

# AGRICULTURAL RESOURCE MANAGEMENT SURVEY

OMB No. 0535-0218  
Approval Expires: 11/30/2023  
Project Code: 906  
SurveyID: 2038 Phase 2



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## RICE PRODUCTION PRACTICES AND COSTS REPORT FOR 2021

<b>VERSION</b> 9	<b>ID</b> _____	<b>TRACT</b> 01	<b>SUBTRACT</b> _____	<b>C-TYPE</b> 115
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### CONTACT RECORD

DATE	TIME	NOTES

**INTRODUCTION:**  
[Introduce yourself, and ask for the operator. Rephrase in your own words.]  
[We are collecting information on practices and costs used to produce rice and need your help to make the information as accurate as possible.] The information you provide will be used for statistical purposes only. Your response will be kept confidential and any person who willfully discloses ANY identifiable information about you or your operation is subject to a jail term, a fine, or both. This survey is conducted in accordance with the Confidential Information Protection and Statistical Efficiency Act of 2018, Title III of Pub. L. No. 115-435, codified in 44 U.S.C. Ch. 35 and other applicable Federal laws. For more information on how we protect your information please visit: <https://www.nass.usda.gov/confidentiality>. Response is voluntary.

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 number is 0535-0218. The time required to complete this information collection is estimated to average 75 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

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

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

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

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

check if cell phone

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

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

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

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

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

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

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

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

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

check if cell phone

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

A

## RICE FIELD SELECTION

A

Total Planted Acres

0050

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

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

a. Of the total (item 1) acres, how many were planted with the intention of harvesting--

	Total Acres	Number of Fields
i. Long grain?.....	0051 _____	0056
ii. Medium grain?.....	0052 _____	0057
iii. Short grain?.....	0053 _____	0058

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

Total Number of Fields Planted

0020

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

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

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

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

Field description:

--

APPLY "RANDOM NUMBER" LABEL HERE

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

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

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

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

Number
1070
1071
1072

OFFICE USE  
 OY Field Substituted

0022
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B

## FIELD CHARACTERISTICS - SELECTED FIELD

B

1. How many acres of rice did this operation plant in the selected field for the 2021 crop?.....	Acres <div style="border: 1px dashed black; padding: 5px; width: 100px; margin: 0 auto;">1301</div>
a. Are the acres in the selected field Certified Organic?.....	Code <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1300</div>
b. Was the selected field transitioning into organic rice production in 2021?.....	Code Yes=1 No=3 <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1399</div>
[If item 1a or 1b = 1, then ask--]	
c. What was the cost, per acre, for third party organic certification?.....	Dollars & Cents <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1891</div>
2. Were the acres in the selected field--.....	Code <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1302</div>
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?	
[If field is cash rented (item 2 = 2, 3, or 5), ask item 3. Otherwise go to item 4.]	
3. What was the cash rent paid per acre for the selected 2021 rice field?.....	Dollars & Cents per Acre <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1303</div>
[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 <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1304</div>
[If field is rented (item 2 = 2, 3, 4, 5, or 6) ask--]	
5. What was the total cost for all inputs provided by any landlord for the 2021 crop on the selected field? INCLUDE the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, drying, and irrigation. EXCLUDE real estate tax expenses and lime costs paid by the landowner.....	Dollars & Cents per Acre <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1305</div>
	OR Total Dollars <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1306</div>
6. What was the total cost for all inputs provided by any contractor for the 2021 crop on the selected field? INCLUDE the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, drying, and irrigation.....	Dollars & Cents per Acre <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1309</div>
	OR Total Dollars <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1310</div>
7. In what year did you (the operator listed on the label) start operating the selected field?.....	Year <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">1312</div>

M M D D

1308
_____ 2021

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

Unit Code  
 1 Pounds  
 2 CWT  
 3 Tons  
 4 Bushels  
 5 Barrels

Units per Acre

a. What was your yield goal at planting for the selected field?  
 INCLUDE any ratoon crop.....

0216	0217
_____	_____

9. How many acres in the selected field had to be replanted to rice?  
 (Acres replanted = number of acres X number of times replanted).....

Number of Acres
1315
_____

10. What type of rice grain was planted on the selected field?.....

1 Long
2 Medium
3 Short

Code
1550

[If item 10 = 1 or 2, ask--]

a. Did you plant an aromatic variety?.....

