

AGRICULTURAL RESOURCE MANAGEMENT SURVEY

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Phase 2



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BARLEY PRODUCTION PRACTICES AND COSTS REPORT FOR 2019

| VERSION | ID | TRACT | SUBTRACT | C-TYPE |
|---------|-------|-------|----------|--------|
| 14 | _____ | 01 | ___ | 103 |

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

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0535-0218. The time required to complete this information collection is estimated to average 65 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

H H M M

BEGINNING TIME
[MILITARY]

0004

SCREENING BOX

0006

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

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

A

BARLEY FIELD SELECTION

A

TOTAL PLANTED ACRES

0050

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

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

Of the total (item 1), how many acres were planted for---

- a. feed barley?

0051

- b. malt barley?

0052

- c. other uses?

XXXX

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

TOTAL NUMBER OF
FIELDS PLANTED

0020

2. What is the TOTAL number of barley fields that were planted on this operation?

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

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

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

FIELD NAME, NUMBER OR DESCRIPTION

FIELD NAME, NUMBER OR DESCRIPTION

| |
|---|
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |

| |
|----|
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |
| 16 |
| 17 |
| 18 |

APPLY "RANDOM NUMBER" LABEL HERE

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

**SELECTED FIELD
NUMBER**

0021

5. **The field selected is** _____ (*field name/number/description*).

During this interview, the barley questions will be about this selected barley field.

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

6. 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.]

NUMBER

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

1070

1071

1072

**OFFICE USE
OY Field Substituted**

0022

B FIELD CHARACTERISTICS---SELECTED FIELD

B

| | | | |
|--|---|---|--------------------------|
| 1. How many acres of barley did this operation plant in the selected field for the 2019 crop? | | ACRES 1301 | |
| a. Was the selected field planted for--- | 1 feed? 2 malt? 3 other uses? | CODE 1324 | |
| b. Are the acres in the selected field CERTIFIED ORGANIC? [If YES, skip 1c and ask item 2.] | | CODE YES = 1 1300 NO = 3 | |
| c. Was the selected field transitioning into organic barley production in 2019? | | CODE YES = 1 1399 NO = 3 | |
| 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 for a SHARE of the crop? 5 rented for some combination of CASH and SHARE of the crop? 6 used RENT FREE? | CODE 1302 | |
| 3. [If field is CASH RENTED (item 2 = 2, 3, or 5), ask item 3; else go to item 4.] What was the cash rent paid per acre for this 2019 barley field? | | DOLLARS & CENTS PER ACRE 1303 | |
| 4. [If field is SHARE RENTED (item 2 = 4 or 5), ask---] What was the landlord's share of the crop from the selected field? | | PERCENT 1304 | |
| 5. [If field is RENTED (item 2 = 2, 3, 4, 5, or 6), ask--- What was the total cost for all inputs provided by any landlord for the 2019 crop on the selected field? <i>(Include the costs for all inputs, such as seed, fertilizer, chemicals, technical services, custom operations, and irrigation.</i> | | 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 | |
| 7. On what date was the selected field planted? | | MM DD YY 1308 | |
| 8. When planted, was this barley field planted with the intention of --- <i>(Include barley planted for commercial seed contract under other uses.).</i> | 1 Dual purpose (grain and grazing)? 2 Harvesting for grain only? 3 Grazing only? 4 Cover crop? 5 Other uses [Specify: _____] | CODE 1307 | |
| [if item 8 = 1 or 2, ask --] | | BUSHEL PER ACRE 1311 | |
| a.. What was your yield goal at planting for the selected field? | | CODE 1317 | |
| 9. Was the source of the barley seed--- | | 1 Purchased? 2 Homegrown or traded? 3 Both? | |

a. [If item 9 = 2 or 3, ask--]

How much of the barley seed planted in the selected field was grown (or received in trade) by this operation?

PERCENT

1318

**DOLLARS & CENTS
PER BUSHEL**

1321

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

UNIT CODE

1 = POUND
2 = CWT
3 = TON
4 = BUSHEL
22 = ACRE
23 = 50 LB BAG

10. [If any seed purchased (item 9 = 1 or 3), ask--]

What was the total cost per unit (including both your and the landlord's share) of purchased seed for the selected field? (Include cost of seed treatment.)

**DOLLARS & CENTS
PER UNIT**

1319

1320

UNIT CODE

1 = POUNDS
2 = CWT
3 = TONS
4 = BUSHELS
23 = 50 LB BAGS

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

UNITS PER ACRE

1313

1314

12. **For the 2019 barley crop, was the barley 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 12 = 1 or 2, ask--]

a. What was the name of the seed treatment?

Write seed treatment name in the box provided.

SEED TREATMENT NAME

b. What was the seed treatment code? Enter the appropriate seed treatment code from the Respondent Booklet (Pages 3 - 4). (Enter 999 if a seed treatment was applied but is not listed. Enter "-1" if the seed treatment is not known.)

CODE

2325

13. **For the 2019 barley crop, did you plant a commercial seed product on the selected field?**

YES = 1

CODE

2340

[If item 13 is "Yes", ask--]

a. What was the name of the seed product?

Write the seed product name in the box provided (e.g. LCE Genie, AAC Synergy, AC Metcalfe).

