes, ask--] Who did the majority of the scouting for [column 1]? 1 Operator, partner or family member 2 An employee 3 Farm supply or chemical dealer 4 Independent crop consultant or commercial scout Code
a. weeds?.....	Yes=1 No=3 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 12, otherwise go to item 13.]

	Dollars & Cents per Acre	OR	Total Dollars
12. How much was charged for the scouting services for the selected field? INCLUDE operator, landlord, and contractor costs.....	0821		0822
			Office Use
a. If scouting performed at no cost, explain: _____			0333
			Code
13. Did you use field mapping of previous weed problems to assist you in making weed management decisions?.....		Yes=1 No=3	0825
			Code
14. Did you do any of the following other types of pest management for the specific purpose of managing or reducing the spread of pests in the selected field?			
a. Use the services of a diagnostic laboratory for pest identification or soil plant tissue pest analysis for the selected field?.....		Yes=1 No=3	0841
b. Plow down crop residue using conventional tillage?.....		Yes=1 No=3	0842
c. Remove/burn down crop residue?.....		Yes=1 No=3	0843
d. Rotate crops in the selected field during the past three years?.....		Yes=1 No=3	0844
e. Maintain ground covers, mulches, or other physical barriers?.....		Yes=1 No=3	0845
f. Choose crop variety because of specific resistance to a certain pest?.....		Yes=1 No=3	0846
g. Use no-till or minimum till?.....		Yes=1 No=3	0847
h. Plan planting locations to avoid cross infestation of pests?.....		Yes=1 No=3	0848
i. Adjust planting or harvesting dates?.....		Yes=1 No=3	0849
j. Chop, spray, mow, plow, or burn field edges, lanes, ditches, roadways, or fence lines?.....		Yes=1 No=3	0850
k. Clean equipment and field implements after completing field work to reduce the spread of pests?.....		Yes=1 No=3	0851
l. Adjust row spacing, plant density, or row directions?.....		Yes=1 No=3	0852
m. Have the seed treated for insect or disease control after you purchased the seed for the selected field?.....		Yes=1 No=3	0854
n. Maintain a beneficial insect or vertebrate habitat?.....		Yes=1 No=3	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 No=3	0856
p. Use a flamer to kill weeds?.....		Yes=1 No=3	0857
q. Plant earlier or later to avoid weeds?.....		Yes=1 No=3	0865
			Code
15. Were any beneficial organisms, such as insects, nematodes, or fungi, applied or released in the selected field to manage pests?.....		Yes=1 No=3	0853
16. Were floral lures, attractants, repellants, pheromone traps, or other biological pest controls used on the selected field?.....		Yes=1 No=3	0858

[If item 15 or item 16 = 1, ask--]

	Dollars & Cents per Acre	OR	Total Dollars
a. What were the total materials and application costs for all biological pest controls for the selected field? INCLUDE operator, landlord, and contractor costs. INCLUDE cost for beneficial organisms, insects, nematodes, and fungi. EXCLUDE biological pesticides previously reported.....	0859		0860

17. Was a trap crop, excluding fallow, grown to help manage insects in the selected field?.....	Code
Yes=1	0863
No=3	
18. Was the selected field left fallow in 2018 to help manage insects on the selected field?.....	Code
Yes=1	0864
No=3	
19. Were water management practices such as irrigation scheduling, controlled drainage, or treatment of retention water used on the selected field to manage pests or toxin-producing fungi and bacteria?.....	Code
Yes=1	0861
No=3	
20. Was protection of beneficial organisms a factor in your pest control decisions for the selected field?.....	Code
Yes=1	1765
No=3	

[If item 20 = 1, continue, otherwise go to item 21.]

a. Did you change timing of, reduce application rate of, or eliminate a pesticide application?..	Code
Yes=1	1766
No=3	
b. Did you change to an alternative pesticide, biocontrol, or non-pesticide practice?.....	Code
Yes=1	1767
No=3	

21. If untilled, uncultivated or untreated with herbicides, how much yield loss (e.g. bushels per acre) do you think weeds would most likely cause on the selected field?.....	Unit Code	Code	AND	Units per Acre	OR	Total Units
	1 Pounds		0828		0829		0830
	2 CWT						
	3 Bushels						
	4 Tons						

Completion Code for Pest Management Data	
1 Incomplete/Refusal	0500

1. Including custom operations, I need to list field work performed by machines on the selected 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 2018, list operations starting will fall 2017.
- list the operations in order through harvest and hauling of this crop to storage or first point of sale; and
- maintain the order of tandem hook-ups.