Code
1551
Yes=1 No=3

[If item 10 = 3, ask--]

b. Did you plant a glutinous or sweet variety?.....

Code
1552
Yes=1 No=3

11. What was the source of the rice seed?.....

1 Purchased
2 Homegrown or traded

Code
1317

[If item 11 = 2, ask--]

a. What was the cost per pound for cleaning and treating this seed?.....

Dollars & Cents per Pound
1321
_____

[If any seed purchased (item 11 = 1), ask--]

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

Dollars & Cents per Unit

Unit Code  
 1 Pounds  
 2 CWT  
 3 Tons  
 4 Bushel  
 22 Acres  
 23 50 Lb. Bags

1319	1320
_____	_____

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

a. What method of seeding did you use on the selected field?.....

1 Water seeded (airplane)
2 Drilled (dry)
3 Airplane (dry)
4 Other, Broadcast (dry)

Units

Unit Code  
 1 Pounds/Acre  
 2 CWT/Acre  
 4 Bushels/Acre  
 25 Seeds/Acre  
 38 Seeds/Foot

1313	1314
_____	_____

Code
1316

14. For the 2021 rice crop, was the rice seed--.....

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

3062

[If item 14 = 1 or 2, ask--]

Seed Treatment Name

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

1289

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

Code  
2325

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

Code  
2340

Yes=1  
No=3

[If item 15 = 1, ask--]

Commercial Seed Product Name

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

2342

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

Code  
2343

16. Was a hybrid rice seed planted in the selected field?.....

Code  
1327

Yes=1  
No=3

17. Did the rice planted on the selected field have any of the following herbicide tolerant traits in 2021? Did you use any of the following herbicide tolerant traits the last time rice was planted on the selected field?

	Last Year Rice was Planted	
	2021	Yes=1 No=3 N/A=4
a. Herbicide tolerance to ClearField® or other IMI (imazethapyr and imidazolinone) herbicides such as ClearField® Rice or FullPage® Rice.....	2060	2061
b. Herbicide tolerance to Provisia® or other quizalofop herbicides such as Provisia® Rice.....	2062	2063
c. Herbicide tolerance to GoalTender® or other oxyfluorfen herbicides such as ROXY™ Rice.....	2064	2065
d. Other herbicide tolerant trait.....	2070	2071

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

Yes=1  
No=3

Code  
2323

[If item 18 = 1, ask--]

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

Yes=1  
No=3

Code  
2324

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

Yes=1  
No=3

Code  
2394

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

Yes=1  
No=3

Code  
1328

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

20. How many acres in this rice field were or will be--	Acres	What yield per acre did you get or do you expect to get for rice--	Unit Code
		Units per Acre	Code
a. harvested for grain, first crop?.....	1346 ▪__	1347 ▪__	1348
b. harvested for grain, ratoon crop?.....	1332 ▪__	1333 ▪__	1334
c. harvested for commercial seed contract?.....	1431 ▪__	1432 ▪__	1433
d. abandoned?.....	1351 ▪__		
e. used for some other purpose?.....	1439 ▪__		

## Crop Code List for item 22 - Previously Planted Crops

6 Corn for grain	1 Hay, alfalfa	240 Sorghum, all	291 Other field crop
5 Corn for silage	11 Hay, all other	26 Soybeans	292 Other crop
283 Cotton, all	15 Oats	28 Sugarbeets	312 Cover crop mix
946 Crawfish	21 Rice	263 Wheat, durum or spring	
302 CRP	22 Rye	165 Wheat, winter	
311 Grasses including clover	34 Rye grass	318 No crop planted	

21. 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 was growing.]			2 Was this a cover crop?	3 If a cover crop was planted, how did you terminate this cover crop?	4 Was the selected field irrigated?	5 Was the selected field no-till or strip-tilled? <sup>1/</sup>
Season and Year	Crop Name	Crop Code	Yes=1 No=3	Code	Yes=1 No=3	Yes=1 No=3
a. Spring/Summer of 2021?...	Rice	21			2345	1344
b. Fall of 2020?.....		1343	1470	1471	2344	1345
c. Spring/Summer of 2020?...		1369	1472	1473	2370	1371
d. Fall of 2019?.....		1372	1474	1475	2373	1374
e. Spring/Summer of 2019?...		1375	1476	1477	2376	1377
f. Fall of 2018?.....		1378	1478	1479	2379	1380
g. Spring/Summer of 2018?...		1381	1480	1481	2382	1383
h. Fall of 2017?.....		1366	1482	1483	2367	1368
i. Spring/Summer of 2017?...		1340	1484	1485	2341	1342

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

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

Dollars & Cents  
per Acre

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

1468

• \_\_\_\_

k. What was the per-acre cost-share or financial assistance payments received for the cover crop? If no program payment was received, enter zero.....