COMMERCIAL SEED PRODUCT NAME

14. **How many acres in the selected field had to be replanted to barley?**

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

1315

15. **Was straw harvested from the selected field?**

CODE

1354

☐ YES – [Enter code 1 and continue]

☐ NO – [Go to item 19].

| | | | | | | | | | | | | | |
|---|---------------|---|-------|---|------------|-----------|-------|---|--------------|--|---------------------|---|------------|
| | | | | | | | | | | ACRES | | | |
| 16 How many acres of barley straw were harvested from the selected barley field? | | | | | | | | | | 1355 | | | |
| | | | | | | | | | | TOTAL TONS | | | |
| a. How many tons of barley straw were harvested from the selected barley (item 13) acres? | | | | | | | | | | 1356 | | | |
| | Tons per Acre | X | Acres | = | Total Tons | OR | Bales | X | Lbs per Bale | ÷ | 2000 Lbs per Ton | = | Total Tons |
| | | | | | | | | | | TOTAL DOLLARS | | | |
| b. What was the total cost of baler twine/wire used to bale the barley straw from the selected barley field? (<i>Include landlord's share.</i>) | | | | | | | | | | 1359 | | | |
| c. Was any barley straw sold? | | | | | | | | | | DOLLARS & CENTS PER TON | | | |
| If yes, what was the price received per ton for all barley straw (item 13a) sold from the selected barley field? | | | | | | | | | | 1360 | | | |

| | | |
|---|-------------------|-------------|
| | | CODE |
| 17. Has harvest of this field been completed? | YES = 1 NO = 3 | 1328 |

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

| How many acres in the barley field were (or will be)--- | | 1 What yield per acre did you (or do you expect to) get for barley--- | 2 UNIT CODE 1 POUNDS 2 CWT 3 TONS 4 BUSHELS |
|---|-------|--|--|
| | ACRES | UNITS PER ACRE | CODE |
| a. harvested for grain or seed? | 1346 | 1347 | 1348 |
| b. harvested for hay, silage or green chop? | 1349 | 1350 | TONS |
| c. abandoned? | 1351 | | |
| d. used for some other purpose? | 1439 | | |

| | | |
|--|--|-------------|
| 19. Did any livestock graze the selected barley field during the 2019 crop year? | | CODE |
| <input type="checkbox"/> YES - [Enter code 1 and continue] | <input type="checkbox"/> NO - [Go to item 21]. | 1400 |

20. What type of livestock grazed the selected barley field during the 2019 crop year? (*Include livestock grazing before barley harvest and livestock "grazing-out" the field instead of harvesting barley.*)

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

CODE

1361

HEAD

1362

DAYS

1363

CODE

d. Was payment received from others for livestock grazing on this field?

☐ YES - [Enter code 1 and continue]

☐ NO - [Go to item 21].

1364

TOTAL DOLLARS

(i) What is the total dollar amount received? (Include landlord's share.).

1365

CROP CODE LIST for item 21 – PREVIOUSLY PLANTED CROPS

| | | | |
|-------------------|------------------------------|-------------------|----------------------|
| 190 Barley | 311 Grasses including clover | 22 Rye | 318 No crop planted |
| 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 | 263 Wheat, spring | 312 Cover crop mix |
| 302 CRP | 21 Rice | 165 Wheat, winter | |

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--- | | | 2 Was this a cover crop? | 3 How did you terminate this cover crop? | 4 Was the selected field irrigated? | 5 Was the selected field no-tilled or strip-tilled? 1/ |
|--|--|------|-----------------------------|---|--|---|
| SEASON AND YEAR | | | YES = 1 NO=3 | CODE | YES = 1 NO=3 | YES = 1 NO=3 |
| a. SPRING/SUMMER of | | XXXX | XXXX | XXXX | 2345 | 1344 |
| b. FALL of | | 1343 | 1470 | 1471 | 2344 | 1345 |
| c. SPRING/SUMMER of 2018? | | 1369 | 1472 | 1473 | 2370 | 1371 |
| d. FALL of | | 1372 | 1474 | 1475 | 2373 | 1374 |
| e. SPRING/SUMMER of | | 1375 | 1476 | 1477 | 2376 | 1377 |
| f. FALL of | | 1378 | 1478 | 1479 | 2379 | 1380 |
| g. SPRING/SUMMER of | | 1381 | 1480 | 1481 | 2382 | 1383 |
| h. FALL of | | 1366 | 1482 | 1483 | 2367 | 1368 |
| i. SPRING/SUMMER of 2015? | | 1340 | 1484 | 1485 | 2341 | 1342 |

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

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

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

**DOLLARS &
CENTS
PER ACRE**

1468

- 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)?

1495

22. **Has any part of the selected field as “Highly Erodible Land”?** (Cropland identified as highly erodible is subject to highly erodible land conservation (HELC) requirements. Producers who receive farm program payments are required to have (and apply) a written soil conservation plan.)

CODE

YES = 1
NO = 3

1404

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

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

YES = 1
NO = 3

XXXX

24. **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.)?

YES = 1
NO = 3

1405

25. **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

26. **What is the primary soil texture of the selected field?**

- 1 Loam
2 Clay
3 Sandy
4 Mixed
5 Silty

CODE

2401

27. **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.) | |
|--|-------------------------------|---|----------|
| | | 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).

28. **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.
b. Conservation Stewardship Program.
c. Conservation Reserve Program.

2611

2612

2613

d. Other Federal, State, Local, or non-Government source.

29. 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

No-Till/Strip-Till

Grass Waterway

☐ 30 Implement an integrated pest management plan (written plan)

Conservation Tillage (except no-till/strip-till)

☐ 20 Implement a nutrient management plan (written plan)

Drift reducing spray nozzles

Cover crop (single species)

☐ 26 Split nitrogen application with at least 50% applied after planting

☐ 32 Targeted sprayer (electrical control)

Cover crop mix

Precision nutrient application

Adjacent to Field

Contour Farming

No fertilizer application more than 30 days before planting

☐ 33 Filter strip

Conservation crop rotation

Controlled release fertilizer

☐ 34 Field border

Terraces

Subsurface phosphorous application

Riparian Buffer (grass or forest)

b. For each practice or activity checked in 27a, please complete one line of this table.

