

## Proposal for 2020 ARMS II Questions (Corn)

**Title:** *Organic Production Practices*

### Proposed Questions:

- Organic screening question (B.1.c)
  - o Was the selected field transitioning into organic corn production in 2020?

**Why information is needed:** Information on organic production is needed to continue to update production trends. The specified new question was approved for the 2020 rice survey, and we would like to include it in the corn survey as well.

**OMB scope:** Because this question has been asked on a different ARMS survey, it is within the OMB scope for the survey.

**Title:** *Seed Cost, Traits, and Treatments*

### Proposed New Questions:

- Seed treatment B.14.a
  - o What was the name of the seed treatment?
- Seeding B.11.a
  - o We have asked this item on previous surveys (2018 soybeans) and would like to include it on this survey as well.
    - What method of seeding did you use on the selected field? 1 drilled 2 planted in conventional rows 3 broadcast on the selected field

### Proposed Question Changes:

- Seed products in previous years B.15
  - o *Previous:* We asked for respondents to indicate any commercial seed product used on the field in the previous five years.

Please report what seed products were used in previous years.

	Seed Product Name	What seed product was used this year [Show product codes from Respondent Booklet.]
2018		
2017		
2016		
2015		
2014		

- o *New:* The item was updated in the 2018 Soybeans survey to ask respondents to report the commercial seed product for the survey year only. Respondents are additionally asked to indicate whether they planted a commercial seed product with a screening question. The subsequent information on seed product name and code will only be asked if the respondent indicates that it applies to their field.

15. For the 2020 corn crop, did you plant a commercial seed product on the selected field?

[If item 15 = 1, ask --]

Commercial Seed Product Name

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

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

- Seed product treatments B.14

- o Previous: We proposed that respondents would be asked to report whether they used any seed treatment products by the type of treatment (e.g. insecticide). We asked respondents to indicate the seed treatment product code from the respondent booklet.

Did you purchase seed treated with---

CODE

a. a fungicide (e.g., Trilex, Allegiance, or other seed treatments)? . . . . .

YES =  
1

2320
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b. an insecticide (e.g., Poncho, Gaucho or Cruiser seed treatment)? . . . . .

YES =  
1

2322
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c. a nematicide (e.g., Acceleron or Avicta seed treatment)? . . . . .

YES =  
1

2321
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[If item 21a, 21b, or 21c is YES, ask—] Enter the appropriate product code from the Respondent Booklet, Page 2. (Enter 3 if a seed treatment was not applied, 999 if a seed treatment was applied but the product is not listed.) . . . . .

2325
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- o New: We changed the format of this item for the 2018 soybeans survey. We ask respondents to indicate whether the seed was treated with a treatment (pesticide) product before or after purchase. If they indicate that they have a treatment, we ask for the name and code of the product.

14. For the 2020 rice crop, was the rice seed-- . . . . .

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

Code

3062
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Subpart a listed in new questions above

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
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**Why information is needed:** We collect information on seed costs to inform the congressionally mandated cost of production report. We also use information on seed products, treatments, and traits to inform trends in seed characteristics and research topics in seed technology.

**OMB scope:** All of the proposed new questions and changes have been asked on previous ARMS surveys (2018 soybeans and 2019 cotton), so they are within the OMB scope for the survey.

**Title:** *Environmental regulation, Conservation Practices and Payments*

**Proposed Questions:**

- Cover Crop cost-share B.35.k
  - We added this item to the 2019 Cotton survey to capture additional information on the costs of returns of cover crops.
    - What was the per-acre cost-share or financial assistance payments received for the cover crop?
- Written conservation plan for erosion B.37
  - We added this item to the 2019 Cotton survey to help capture information on Highly Erodible Land.
    - Do you have a written conservation plan that specifies practices to control soil erosion?

**Proposed Question Changes:**

- Conservation Practice/Conservation Plans B. 49
  - We previously listed the plans with codes and asked respondents to enter the codes (up to 8) in the table. Now, we include checkboxes in the list of practices to allow respondents to indicate any practice (up to all practices listed) that has been used on the selected field at any time in the past. We also added a column to the table to allow the respondent to indicate if the practice was implemented in 2020.
    - Previous: List all conservation practices or plans that were used on this field over the past five years
    - New: 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. 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. For each practice or activity checked in 22a, please complete one line of this table.
  - We changed the wording in column 4 to update the options respondent can select to indicate what the practice or plan helps to satisfy.
    - Previous: 1 a federal regulatory requirement 2 USDA conservation compliance provisions 3 Does not related to any regulation or compliance requirement
    - New: 1 A federal regulatory requirement 2 Highly Erodible Land Conservation compliance 3 Does not relate to any regulation or compliance requirement

**Why information is needed:** Information on cover crops, conservation program participation, skip row planting, and financial assistance for conservation participation is needed to continue and update trends in adoption of practices that are of intense interest in terms of conservation, soil health, and environmental outcomes. Data on conservation payments and environmental regulation are needed to determine the role of these interventions in meeting conservation and environmental goals.

**OMB scope:** All the above proposed questions and question changes have been asked on previous ARMS surveys (2019 Cotton, 2018 Soybeans), they are within the OMB scope for the survey.