1495

• \_\_\_\_



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

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

<b>On-field Soil and Crop Management</b>		
1 <input type="checkbox"/> No-till/strip-till	10 <input type="checkbox"/> Terraces	30 <input type="checkbox"/> Implement an integrated pest management plan - written plan
2 <input type="checkbox"/> Conservation tillage except no-till/strip-till	12 <input type="checkbox"/> Grass waterway	31 <input type="checkbox"/> Drift reducing spray nozzles
3 <input type="checkbox"/> Cover crop - single species	20 <input type="checkbox"/> Implement a nutrient management plan - written plan.	32 <input type="checkbox"/> Targeted sprayer - electrical control
4 <input type="checkbox"/> Cover crop mix	21 <input type="checkbox"/> Precision nutrient application	<b>Adjacent to Field</b>
5 <input type="checkbox"/> Contour farming	22 <input type="checkbox"/> Subsurface phosphorous application	33 <input type="checkbox"/> Filter strip
6 <input type="checkbox"/> Conservation crop rotation	23 <input type="checkbox"/> No fertilizer application more than 30 days before planting	34 <input type="checkbox"/> Field border
7 <input type="checkbox"/> Laser leveling	24 <input type="checkbox"/> Controlled release fertilizer	35 <input type="checkbox"/> Riparian buffer - grass or forest
	26 <input type="checkbox"/> Split nitrogen application with at least 50% applied after planting	50 <input type="checkbox"/> Irrigation water management plan
		99 <input type="checkbox"/> None of the above

- b. For each practice or activity checked in 22a, please complete one line of this table.

1 Practice or Activity on the Selected Field	2 Practice Code (see item 22a)  Code	3 When was this practice or plan used on the selected field? 1 Used in 2021 2 Not used in 2021 but used in earlier years  Code	4 What financial assistance (cost share) has been received for this practice on this field? 1 Received a payment in 2021 from EQIP, CSP, or similar program 2 Did not receive a payment in 2021 but have in earlier years 3 Have never received a payment for this practice  Code	5 Does this practice or activity help satisfy-- 1 A federal, state, or local regulatory requirement 2 Highly erodible land conservation compliance 3 Does not relate to any regulation or compliance requirement  Code
	1610	1614	1612	1613
	1615	1619	1617	1618
	1620	1624	1622	1623
	1625	1629	1627	1628
	1630	1634	1632	1633
	1635	1639	1637	1638
	1640	1644	1642	1643
	1645	1649	1647	1648
	1650	1654	1652	1653
	1655	1659	1657	1658
	1660	1664	1662	1663

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	

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

Yes=1	0702
No=3	

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 primary soil texture of the selected field?.....

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

	Code
	2401

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

1	2	3	
27. In the selected field, are any of the following currently or historically a concern?	1 Currently a concern	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:	
	2 A concern in the past but not anymore	1 USDA - NRCS	
	3 Not a concern	2 Cooperative Extension Service	
	Code	3 Other USDA staff, including Forest Service	
		4 Other (e.g. Soil and Water Conservation District, state agency)	
		5 None	
		Source 1	Source 2
a. Water-driven erosion.....	2407	2417	2427
b. Wind-driven erosion.....	2408	2418	2428
c. Soil compaction.....	2409	2419	2429
d. Poor drainage.....	2410	2420	2430
e. Low organic matter.....	2411	2421	2431
f. Water quality.....	2412	2422	2432
g. Other concerns.....	2413	2423	2433
h. If the answer to all of the above was "Not a Concern", is it the case that there are no significant concerns on this field? ..... Yes=1 No=3	2414		

28. Has the selected field ever been in any conservation 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 Security or Conservation Stewardship Program (CSP).....
- c. Conservation Reserve Program (CRP).....
- d. Other Federal, State, Local, or non-Government source.....