| 1 Practice or Activity on the selected field | 2 Practice Code (see item 27a) | 3 On this field, for this practice, have you ever received at any time ---- Technical or planning assistance? 1 USDA NRCS field staff, cooperative extension, or Technical Service Providers 2 Other Sources of Outside Assistance, such as Soil and Water Conservation Service or a conservation organization 3 No Assistance Needed | Financial assistance? 1 Environmental Quality Incentives Program (EQIP) 2 Conservation Stewardship Program (CSP) 3 Conservation Reserve Program (CRP) 4 Other Federal, State, and Local Programs 5 No Assistance Needed | 4 Does this practice or activity help satisfy-- 1 A Federal regulatory requirement 2 Highly Erodible Land Conservation Compliance 3 Does not relate to any regulation or compliance requirement | 5 Was this practice or plan used on this selected field in 2018? 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 |

| | | |
|---|-------------------|--------------------------|
| 30. In 2019, was the barley in the selected field covered by a single or named peril crop insurance policy (e.g. hail, replant, wind, freeze)? | YES = 1 NO = 3 | 2520 |
| [If YES, ask--] | | |
| a. In 2019, was the barley in the selected field covered by more than one single or named peril crop insurance policies (e.g. hail, replant, wind, freeze)? | YES = 1 NO = 3 | 2517 |
| | | DOLLARS & CENTS PER ACRE |
| b. What was the dollar amount of coverage per acre for the single peril policy covering the selected field? | | 2521 |
| | | PERCENT |
| c. What was the percent deductible for the single peril policy covering the selected field? (Record no deductible as 0.) | | 2522 |
| | | DOLLARS & CENTS PER ACRE |
| d. What premium cost per acre did you pay for the single peril policy covering the selected field? .. | | 2523 |
| | | CODE |
| e. Did you (or will you) collect an indemnity payment for the selected field from the single peril policy during 2019? | YES = 1 NO = 3 | 1394 |

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

CODE

☐ YES – [Enter code 1 and continue]

☐ NO – [Go to Section C].

1385

CODE

a. Which coverage did you obtain? . . .

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

.....

1386

[If item 31a = 2, ask--]

PERCENT

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

1387

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

1388

[If item 34a = 3, ask---]

PERCENT

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

1389

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

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

.....

CODE

2524

YEAR

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

2525

BUSHELS PER ACRE

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

2526

DOLLARS & CENTS
PER ACRE

e. What was the premium paid for multi-peril crop insurance for the selected field in 2019? (Exclude any sign-up fee)

2527

. ____

CODE

f. Did you (or will you) collect an indemnity payment for the selected field from multi-peril crop insurance during 2019?

YES = 1

2528

C

NUTRIENT or FERTILIZER APPLICATIONS---SELECTED FIELD

C

1. Were commercial nutrients or fertilizers applied to the selected field for the 2019 barley crop? YES = 1

[If COMMERCIAL nutrient or fertilizer applied, continue; else go to item 7.]

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.)

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

| CHECKLIST | | CODE | EDIT TABLE |
|--|---|-------------|------------------------------|
| <input checked="" type="checkbox"/> INCLUDE <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 checked="" type="checkbox"/> EXCLUDE <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 | 0202 | 0201 |
| | | NUMBER | |
| | | 0203 | |
| | | T-TYPE 2 | TABLE 001 |
| | | LINE 99 | OFFICE USE LINES IN TABLE |
| | | 0213 | |

APPLICATION CODES for COLUMN 6

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

| LINE | 2 MATERIALS USED [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Nutrients or Fertilizers in Respondent Booklet.] | | | | 3 What quantity was applied per acre? [Leave this column blank if actual nutrients were reported.] | 4 [Enter material code.] 1 Pounds 12 Gallons 19 Pounds of actual nutrients | 5 When was this applied? 1 In the fall before seeding 2 In the spring before seeding 3 At seeding 4 After seeding | 6 How was this applied? [Refer to code list above.] | 7 How many acres were treated in this application? ACRES |
|------|---|--|----------------------------|-------------|--|--|--|---|--|
| | N Nitrogen | P ₂ O ₅ Phosphate | K ₂ O Potash | S Sulfur | | | | | |
| | | | | | | | | | |
| 01 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |
| 02 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |
| 03 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |
| 04 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |
| 05 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |
| 06 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |
| 07 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |
| 08 | 31 | 32 | 33 | 34 | 36 | 37 | 38 | 39 | 40 |

4. Were any nutrients or fertilizers applied by custom applicators?

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

YES=1

CODE

XXXX

OFFICE USE

0215

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

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

b. Excluding the cost of the nutrient or fertilizer materials, how much was spent for custom application of nutrients or fertilizers on this field? (*Include operator, landlord, and contractor costs. Include costs for sulfur and micronutrients. Exclude custom application of lime, gypsum, purchased manure and purchased compost.*) [If material and application costs can't be separated, *exclude* them here and record the total in item 6.]

DOLLARS & CENTS
PER ACRE

0219

O
R

TOTAL DOLLARS

0220

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. [If custom applied and the cost of materials can be separated from application costs, include the cost of materials ONLY; otherwise, include both the material and application costs.] Include materials applied to the selected field if it was fallow in 2010. Exclude lime, gypsum, purchased manure and purchased compost.*) . . .