**Title:** *Nutrient Management*

**Proposed Questions:**

- Nitrogen Inhibitor 13.h
  - How much nitrogen inhibitor did you mix with the nitrogen applied to the selected field?

**Why information is needed:** Information from this item will supplement the fertilizer trends compiled in ERS reports.

**OMB scope:** The above proposed questions was asked in the 2019 Cotton ARMS survey, it is within the OMB scope for the survey.

**Title:** *Crop Insurance*

**Proposed Questions:**

- Single or Named Peril Insurance Coverage B.49.a
  - In 2020, was the corn in the selected field covered by more than one single or named peril crop insurance policies (e.g. hail, replant, wind, freeze)

**Proposed Question Changes:**

- Private Crop Insurance B.49
  - Change all instances of 'private insurance' to 'single or named peril crop insurance'
- Federal Crop Insurance B.50
  - Change all instances of 'federal crop insurance' to 'multi-peril crop insurance'

**Why information is needed:** Information on cover crops, conservation program participation, skip row planting, and financial assistance for conservation participation is needed to continue and update trends in adoption of practices that are of intense interest in terms of conservation, soil health, and environmental outcomes. Data on conservation payments and environmental regulation are needed to determine the role of these interventions in meeting conservation and environmental goals.

**OMB scope:** All the above proposed questions and question changes have been asked on previous ARMS surveys, they are within the OMB scope for the survey.

**Title:** *Pesticide Use*

**Proposed Question Changes:**

- Cost of pesticide products
  - We joined the floating columns for the 'optional item 4' to the rest of the pesticide table. Previously, those items were only used when respondents could not separate the costs of the pesticide applications made by custom applicators. We would like all respondents to fill out cost information for all pesticide applications.

**Why information is needed:** Information pesticide cost is needed to continue and update trends in the cost of production estimates. We were previously able to get access to pesticide pricing through a proprietary dataset, which we have since lost funding for access. Data on pricing is needed to determine the overall cost of pesticide applications and determine the cost of producing the corn crop

**OMB scope:** All the above proposed questions and question changes have been asked on previous ARMS surveys, they are within the OMB scope for the survey. The proposed addition of sulfonylurea was asked in the 2018 soybeans survey.

**Title:** Precision Agriculture

**Proposed Questions:**

- GPS-enabled Equipment F.15
  - In the 2019 Cotton survey we updated the options for respondents to indicate for GPS related precision agriculture technology. We removed the option for “Light Bar” and included an option for automatic section control
    - Were any of the following GPS-enabled (Global Positioning System) equipment used to produce rice on the selected field in 2020? Automatic section control, such as auto sprayer boom controls or automatic section shut offs?
- Use of Unmanned aerial Vehicles (UAVs, or drones) F.16
  - We are adding a new item to capture information related to unmanned aerial vehicles (drone) use on the surveyed field. Currently, we do ask about drones on the data collection tools table in Section F. However, we need additional information from the proposed item below.

		Code
16. Did you use an unmanned aerial vehicle (UAV, known as a drone) to produce rice on the selected field in 2020? .....	Yes = 1 No = 3	xxxx

[If item 16 = Yes, then ask -- ]

		Code
a. For which of the following purposes did you use the UAV on the selected field? Answer all that apply. ....		
i. Weed analysis? .....	Yes = 1 No = 3	xxxx
ii. Spraying herbicide or fungicide? .....	Yes = 1 No = 3	xxxx
iii. Insect analysis? .....	Yes = 1 No = 3	xxxx
iv. Insect control? .....	Yes = 1 No = 3	xxxx
v. Yield analysis? .....	Yes = 1 No = 3	xxxx
vi. Moisture analysis? .....	Yes = 1 No = 3	xxxx
vii. Equipment check? .....	Yes = 1 No = 3	xxxx

		Code
b. Did you purchase the UAV? .....	Yes = 1 No = 3	xxxx

If 16b = Yes, then ask –

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

		Code
c. Do you pay an annual fee for use of UAV? .....	Yes = 1 No = 3	xxxx

If 16c = Yes, then ask --

Total Dollars

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

xxxx

**Proposed Question Change:**

- Variate Rate Irrigation Technologies
  - In section F, question 20, replace the question “Was a variable rate applicator used on the selected field” with the question “Was a variable rate technology used on the selected field”. Then add a row 16.d to the box, with the heading “Irrigation applications”. All column headings remain unchanged.

**Why information is needed:** There growing interest in the use of drone technology in field crop production, but little comprehensive information on how drones are used. This question will provide data on the extent of use and the reasons for use, and will help to evaluate the costs and benefits of current drone technology in rice production.

Precision agriculture technologies, including those aimed at variable rate application of inputs, are spreading through agriculture. They affect resource use, finances, and the environmental impacts of agricultural production. We need to add this question in order to accurately track farm finances and productivity.

**Why does the question need to be in ARMS:** The survey encompasses a large and representative sample of producers. Because the survey also gathers information on production practices, yields, inputs, and finances, it is the only channel to evaluate the impact of drone adoption of farm productive and financial outcomes.

**OMB scope:** The above proposed questions is an expansion on a previous item in the ARMS survey, it is within the OMB scope for the survey.