	2611
	2612
	2613
	2614

29. Did you harvest both rice and crawfish from the selected field during 2021?.....

Code  
2620  
Yes=1  
No=3

[If item 29 = 1, continue. Otherwise go to item 30.]

a. Do you believe the crawfish harvest reduced the rice yield in the selected field during 2021?.....

Code  
2621  
Yes=1  
No=3

[If item 29a = 1, continue. Otherwise go to item 30.]

b. By what percentage do you believe the rice yield in the selected field was reduced as a result of the harvest of crawfish?.....

Percent  
2622

30. Did you maintain a flood on the selected field during the winter season as a beneficial habitat for wildlife or waterfowl?.....

Code  
2623  
Yes=1  
No=3

[If item 30 = 1, continue. Otherwise go to item 31.]

a. During the average winter flooding, how much was left on the selected field?..

Inches per Acre	OR	Total Acre-Feet
2624 _____		2625 _____

b. Did you receive payment for maintaining a flood on the selected field?.....

Code  
2626  
Yes=1  
No=3

[If item 30b = 1, continue. Otherwise go to item 31.]

i. What was the payment you received for maintaining a winter flood on the selected field?.....

Dollars & Cents per Acre	OR	Total Dollars
2627 _____		2628

31. In 2021, was the rice in the selected field covered by a single or named peril crop insurance policy (e.g. hail, replant, wind, freeze)?.....

Code  
2520  
Yes=1  
No=3

[If item 31 = 1 ask--. Otherwise go to item 32.]

a. In 2021, was the rice in the selected field covered by more than one single or named peril crop insurance policies (e.g. hail, replant, wind, freeze)?.....

Code  
2517  
Yes=1  
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 2021?.....

Code  
1394  
Yes=1  
No=3

32. In 2021, was the rice in the selected field covered by a multi-peril crop insurance policy?..... Yes=1  
 No=3

Code  
 1385

[If item 32 = 1 ask --. 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. Did you purchase a policy for Hurricane Insurance Protection - Wind Index in 2021?..... Yes=1  
 No=3

Code  
 1391

c. What type of unit coverage did you purchase for the multi peril policy on the selected field?.....

1 Basic  
 2 Optional  
 3 Enterprise

Code  
 2524

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

Year  
 2525

e. What is the 2021 Approved APH (actual production history) yield for the selected field?.....

CWT per Acre  
 2526

f. What was the premium paid for multi-peril crop insurance for the selected field in 2021? EXCLUDE any administrative fee.....

Dollars & Cents per Acre  
 2527

g. Did you or will you collect an indemnity payment for the selected field from multi-peril crop insurance during 2021?..... Yes=1  
 No=3

Code  
 2528

C

**NUTRIENT or FERTILIZER APPLICATIONS - SELECTED FIELD**

C

1. Were commercial nutrients or fertilizers applied to the selected field for the 2021 rice crop? INCLUDE those from operators, landlords, and contractors....

Yes=1  
No=3

Code	Office Use Edit Table
0202	0200

[If item 1 = 1 continue. Otherwise go to item 6]

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

Number
0203

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

**CHECKLIST**

**INCLUDE**

**EXCLUDE**

- |   |   |
|---|---|
| <input type="checkbox"/> Custom applied nutrients or fertilizers<br><br><input type="checkbox"/> Nutrients or fertilizers applied in the fall of 2020 and those applied earlier if the selected field was fallow in 2020.<br><br><input type="checkbox"/> Commercially prepared manure or compost | <input type="checkbox"/> Micronutrients<br><br><input type="checkbox"/> Unprocessed manure<br><br><input type="checkbox"/> Nutrients or fertilizers applied to previous crops in the selected field<br><br><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 13 Quarts 19 Pounds of actual nutrients	5 When was this applied? 1 In the fall before seeding 2 In the spring before seeding 3 At seeding 4 After seeding	6 How was this applied? [Refer to code list above]	7 How many acres in the selected field were treated in this application?  Acres
	N Nitrogen	P <sub>2</sub> O <sub>5</sub> Phosphate	K <sub>2</sub> O Potash	S Sulfur					
01	31	32	33	34	36	37	38	39	40
02	31	32	33	34	36	37	38	39	40
03	31	32	33	34	36	37	38	39	40
04	31	32	33	34	36	37	38	39	40
05	31	32	33	34	36	37	38	39	40
06	31	32	33	34	36	37	38	39	40
07	31	32	33	34	36	37	38	39	40
08	31	32	33	34	36	37	38	39	40
09	31	32	33	34	36	37	38	39	40
10	31	32	33	34	36	37	38	39	40