Codes for Column 5

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

Office Use
 Lines in Table
 0499

Check List

INCLUDE all field work using machines for--

- Land forming/Levee Building
- Tillage
- Preparing for Irrigation
- Planting
- Fertilizer & Pesticide applications
- Harvesting & Hauling to storage or first point of sale

EXCLUDE

- Lime & Gypsum/land plaster applications
- Compost & Non-commercial manure applications

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

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

Office Use

0400

2. Now I need some additional information about your labor.
 Please report the paid and unpaid labor that worked on the selected field to produce the 2019 sorghum crop.
 EXCLUDE labor that was reported for field work performed by machines.

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

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

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

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

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

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

Code	1116
Yes=1 No=3	

[If item 5 = 1, ask--]

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

Dollars & Cents Per Acre	1117

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

Percent	1120
---------	------

7. Now I need some information on how much was spent or will be spent for custom services used on the selected field for the 2019 sorghum crop.

1 Custom Service	2
Which of the following services were performed for the 2019 sorghum crop on the selected field? [Check box for each service performed; refer to item 1 if necessary.]	Including operator, landlord, and contractor costs, how much was spent for [column1] on the selected field for the 2019 sorghum crop? Dollars & Cents per Acre
<input type="checkbox"/> a. Custom land preparation, shaping and/or leveling?.....	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 hauling to storage or point of first sale? (Dollars & cents per unit x Total units hauled from field ÷ Acres harvested in field = Dollars & cents per acre)	1126 .__ __
<input type="checkbox"/> f. Custom harvesting and hauling from field to storage or point of first sale? (Dollars & cents per unit x Total units hauled from field ÷ Acres harvested in field = Dollars & cents per acre)	1127 .__ __

	Code
8. Was the sorghum harvested and hauled from the selected field dried or will be dried before being sold or stored?.....	Yes=1 1195 No=3
9. Did you hire any technical or consultant services to make recommendations such as for nutrient, pest control, irrigation, or precision farming for the selected field?.....	Yes=1 1196 No=3

[If item 9 = 1 continue, otherwise go to item 12.]

	Code
10. Which of the following technical or consultant services did you obtain to make recommendations for the selected field?	
a. Nutrient recommendations/management service?.....	Yes=1 1129 No=3
b. Soil or tissue sample collection?.....	Yes=1 1130 No=3
c. Pest control recommendations/management service?.....	Yes=1 1131 No=3
d. Pest scouting?.....	Yes=1 1132 No=3
e. Irrigation management service (i.e. irrigation scheduling)?.....	Yes=1 1133 No=3
f. Yield map or remote sensing map development/interpretation?.....	Yes=1 1134 No=3
g. Other custom or technical service? [Specify: _____].....	Yes=1 1135 No=3

11. If Yes to any of these services in item 10a-g, 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 cost of materials and/or application.....

Dollars & Cents per Acre	OR	Total Dollars
1136 .__ __		1137

12. Please report how any data from the selected field in 2019 will be stored and accessed.

a. Did you access the data collected from the selected field on a --

- i. Paper hard copy?.....
- ii. Personal computer?.....
- iii. Mobile device?.....

Code	
Yes=1	2485
No=3	
Yes=1	2486
No=3	
Yes=1	2487
No=3	
Yes=1	2488
No=3	

b. Did you access the data collected from the selected field through an agricultural technology provider website?.....

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

Code	
Yes=1	2460
No=3	

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

Please report the data collection technologies you used on the selected field in 2019 to produce this crop. In the fifth column, report how much it would cost you to replace the data collection tool. In the sixth column, report the annual costs of using the data collection tool. INCLUDE custom service fees, data subscriptions, and online tool subscriptions. If the replacement cost or annual fee does not apply to a particular data collection tool, leave the cell in that column blank.

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

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

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

- a. add/improve tile drainage?.....
- b. negotiate new crop leases?.....
- c. help determine chemical input use?.....

Code	
Yes=1	1141
No=3	
Yes=1	1144
No=3	
Yes=1	1143
No=3	

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

15. Using data collected from the previous tools table in item 13, did you obtain crop management recommendations, such as data interpretation, in 2019 for the selected field from any of the following--

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

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

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

16. Was any of the following GPS-enabled (Global Positioning System) equipment used to produce sorghum on the selected field in 2019?

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

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

	Dollars & Cents per Acre	OR	Total Dollars
	2166		2167

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

	Code
	Yes=1 2148 No=3

[If item 18 = 1 continue, otherwise go to item 19.]