DOLLARS & CENTS
PER ACRE

0221

OR

TOTAL DOLLARS

0222

6. Was gypsum applied to the selected field for the 2019 barley crop?

YES = 1
NO = 3

CODE

0218

7. Was a soil test for Soil Organic Matter performed on this barley field at some point in the last 10 years?

YES = 1
NO = 3

3225

[If item 7 = 1, ask---]

PERCENT

3226

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

NUMBER

3227

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

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

CODE

3228

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

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

8. Was a soil or plant tissue test performed on this barley field in 2018 or 2019 for the 2019 crop?

☐ YES [Continue]☐ NO [Go to item 13]

9. Was a soil test for phosphorus performed on the selected barley field in 2018 or 2019 for the 2019 crop?

YES = 1

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

CODE

0225

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

POUNDS PER ACRE

0226

CODE

0227

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

YES = 1

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

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

POUNDS PER ACRE

0228

CODE

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

0229

DOLLARS & CENTS
PER ACRE

OR

TOTAL DOLLARS

12. How much was spent for these soil and plant tissue tests on the selected field in 2018 or 2019 for the 2019 crop? (Include operator, landlord, and contractor costs.).

0230

0231

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

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

- 1 Soil/plant tissue test provided free of charge by dealer, crop consultant, or extension service
- 2 Soil/plant tissue test costs were included in the total fertilizer costs reported in item 6
- 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

3231

[ENUMERATOR ACTION: Refer to the Fertilizer Table, column 2. If nitrogen (N) was applied, complete items 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---

CODE

a. Results of a soil or plant tissue test?

YES = 1
NO = 3

0233

b. Crop consultant recommendation?

YES = 1
NO = 3

0234

c. Fertilizer dealer recommendation?

YES = 1
NO = 3

0235

d. Extension Service recommendation?

YES = 1
NO = 3

0236

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

YES = 1
NO = 3

0237

f. Contractor recommendation?

YES = 1
NO = 3

0238

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

YES = 1
NO = 3

0239

h. [If nitrogen inhibitors were used, continue; else go to item 14.]

POUNDS PER
ACRE

OR

GALLONS PER
ACRE

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

2561

2562

| | | |
|---|--|---|
| <p>14. Is lime ever applied to the selected field?</p> <p>[If no lime applied, go to item 15; else continue.]</p> <p>a. On average, how many years are there between applications of lime to the selected field? ..</p> <p>b. How many tons of lime were applied per acre the last time it was applied to the selected field?</p> <p>c. Was lime applied to the selected field in 2018 or 2019 for the 2019 crop?</p> | <p>CODE</p> <p>YES = 1 NO = 3</p> <p>YEARS</p> <p>TONS PER ACRE</p> <p>CODE</p> <p>YES = 1 NO = 3</p> | <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0242</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0243</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0244</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0240</div> |
| <p>15. Was non-commercial manure (from own farm, from a neighbor's farm, etc.) or other organic material (including compost) applied to the selected field for the 2019 barley crop? (Exclude commercially prepared manure.)</p> <p><input type="checkbox"/> YES - [Enter code 1 and continue] <input type="checkbox"/> NO - [Go to Section D].</p> | | |
| <p>CODE</p> <div style="border: 1px solid black; padding: 2px;">0246</div> | | |
| <p>ACRES</p> <div style="border: 1px solid black; padding: 2px;">0247</div> | | |
| <p>a. How many acres in the selected field was manure or compost applied to?</p> | | |
| <p>b. What was the amount of manure or compost applied to the selected field?</p> | <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> 1 TONS 2 GALLONS 3 BUSHELS 4 Cubic Yards </div> <p>.....</p> | <p style="text-align: center;">CODE</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0248</div> <p style="text-align: center;">AND</p> <p style="text-align: center;">UNITS PER ACRE</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0249</div> <p style="text-align: center;">OR</p> <p style="text-align: center;">TOTAL UNITS</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0250</div> |
| <p>c. Of the total manure applied to the selected field for the 2019 crop, what was the percent of manure or compost applied---</p> <p>(i) in the fall before planting?</p> <p>(ii) in the spring before planting?</p> <p>(iii) after planting?</p> | <p style="text-align: right;">PERCENT</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">+ 0254</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">+ 0255</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">+ 0256</div> <p style="text-align: right;">= 100%</p> <p style="text-align: right;">CODE</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0257</div> | |
| <p>d. Was the manure or compost---</p> | <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> 1 Lagoon liquid? 2 Slurry liquid? 3 Semi-dry or dry? </div> <p>.....</p> | |
| <p>e. Was the manure or compost---</p> | <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> 1 Broadcast or sprayed <i>without</i> incorporation? 2 Broadcast or sprayed <i>with</i> incorporation? 3 Injected/knifed in? 4 Sprayed using irrigation systems? </div> <p>.....</p> | <p style="text-align: right;">CODE</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0258</div> |
| <p>f. Was the major source of the manure or compost from---</p> | <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> 1 Beef cattle? 2 Dairy cattle? 3 Hogs? 4 Sheep? 5 Poultry? 6 Equine? 7 Biosolids (municipal sludge)? 8 Food waste? 9 Other? [Specify: _____] </div> <p>.....</p> | <p style="text-align: right;">CODE</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">0259</div> |

CODE

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? (<i>Operator received payment for accepting the manure.</i>) |

CODE

0260

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

DOLLARS & CENTS
PER ACRE OR

TOTAL DOLLARS

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

0284

0285

CODE

(ii) Did you hire someone to custom apply the manure or compost? YES = 1
NO = 3

0286

DOLLARS & CENTS
PER ACRE OR

TOTAL DOLLARS

[If YES, ask---]

(a) What was the total cost paid to have manure or compost custom applied to the selected field? [Do not report custom application cost if it was included with the purchased manure cost.]