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

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

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

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

b. Excluding the cost of the nutrient or fertilizer materials, how much was spent for custom application of nutrients or fertilizers on the selected field? INCLUDE operator, landlord, and contractor costs. INCLUDE costs for sulfur and micronutrients. EXCLUDE custom application of lime, gypsum, purchased manure and purchased compost. .... Office Use  
 Dollars & Cents per Acre OR Total Dollars  
 0219 OR 0220

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

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

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

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

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

[If item 7 = 1, ask--]

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

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

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

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

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

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

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

[If item 9 = 1 ask--]

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

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

[If item 10 = 1, ask--]

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

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

Yes=1  
No=3

Code  
0229

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?.....

Yes=1  
No=3

Code  
3231

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

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

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

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

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

Code  
0241

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

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

Pounds per Acre  
2561

OR  
Gallons per Acre  
2562

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

Dollars & Cents per Pound  
0297

Dollars & Cents per Gallon  
0298

15. Was time-released fertilizer applied to the selected field?.....

Yes=1  
No=3

Code  
2567

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

Yes=1  
No=3

Code  
0242

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

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

Years  
0243

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

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

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

[If item 17 = 1 continue. Otherwise go to Section D.]

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

b. What was the amount of manure or compost applied per acre to the selected field?..... Unit Codes  
0249 0248  
Units per acre  
 1 Tons  
 2 Gallons  
 3 Bushels  
 4 Cubic yards

c. Of the total manure or compost applied to the selected field for the 2021 rice crop, what was the percent of manure or compost applied--

i. in the fall before planting?..... + 0254 Percent  
 ii. in the spring before planting?..... + 0255  
 iii. after planting?..... + 0256  
= 100%

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

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

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

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 17g = 2, continue. Otherwise go to item 17h.]

i. What was the total cost of the purchased manure or compost applied to the selected field? INCLUDE operator, landlord, and contractor costs. INCLUDE any payment made for transportation costs..... Dollars & Cents per Acre OR Total Dollars  
0284 0285



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

Code	
Yes=1	0286
No=3	

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

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

Dollars & Cents per Acre	OR	Total Dollars
0287		0288
. _ _		

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

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

Miles
0291

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

Code	
Yes=1	0261
No=3	

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

Yes=1	0262
No=3	

[If 17j = 1, ask--]

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

Percent
0263

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

Code	
Yes=1	0280
No=3	

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

Code	
Yes=1	0264
No=3	

[If item 18 = 1, ask--]

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

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

Code	
Yes=1	0265
No=3	

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

Yes=1	0266
No=3	

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

a. Change the type of commercial fertilizer products applied on the selected field, e.g. less anhydrous ammonia and more urea.....

Code	
Yes=1	1226
No=3	

b. Manage fertilizer use more closely, with such practices as soil testing, split applications, variable rate applications, or soil incorporation on the selected field.....

Yes=1	1228
No=3	

c. Change your crop rotation, e.g. plant rice on the selected field rather than usual crop rotation.....

Yes=1	1227
No=3	

d. Reduce the application of commercial nitrogen fertilizer.....

Yes=1	1224
No=3	

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

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

Percent
1225

**D**

**BIOCONTROL or PESTICIDE APPLICATIONS - SELECTED FIELD**

**D**

Now I have some questions about all the biocontrols or pesticides used on the selected field for the 2021 rice 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 rice field for the 2021 crop?.....

Yes=1  
No=3

Code	Office Use Edit Table
0302	0300

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

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

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

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

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

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

## Applications Codes for Column 9

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

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

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

Code
0323

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

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

Code
0324

[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, defoliant, herbicides, insecticides, fungicides, surfactants, wetting agents, growth regulators, and materials applied before planting and during 2020 fallow period. EXCLUDE seed treatments.....