		Code
a. Was the guidance auto-steering equipment.....	1 New, owned 2 Used, owned 3 Leased	2158

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

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

Code

19. Was a variable rate applicator used on this field?.....

Yes=1
No=3

2164

[If item 19 = 1 continue, otherwise go to Section G]

Please report the variable rate applicator types you used on the selected field to produce the sorghum in 2019.

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

IRRIGATION

G

G

Acres

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

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

[If none, go to Conclusion]

2. Now I have some questions about the irrigation system and water used on the selected field for the 2019 sorghum crop.

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

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

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

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

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

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

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

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

e. What 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.].....

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

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

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

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 |

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

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

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

k. How many other acres on this operation were irrigated using the selected field's irrigation system during the 2019 growing season? EXCLUDE the selected field.....

Total Hours	1164
Gallons per Minute	1165
Percent	1166
Number of Irrigations	1167

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

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

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

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

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

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

Acres	1174 .____
-------	---------------

<p>3. What was the cost of the fuel or electricity used to irrigate the selected field? INCLUDE operator, landlord, and contractor costs.....</p>	<p>Dollars & Cents per Acre</p>	<p>OR</p>	<p>Total Dollars</p>
	1189		1190
			Code
<p>4. Was any water purchased to irrigate the selected field ? INCLUDE landlord's share and purchases from all sources.....</p>		<p>Yes=1 No=3</p>	1191
[If item 4 = 1 continue, otherwise go to item 5.]			
<p>a. What was the total cost for the water purchased for the selected field during the 2019 growing season? INCLUDE operator, landlord, and contractor costs and ditch maintenance costs for the selected field.....</p>	<p>Dollars & Cents per Acre</p>	<p>OR</p>	<p>Total Dollars</p>
	1193		1194
			Total Dollars
			1201
[If siphon tubes were used, item 2a = 10 or 11, ask--]			
<p>5. What would be the total cost to replace all the siphon tubes used on the selected field?.....</p>			Total Dollars
[If poly pipe system was used, item 2a = 14, ask--]			
<p>6. What was the total amount spent for poly pipe used on the selected field during the 2019 growing season? INCLUDE operator, landlord, and contractor costs.....</p>			1202
[If gated pipe system was used, item 2a = 15 or 16, ask--]			
<p>7. What was the average diameter of gated pipe used to irrigate the selected field?.....</p>			Inches
			1203
			Feet
			1204
			Code
<p>a. What was the total length of gated pipe used?.....</p>			1205
<p>8. Were wells used to supply irrigation water for the selected field?.....</p>		<p>Yes=1 No=3</p>	Number
[If item 8 = 1 continue, otherwise go to item 9.]			
			1206
			Inches
			1207
			Feet
			1208
			Code
<p>d. Were other fields irrigated using water pumped from wells that supplied water to the selected field?.....</p>		<p>Yes=1 No=3</p>	1210
[If item 8d = 1 continue, otherwise go to item 9.]			
			Acres
			1211
			Code
<p>9. Was any additional mainline or lateral pipe used to carry water from the source to the system in the selected field? INCLUDE underground pipe. EXCLUDE any system pipe within the selected field.....</p>		<p>Yes=1 No=3</p>	2211
[If item 9 = 1 continue, otherwise go to Conclusion.]			
			Inches
			1212
			Feet
			1213
			Code
<p>a. What was the average diameter in inches of the most common type of this additional pipe used?.....</p>			1212
			Feet
			1213
<p>b. How many feet of this additional pipe were used to bring water to the selected field?.....</p>			1213

CONCLUSION

Location of Selected Field

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

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

County Name

Office Use
State County FIPS Code

	0010
--	------

a. Field description.....

--

b. Field location.....

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

OR

	LATITUDE			LONGITUDE					
	0051	_____	_____	0052	_____	_____	_____	_____	
	<small>decimal</small>			<small>decimal</small>					

[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.]

We will need additional information to complete this study. We will contact you in February or March 2020 to collect it. I'll call you then to set up a time that is good for you.

To receive the complete results of this survey on the release date, to http://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/

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

1095

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

H H M M
0005

Record Use

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

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

Supplements Used

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

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

Reported by: _____	9910	9911
	M M D D	19
		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 2-R 3-Inac 4-Office Hold		9901 1-Op/Mgr 2-Spouse 3-Acct/Bkpr 4-Partner 9-Other		9902 2-PATI (tel) 3-PAPI (Face-to-Face)		9903 9908		9989		
								Eval.		Change
								9900		9985