0287

0288

MILES

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

0291

CODE

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

YES = 1
NO = 3

0261

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

YES = 1
NO = 3

CODE

0264

a. [If item 16 is YES, ask---]

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

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 2019 barley 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 barley field for the 2019 crop? YES = 1

| CODE | EDIT TABLE |
|------|------------|
| 0302 | 0301 |

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

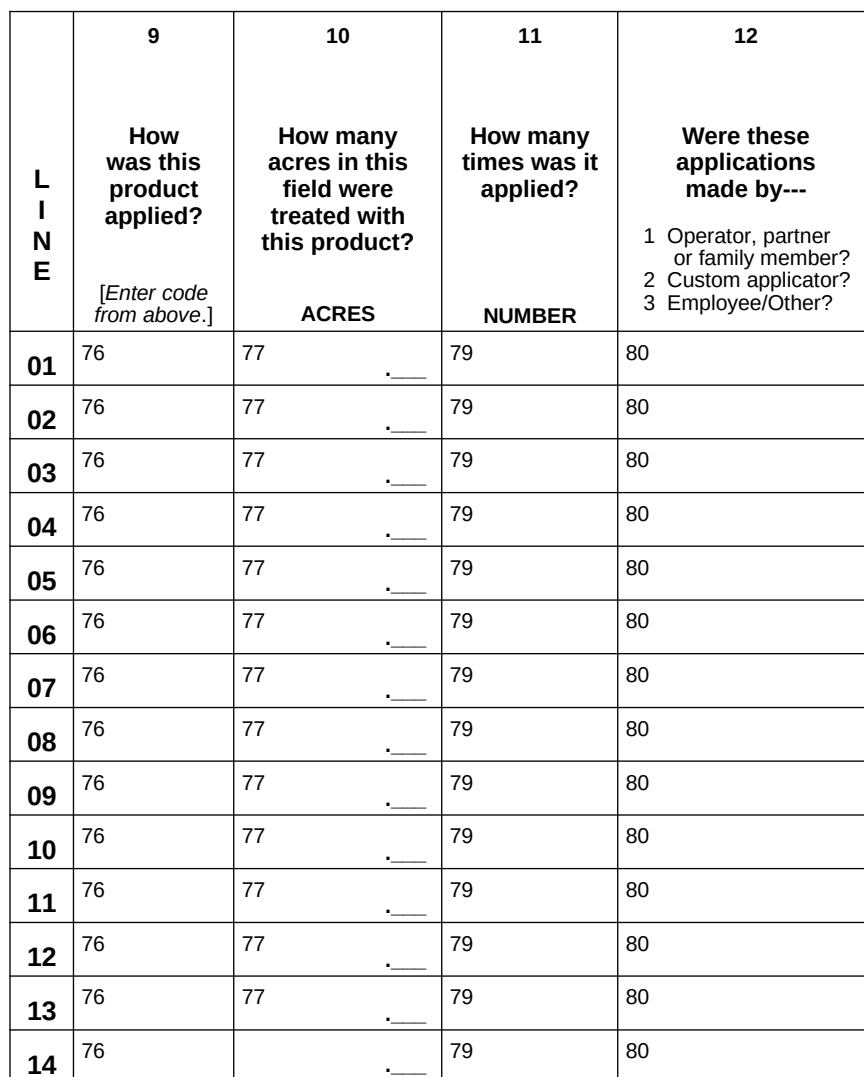
If no biocontrols or pesticides applied, go to Section E.

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

| 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 Was this part of a tank mix? [If tank mix, enter line number of first product in mix.] | 5 When was this applied? 1 BEFORE planting 3 AT planting 4 AFTER planting | 6 How much was applied per acre per application? | OR 7 What was the total amount applied per application in the selected field? | 8 [Enter unit code.] 1 Pounds 12 Gallons 13 Quarts 14 Pints 15 Liquid Ounces 28 Dry Ounces 30 Grams |
|-----------------------------|------------------|---|---|--|--|---|--|---|
| | 01 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 02 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 03 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 04 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 05 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 06 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 07 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 08 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 09 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 10 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 11 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 12 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 13 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |
| | 14 | 61 | | 63 | 64 | 65 .____ | 73 .____ | 74 |

| APPLICATIONS CODES for column 9 | |
|---|--------------------------------|
| 1 Broadcast, ground without incorporation | 6 Chisel/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 | |

cannot be provided.]

[illegible]

CODE

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

YES=1

XXXX

OFFICE USE

0324

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

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

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

- b. Excluding the cost of the chemical, biocontrol, and pesticide products, how much was spent for custom application of such materials on 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.

NOTES

E PEST MANAGEMENT PRACTICES---SELECTED FIELD

E

Now I have some questions about your pest management decisions and practices used on the selected field for the 2019 barley crop. By pests, we mean WEEDS, INSECTS, and DISEASES.

[ENUMERATOR ACTION: Were PESTICIDE applications reported in Section D?]

☐ YES – [Continue]

☐ NO – [Go to item 8]

| | CODE |
|---|------|
| 1. Were weather data used to assist in determining either the need or when to make pesticide applications? YES = 1 NO = 3 | 0800 |
| 2. Were any biological pesticides such as Bt (<i>Bacillus thuringiensis</i>), insect growth regulators, neem or other natural/biological based products sprayed or applied to manage pests in the selected field? YES = 1 NO = 3 | 0801 |
| 3. Were pesticides with different mechanisms of action rotated or tank mixed for the primary purpose of keeping pests from becoming resistant to pesticides? YES = 1 NO = 3 | 0802 |

[ENUMERATOR ACTION: Were HERBICIDE (pesticide product codes 3000-4999) applications reported in Section D, item 1, column 2?]