	Dollars & Cents per Acre	OR	Total Dollars
0334	. __ __		0335

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

	Dollars & Cents per Acre	OR	Total Dollars
3034	. __ __		3035

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

	Dollars & Cents per Acre	OR	Total Dollars
3036	. __ __		3037

Note 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 2021 rice 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		
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 the selected rice field before weeds emerged?.....
5. Were herbicides applied to the selected rice 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		
Yes=1		0805
No=3		
Yes=1		0823
No=3		
Yes=1		1824
No=3		

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

1 By deliberately going to the field specifically for scouting activities [Enter code 1 and go to item 9.]
2 By conducting general observations while performing routine tasks [Enter code 2 and go to item 10.]
3 The selected field was not scouted. [Enter code 3 and go to item 14.]

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

		Code
Yes=1		0810
No=3		
Yes=1		0811
No=3		

1	2	3	4
11. Was this rice field scouted for--	Yes=1 No=3	[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?.....	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.]

12. How much was charged for the scouting services for the selected field?  
 INCLUDE operator, landlord, and contractor costs.....

Dollars & Cents  
per Acre

0821

OR

Total Dollars

0822

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

Office Use

0333

Code

13. Were scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests in the selected field?.....

Yes=1  
No=3

0824

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

Yes=1  
No=3

0825

15. 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?

	Yes=1 No=3	Code
a. Use the services of a diagnostic laboratory for pest identification or soil plant tissue pest analysis for the selected field?.....		0841
b. Plow down crop residue using conventional tillage?.....		0842
c. Remove/burn down crop residue?.....		0843
d. Rotate crops in the selected field during the past three years?.....		0844
e. Maintain ground covers, mulches, or other physical barriers?.....		0845
f. Choose crop variety because of specific resistance to a certain pest?.....		0846
g. Use no-till or minimum till?.....		0847
h. Plan planting locations to avoid cross infestation of pests?.....		0848
i. Adjust planting or harvesting dates?.....		0849
j. Chop, spray, mow, plow, or burn field edges, lanes, ditches, roadways, or fence lines?.....		0850
k. Clean equipment and field implements after completing field work to reduce the spread of pests?.....		0851
l. Adjust row spacing, plant density, or row directions?.....		0852
m. Have the seed treated for insect or disease control after you purchased the seed for the selected field?.....		0854
n. Maintain a beneficial insect or vertebrate habitat?.....		0855
o. Use a flamer to kill weeds?.....		0857
p. Maintain buffer strips or border rows to isolate rice from non-organic crops or land, or did you take a buffer harvest?.....		0856
q. Plant earlier or later to avoid weeds?.....		0865

16. Were any beneficial organisms, such as insects, nematodes, or fungi, applied or released in the selected field to manage pests?.....

	Yes=1 No=3	Code
		0853

17. Were floral lures, attractants, repellants, pheromone traps, or other biological pest controls used on the selected field?.....

	Yes=1 No=3	Code
		0858

[If item 16 or item 17 = 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

18. Was a trap crop, excluding fallow, grown to help manage insects in the selected field?.....	Yes=1	0863
	No=3	
19. Was the selected field left fallow in 2020 to help manage insects on the selected field?.....	Yes=1	0864
	No=3	
20. 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?.....	Yes=1	0861
	No=3	
21. Was protection of beneficial organisms a factor in your pest control decisions for the selected field?.....	Yes=1	1765
	No=3	

[If item 21=1, continue. Otherwise go to item 22.]

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

22. Did pests, such as weeds, insects, pathogens, animals, cause any yield loss on the selected field in spite of your pest control efforts?.....	Yes=1	0827
	No=3	

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

a. How much yield loss per acre do you think was caused by all pests on the selected field in spite of the management practices you used to reduce those losses?.....	Unit Codes 1 Pounds 2 CWT 3 Tons 4 Bushels	
	Units per Acre	
	0829	0828

23. If the selected field was not treated with herbicides, tillage, or cultivation, how much yield loss per acre would you expect from weeds?.....	Unit Codes 1 Pounds 2 CWT 3 Tons 4 Bushels	
	Units per Acre	
	0869	0870

Completion Code for Pest Management Data	
1 Incomplete/Refusal	0500



**F FIELD OPERATIONS - SELECTED FIELD F**

1. Including custom operations, I need to list field work performed by machines on the selected field for the 2021 rice 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 2020, list operations starting with fall 2019.
- list the operations in order through harvest and hauling of this crop to storage or first point of sale; and
- maintain the order of tandem hook-ups.