☐ YES – [Continue]

☐ NO – [Go to item 6]

| | |
|--|------|
| 4. Were herbicides applied to the selected barley field BEFORE weeds emerged? YES = 1 NO = 3 | 0803 |
| 5. Were herbicides applied to the selected barley field AFTER weeds emerged? YES = 1 NO = 3 | 0805 |
| 6. Did you use published information on infestation thresholds to determine when to take measures to manage pests in the selected field? YES = 1 NO = 3 | 0824 |
| 7. Were records kept for the selected field to track the activity or numbers of weeds, insects or diseases? YES = 1 NO = 3 | 0823 |

| | | |
|--|--|------|
| 8.. In 2019, how was the selected field primarily scouted for insects, weeds, diseases, and/or beneficial organisms? | <div style="border: 1px solid black; padding: 5px;"> 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 14.] </div> | CODE |
| | | 0808 |

| | |
|--|------|
| 9. Was an established scouting process (systematic sampling, recording counts, etc.) used or were insect traps used in the selected field? YES = 1 | 0809 |
| 10. Was scouting for pests done in the selected field due to--- | |
| a. a pest advisory warning? YES = 1 | 0810 |
| b. a pest development model? YES = 1 | 0811 |

| 1 | | 2 | 3 |
|--|------|---|---|
| | | [If YES, ask---] What was the infestation level for [column 1] ? | [If column 1 is YES, ask---] Who did the majority of the scouting for [column 1] ? |
| 11. Was this barley field scouted for--- | | 1 Worse than normal 2 Normal 3 Less than normal | 1 Operator, partner or family member 2 An employee 3 Farm supply or chemical dealer 4 Independent crop consultant or commercial scout |
| YES = 1 NO = 3 | | CODE | 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;
else 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

OFFICE USE

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

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?** [Enter code "1" for all that apply.]

CODE

- | | | |
|---|-------------------|------|
| a. Use the services of a diagnostic laboratory for pest identification or soil plant tissue nest analysis for the selected field? | YES = 1 NO = 3 | 0841 |
| b. Plow down crop residue (<i>using conventional tillage</i>)?. | 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 nests?. | 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 organic barley 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 (<i>insects, nematodes, fungi</i>) applied or released in the selected field to manage nests? | YES = 1 NO = 3 | 0853 |
|---|-------------------|------|

- | | | |
|---|-------------------|------|
| 16 Were floral lures, attractants, repellants, pheromone traps or other biological nest controls used on the selected field? | YES = 1 NO = 3 | 0858 |
|---|-------------------|------|

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

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.)

DOLLARS & CENTS

PER ACRE

OR

TOTAL DOLLARS

0859

. ____

0860

| | | CODE |
|-----|---|-------------------|
| 17 | Was a trap crop (<i>excluding fallow</i>) grown to help manage insects in the selected field? .. | YES = 1 NO = 3 |
| | | 0863 |
| 18. | Was the selected field left fallow in 2018 to help manage insects on the selected field?.. | YES = 1 NO = 3 |
| | | 0864 |
| 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? | YES = 1 NO = 3 |
| | | 0861 |

20. Was protection of beneficial organisms a factor in your pest control decisions for the selected field?

[If Item 20 is YES, continue. Else go to Item 21.].

CODE

0862

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

YES = 1
NO = 3

0866

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

YES = 1
NO = 3

0867

21. If untreated (either with herbicides, tillage, or cultivation), how much yield loss (e.g. bushels per acre) do you think weeds would most likely cause on the selected field?

UNIT CODE

1 POUNDS
2 CWT
3 BUSHELS
4 TONS

CODE

0828

UNITS PER
ACRE

0829

TOTAL UNITS

0830

AND

OR

| Completion Code for Pest Management Data | |
|--|------|
| 1 Incomplete/Refusal | 0340 |

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 2019 barley 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 with 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/landplaster 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 CUSTOM (column 5 = code 6), skip columns 6-10] | | | | | |
|--------------------------|------------------------------|--|---|--|--|--|---|--|--|---|
| | | | | | 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 | 9 OR How many TOTAL HOURS were spent on land forming and hauling? [Example: backhoes, disk border maker, ditcher, rear mounted blade, trucks, wagons, forklifts, etc.] HOURS | 10 Which power source was used? ^{1/} [Record tractor line number from item 1.] 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 99 Self-Propelled CODE | 11 What was the fuel type of the tractor? [Record fuel type only if Power code equals 1-5] 1=diesel 2=gasoline 3=LP gas 4=other CODE |
| 01 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 02 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 03 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 04 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 05 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 06 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 07 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 08 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 09 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 10 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 11 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 12 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 13 | 87 | | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 17 | 87 | | 88 | 0513 | 90 | 91 | 92 | 93 | 94 | 95 |
| 18 | 87 | | 88 | 0523 | 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

0032

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 barley crop.

(**Exclude** labor that was reported for field work performed by machines.)

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

3. **What was the average hourly wage rate paid to part-time or seasonal hired workers?**

(**Exclude** custom and contract workers, payroll taxes and benefits.)

DOLLARS & CENTS
PER HOUR

1119

DOLLARS & CENTS
PER HOUR

4. **What was the average hourly wage rate paid to full-time hired workers?**

(**Exclude** custom and contract workers, payroll taxes and benefits.)

1118

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

YES = 1

CODE

1116

a. [If YES, ask ---]

What was the average cost per acre for this contract labor?

DOLLARS & CENTS
PER ACRE

1117

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

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 barley crop.

| 1 CUSTOM SERVICE Which of the following services were performed for the 2019 barley crop on the selected field? | | 2 Including operator, landlord, and contractor costs, how much was spent for [column 1] on the selected field for the 2019 barley crop? DOLLARS & CENTS PER ACRE |
|--|------|--|
| ✓ ← [Check box for each service performed; refer to item 3 if necessary.] | | |
| <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 | _____ |
| e. Custom hauling to storage or point of first sale _____ x _____ ÷ _____ = _____ (Dollars & cents per unit x Total units hauled from field ÷ Acres harvested in field = Dollars & cents per acre) . . | 1126 | _____ |
| f. Custom harvesting and hauling from field to storage or point of first sale _____ x _____ ÷ _____ = _____ (Dollars & cents per unit x Total units hauled from field ÷ Acres harvested in field = Dollars & cents per acre) . . | 1127 | _____ |
| g. Custom raking, baling, and hauling the straw from the selected field _____ x _____ ÷ _____ = _____ (Dollars & cents per unit x Total units hauled from field ÷ Acres harvested in field = Dollars & cents per acre) | 1128 | _____ |

8. Was the barley harvested and hauled from the selected field dried (or will be dried) before being sold or stored?

| CODE | |
|---------|------|
| 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 – [Continue] ☐ NO – [Go to item 11]

Which of the following services did you obtain?