Codes for Column 5

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

Office Use  
Lines in Table

0499

Check List

INCLUDE all field work using machines for--

- 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 L I N E  No.	2 S E Q U E N C E  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?	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 <sup>1/</sup> 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

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

Office Use

0400

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

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

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

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

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

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

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

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

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

Code
1116
Yes=1 No=3

[If item 5 = 1, ask--]

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

Dollars & Cents Per Acre
1117 . ____

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

Percent
1120



11. Which of the following technical or consultant services did you obtain to make recommendations for the selected field?

		Code
a. Nutrient recommendations/management service?.....	Yes=1 No=3	1129
b. Soil or tissue sample collection?.....	Yes=1 No=3	1130
c. Pest control recommendations/management service?.....	Yes=1 No=3	1131
d. Pest scouting?.....	Yes=1 No=3	1132
e. Irrigation management service (i.e. irrigation scheduling)?.....	Yes=1 No=3	1133
f. Yield map or remote sensing map development/interpretation?.....	Yes=1 No=3	1134
g. Other custom or technical service? [Specify: _____].....	Yes=1 No=3	1135

[If any item in 11a-g = 1, continue. Otherwise go to item 13.]

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

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

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

		Code
a. Did you access the data collected from the selected field on a --		
i. Paper hard copy?.....	Yes=1 No=3	2485
ii. Personal computer?.....	Yes=1 No=3	2486
iii. Mobile device?.....	Yes=1 No=3	2487
b. Did you access the data collected from the selected field through an agricultural technology provider website?.....	Yes=1 No=3	2488

[If item 13b = 1, ask--]

		Code
c. Did you opt out of allowing your agricultural technology provider website to share data collected from the selected field with any third party?.....	Yes=1 No=3	2489
d. Did you share any of the data collected from the selected field with a third party through an agricultural technology provider website?.....	Yes=1 No=3	2490

14. Were there or will there be any data collection tools such as yield monitors, GPS mapping, etc. used during field operations on this rice field?..... Yes=1 No=3 2460

[If item 14 = 1, continue. Otherwise go to item 17.]

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

1 Data Collection Tool	2 Tool Used  Yes=1 No=3	3 Collected GPS coordinates  Yes=1 No=3	4 Data was/will be used to create a map Yes=1 No=3	5 Replacement Cost  Total Dollars	6 Annual Fee  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 14a column 2 = 1, continue. Otherwise go to item 16.]

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

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

[If any item 14 column 2 = 1, continue. Otherwise go to item 18]

16. Using data collected from the previous tools table in item 14, did you obtain crop management recommendations, such as data interpretation, in 2021 for the selected field from any of the following--

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

[If any item 16a-d = 1, ask--]

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.....	Dollars & Cents per Acre	OR	Total Dollars
	3150		3151

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

Yes=1  
No=3

Code	
Yes=1	3160
No=3	

[If item 17 = 1, ask--]

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

- i. Weed analysis?.....
- ii. Spraying herbicide or fungicide?.....
- iii. Insect analysis?.....
- iv. Insect control?.....
- v. Yield analysis?.....
- vi. Moisture analysis?.....
- vii. Equipment check?.....

Yes=1  
No=3

Code	
Yes=1	3161
No=3	
Yes=1	3162
No=3	
Yes=1	3163
No=3	
Yes=1	3164
No=3	
Yes=1	3165
No=3	
Yes=1	3166
No=3	
Yes=1	3167
No=3	
Yes=1	3168
No=3	

b. Did you purchase the UAV?.....

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

i. What is the replacement cost of the UAV?.....

Total Dollars	
	3169

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

Yes=1  
No=3

Code	
Yes=1	3170
No=3	

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

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

Total Dollars	
	3171

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

- a. Mounted in-cab heads-up displays?.....
- b. Smart phones or computer tablets?.....
- c. Automatic section control, such as auto sprayer boom controls or automatic section shut offs?.....

Yes=1  
No=3

Code	
Yes=1	2155
No=3	
Yes=1	2156
No=3	
Yes=1	2165
No=3	

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

Dollars & Cents per Acre	OR	Total Dollars
2166		2167
*__		Code

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

Yes=1 No=3	2148
---------------	------

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

a. Was the guidance auto-steering equipment.....

1 New, owned? 2 Used, owned? 3 Leased?	Code
	2158

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

Year
2159
__ __ __ __

c. What is the replacement cost for guidance auto-steering equipment?.....

Dollars & Cents per Acre	OR	Total Dollars
2160		2161
*__		

d. What is the annual fee for guidance auto-steering?.....

Dollars & Cents per Acre	OR	Total Dollars
2162		2163
*__		

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

Yes=1 No=3	2164
---------------	------

[If item 21 = 1 continue. Otherwise go to Section G]

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

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

Acres

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

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

[If none, go to Conclusion]

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

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

Unit	System
System Type Code	1161

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.....

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 rice growing season?.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

Dollars & Cents per Acre	OR	Total Dollars
1189		1190

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

Code
1191

Yes=1  
No=3

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

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

Dollars & Cents per Acre	OR	Total Dollars
1193		1194

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

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

Total Dollars
1201

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

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

Total Dollars
1202

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

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

Inches
1203

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

Feet
1204

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

Code
1205

Yes=1  
No=3

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

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

Number
1206

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

Inches
1207

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

Feet
1208

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

Code
1210

Yes=1  
No=3

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

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

Acres
1211

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.....

Code
2211

Yes=1  
No=3

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

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

Inches
1212

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

Feet
1213

10. Did you reduce the water applied to the selected field in 2021 due to reduced availability of water supplies?.....	Yes=1 No=3	Code 1215						
11. Which of these water management approaches best describes the irrigation water management on the selected field?.....	<table border="1"> <tr> <td>1 Permanent flooding</td> </tr> <tr> <td>2 Pinpoint flooding</td> </tr> <tr> <td>3 Delayed flooding</td> </tr> <tr> <td>4 Intermittent, controlled, or alternate wetting and drying (AWD) irrigation</td> </tr> <tr> <td>5 Furrow, or raised bed irrigation</td> </tr> <tr> <td>6 None of the above</td> </tr> </table>	1 Permanent flooding	2 Pinpoint flooding	3 Delayed flooding	4 Intermittent, controlled, or alternate wetting and drying (AWD) irrigation	5 Furrow, or raised bed irrigation	6 None of the above	Code 1216
1 Permanent flooding								
2 Pinpoint flooding								
3 Delayed flooding								
4 Intermittent, controlled, or alternate wetting and drying (AWD) irrigation								
5 Furrow, or raised bed irrigation								
6 None of the above								
12. Is the run-off from this field--.....	<table border="1"> <tr> <td>1 Reused to irrigate on the farm?</td> </tr> <tr> <td>2 Collected in evaporation ponds on the farm?</td> </tr> <tr> <td>3 Drained from the farm?</td> </tr> <tr> <td>4 There is no run-off</td> </tr> </table>	1 Reused to irrigate on the farm?	2 Collected in evaporation ponds on the farm?	3 Drained from the farm?	4 There is no run-off	Code 1214		
1 Reused to irrigate on the farm?								
2 Collected in evaporation ponds on the farm?								
3 Drained from the farm?								
4 There is no run-off								
13. Which of the following approaches are used to manage drainage of this field?		Code						
a. Natural drying of the field when weather allows.....	Yes=1 No=3	1230						
b. Opening of levee gates or intentional breach of levee.....	Yes=1 No=3	1231						
c. Controlled drainage outlet.....	Yes=1 No=3	1232						
d. Treatment of drainage water with saturated buffers, filter strips, or constructed wetlands.....	Yes=1 No=3	1233						
e. Treatment of drainage water with a bioreactor.....	Yes=1 No=3	1234						

## CONCLUSION

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**Location of Selected Field**

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

	County Name	Office Use State County FIPS Code
1. What county is the selected rice field in?.....		0010 _ _ _ _ _

	LATITUDE	LONGITUDE
a. Field location.....	9854 _ _ _ . _ _ _ _ _ <i>decimal</i>	9855 _ _ _ . _ _ _ _ _ <i>decimal</i>

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

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

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

2. To have a summary emailed to you at a later date, please enter your email address.	1095
---	------

	H H M M
3. Ending time [Military].....	0005 _ _ _ _ _

Record Use

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

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

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.....

Operation Email: (if different from above)

Operation Phone:

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

Respondent Name:

Respondent Phone (if different from above)

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

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

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