- a. Nutrient recommendations/management service?
- b. Soil or tissue sample collection?
- c. Pest control recommendations/management service?
- d. Pest scouting?
- e. Irrigation management service (i.e. irrigation scheduling)?
- f. Yield map or remote sensing map development/interpretation?
- g. Other custom or technical service? [Specify: _____]

| CODE | |
|---------|------|
| YES = 1 | 1129 |
| NO = 3 | |
| YES = 1 | 1130 |
| NO = 3 | |
| YES = 1 | 1131 |
| NO = 3 | |
| YES = 1 | 1132 |
| NO = 3 | |
| YES = 1 | 1133 |
| NO = 3 | |
| YES = 1 | 1134 |
| NO = 3 | |
| YES = 1 | 1135 |
| NO = 3 | |

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

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

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

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

CODE

(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 11b = YES, ask --]

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

CODE

12. **Were there (or will there be) any data collection tools** (yield monitors, GPS mapping, etc.) **used during field operations on this barley**

YES = 1
NO = 3

2460

[If YES, continue; else go to Item 13]

Please report the data collection technologies you used on the selected field to produce this crop. In the fifth column, report how much it would cost you to replace the data collection tool in total dollars. In the sixth column, report the annual costs of using the data collection tool in total dollars. 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 or is not known, **leave the cell in that column blank.**]

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|------------------------------|--|--|-----------------------------------|-----------------------------|
| Data Collection Tool | Tool Used YES = 1 NO=3 | Collected GPS coordinates YES = 1 NO=3 | Data was/will be used to create a map Yes = 1 NO=3 | Replacement Cost Total Dollars | 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 12a = 1 in column 2, continue, else go to item 14.]

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

- | | | |
|---|-------------------|------|
| a. add/improve tile drainage? | YES = 1 NO = 3 | 1141 |
| b. negotiate new crop leases? | YES = 1 NO = 3 | 1144 |
| c. Help determine input use for management zones? | YES = 1 NO = 3 | |

[If any tools used in item 12, continue, else go to item 15.]

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

- | | | |
|--|-------------------|------|
| a. Input dealers without other fee-for-services? | YES = 1 NO = 3 | 2491 |
| b. Input dealers with other fee-for services? | YES = 1 NO = 3 | 2492 |
| c. Custom service providers? | YES = 1 NO = 3 | 2493 |
| d. USDA/University extension services? | YES = 1 NO = 3 | 2494 |

[If crop management recommendations were obtained, ask--]

| | DOLLARS & CENTS PER ACRE | OR | TOTAL DOLLARS |
|--|-----------------------------|----|---------------|
| e. What was the cost for all of these services? (Include operator, landlord, and contractor costs. Do not report costs for any of these services if they were previously reported as part of the costs of materials and/or application). | 3150 _____ | | 3151 |

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

- | | | |
|--|-------------------|------|
| | | CODE |
| a. Mounted in-cab heads-up displays? | YES = 1 NO = 3 | 2155 |
| c. d. Automatic section control (e.g. auto sprayer boom controls or automatic section shut-offs? | YES = 1 NO = 3 | xxxx |
| c. Smartphones or computer tablets? | YES = 1 NO = 3 | 2156 |

| | DOLLARS & CENTS PER ACRE | OR | TOTAL DOLLARS |
|---|-----------------------------|----|---------------|
| 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.) | _____ | | |

17. Was any guidance auto-steering equipment (excluding Light Bar) used on selected field? YES = 1
 NO = 3

CODE

2148

[If item 17 = 1 continue, else go to Item 18

(i) Was the guidance auto-steering equipment:

| | |
|---|-------------|
| 1 | New, owned |
| 2 | Used, owned |
| 3 | Leased |

CODE

2158

(ii) What year was guidance auto-steering first purchased?

YEAR

2159

(iii) What is the replacement cost for guidance auto-steering equipment?

| DOLLARS & CENTS PER ACRE | OR | TOTAL DOLLARS |
|-----------------------------|----|---------------|
| 2160 | | 2161 |

18. Was a variable rate applicator used on the selected field? YES = 1
 NO = 3

CODE

2164

[If item 18 = 1 , continue; else go to Section G]

16. Please report the variable rate applicator types you used on the selected field to produce the barley crop 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 |

G

IRRIGATION

G

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

[If none, go to Conclusion]

1160

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

| | UNIT | SYSTEM 1 | |
|---|------|----------|--|
| ↓ | | | |

| | | | | |
|--|--|------------------------|------|--|
| a. What type of irrigation system was used to irrigate the selected field? <i>[Show System Type Codes in the Respondent Booklet. Enter System Type Code system covering the most field acres.]</i> | | SYSTEM TYPE CODE | 1161 | |
| b. What was the total quantity of water applied to the selected field during the entire growing season? <i>(Include ALL water used from both on-farm and off-farm sources.)</i> | | INCHES PER ACRE | 1162 | |
| | | OR TOTAL ACRE-FEET | 1163 | |
| If operator cannot provide item 2b, ask (i) & (ii), else go to 2c | | | | |
| (i) What is the total number of hours this system was used to apply water to the selected field during the barley 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 | | PERCENT | 1166 | |
| d. What was the number of times the selected field was irrigated during the barley growing season using this system? <i>(Include any pre-plant irrigation.)</i> . | | NUMBER OF IRRIGATIONS | 1167 | |
| e. Was the pump type--- <i>[If more than one pump in the system, enter type for pump closest to water source.]</i> | 1 TURBINE? 2 SUBMERSIBLE? 3 CENTRIFUGAL? 4 BOOSTER? 5 SIPHON? 99 NO PUMP? <i>[If code 99, go to item j.]</i> | CODE | 1168 | |
| f. What was the average pumping rate? | | GALLONS PER MINUTE | 1169 | |
| g. <i>[If item 2a = code 1-9 (PRESSURE SYSTEM), ask---]</i> 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 2 GASOLINE 3 LP GAS 4 NATURAL GAS 5 ELECTRICITY 6 SOLAR POWER | CODE | 1171 | |
| i. What was the average motor size? | | HORSEPOWER | 1172 | |
| j. <i>[If NO PUMP was used (item 2e = 99), ask---]</i> 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 2019 growing season? <i>(Exclude the selected field.)</i> | | 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? <i>(Include landlord's share and purchases from all sources.)</i> | | CODE |
| <input type="checkbox"/> YES – [Enter code 1 and continue.] <input type="checkbox"/> NO – [Go to item 5]. | | 1191 |

| | | | |
|---|---|-----------|----------------------|
| a. What was the total cost for the water purchased for the selected field during the 2019 growing season? <i>(Include operator, landlord, and contractor costs and ditch maintenance costs for the selected field.)</i> | DOLLARS & CENTS PER ACRE | OR | TOTAL DOLLARS |
| | 1193 | | 1194 |

| | | |
|--|--|----------------------|
| [If SIPHON TUBES were used (item 2a = 10 or 11), ask---] | | TOTAL DOLLARS |
| 5. What would be the total cost to replace all the siphon tubes used on the selected field? | | 1201 |

| | | |
|---|--|----------------------|
| [If POLY PIPE system was used (item 2a = 14) ask---] | | TOTAL DOLLARS |
| 6. What was the total amount spent for poly pipe used on the selected field during the 2019 growing season? <i>(Include operator, landlord, and contractor costs.)</i> | | 1202 |

| | | |
|---|--|---------------|
| [If GATED PIPE system was used (item 2a = 15 or 16), ask---] | | INCHES |
| 7. What was the average diameter of gated pipe used to irrigate the selected field? | | 1203 |
| | | FEET |
| a. What was the total length of gated pipe used? | | 1204 |

| | | |
|--|--|-------------|
| 8. Were wells used to supply irrigation water for the selected field? | | CODE |
| <input type="checkbox"/> YES – [Enter code 1 and continue] <input type="checkbox"/> NO – [Go to item 9]. | | 1205 |

| | | |
|---|--|---------------|
| | | NUMBER |
| a. How many wells were used to irrigate the selected field? | | 1206 |

| | | |
|--|--|---------------|
| | | INCHES |
| b. What was the average diameter of the outer well casing? | | 1207 |
| c. What was the average pumping depth of these wells during the irrigation season? <i>[Pumping depth is the depth to water at the start of the irrigation season, plus an average decline in the water level caused by pumping during the irrigation season.]</i> | | FEET |
| | | 1208 |

| | | |
|--|--|-------------|
| d. Were other fields irrigated using water pumped from wells that supplied water to the selected field? | | CODE |
| <input type="checkbox"/> YES – [Enter code 1 and continue] <input type="checkbox"/> NO – [Go to item 9]. | | 1210 |

| | | |
|---|--|--------------|
| e. Excluding the selected field, how many other acres on this operation were irrigated using the same wells during the 2019 growing season? | | ACRES |
| | | 1211 |

| | |
|--|--|
| 9. Was any additional mainline or lateral pipe used to carry water from the source to the system in the selected field? <i>(Include underground pipe. Exclude any system pipe within the selected field.)</i> | |
| <input type="checkbox"/> YES – [Continue] <input type="checkbox"/> NO – [Go to Section H] | |

| | | |
|---|--|---------------|
| | | INCHES |
| a. What was the average diameter <i>(in inches)</i> of the most common type of this additional pipe used? | | 1212 |
| | | FEET |
| b. How many feet of this additional pipe were used to bring water to the selected field? | | 1213 |

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

OFFICE USE
COUNTY FIPS CODE

0010

| | | | | | | |
|----------------------|-------------|----------|----------------|---|-----------|----------------|
| | | LATITUDE | | | LONGITUDE | |
| Field location. | N | 005 4 | ____.____.____ | W | 005 5 | ____.____.____ |
| | d d m m s s | | | | | d d d m m s s |
| | | LATITUDE | | | LONGITUDE | |
| Field location. | | 005 1 | ____.____.____ | | 005 2 | ____.____.____ |
| | decimal | | | | | decimal |

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

0099

YES = 1

0005

5. **ENDING TIME** [*MILITARY*].

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

0011

a. **[fertilizer data?]**..... YES = 1

0012

b. [*pesticide data?*]. YES = 1

0013

c. [majority of this **expense** data?]. YES = 1

NUMBER

0041

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

FERTILIZER APPLICATIONS

0042

PESTICIDE APPLICATIONS

0043

FIELD OPERATIONS

Reported by: _____ Telephone: () _____

| OFFICE USE | | | | | | | | | |
|--|-----------|---|-----------|---------------------------------------|------|-------|-------|--------------|------|
| D Unit | Box 1 Sec | Box 2 Sec | Box 3 Sec | Box 4 Sec | 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-Sp 3-Acct/Bkpr 4-Partner 9-Other | 9902 | 2-PATI (Tel) 3-PAPI (Face-to-Face) | 9903 | 9998 | 9989 | | |
| | | | | | | | _____ | | |
| | | | | | | | Eval. | Change | |
| | | | | | | | 9900 | 9985 | |