



## AGRICULTURAL HEALTH STUDY

### PHASE III SURVEY INSTRUMENT

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**SECTION 1: INTRODUCTION AND UPDATE OF RESIDENTIAL INFORMATION**

[NOTE: THE FOLLOWING INFORMATION WILL BE DISPLAYED AT THE START OF THE INTERVIEW]:

Subject ID:	<<ID number>>
Subject Name:	<name>>
Gender:	<<gender>>
Participant Type:	<<private applicator, commercial applicator, or spouse>>
Enrollment Date:	<<enrollment date>>
Last Interviewed:	<<date of last interview>>:

QIntro.1) Hello, have I reached ^DSP.TitleRespondentName?

- 0. NO
- 1. YES (Skip to QIntro.3)

QIntro.2) I am trying to reach ^DSP.TitleRespondentName, who completed a telephone interview or hard copy questionnaire with us several years ago about work and health factors common in the farming community. Is ^DSP.RespondentFullname available?

- 0. NO
- 1. YES (Skip to QIntro.3)

QIntro.CB) When would be a good time to reach ^DSP.Respondent.Fullname?

- 1. RESONDPEPT GAVE TIME FOR CALLBACK (End call)
- 2. RESPONDENT ASKED NOT TO CALLBACK (End call)
- 3. RESPONDENT TOO TILL OR LANGUAGE PROBLEM (End call)
- 4. RESPONDENT REFUSED ALL FURTHER CONTACT (End call)

QIntro.3) Hello ^DSP.Title\_Last. This is [STATE YOUR NAME] with the Agricultural Health Study at ^LOD.Site. You were sent a letter from ^FieldStation\_PI and Dr. Michael Alavanja recently, letting you know that I would be calling. Do you recall seeing this letter in your mail?

- 0. NO
- 1. YES

QIntro.4) STUDY PURPOSE – IF NEEDED

It's a long-term study designed to follow farmers and their families over a period of time to study protective aspects of health and possible factors of disease. Various diseases among farm families, which are of interest to scientists in this and other countries, are being studied, including the incidence of cancer. You completed a questionnaire for us either at a pesticide certification site, over the phone, or by mail several years ago.

- 1. CONTINUE

QIntro.5) The reason I'm calling today (tonight) is to update your information. The questions deal with your pesticide use and general health information. The interview usually takes 35 minutes to complete and we appreciate all the time you have given to help with this study.

- 1. CONTINUE

QIntro.6) Would you be willing to participate?

- 0. NO (Skip to QIntro.13)
- 1. YES (Skip to QIntro.7)
- 2. NO LONGER FARMING

QIntro.6a) Even though you are no longer farming, your information is still very important to us. Many of the diseases we are studying, such as cancer, may be due to exposure that occurred many years ago. This means we need to look well into the past to study the causes of these diseases. Also, since we are studying many types of exposures - not just farm exposures - it is important for us to obtain information even after you quit farming. Would you be willing to participate?

- 0. NO (Skip to QIntro.13)
- 1. YES

QIntro.7) We could do it now or schedule a time that would be more convenient for you. Is now a good time?

- 0. NO
- 1. YES (Skip to QIntro.8)

QIntro.7a) IF R INDICATES R IS SHORT ON TIME, ASK:

We could just get started and see how it goes. You can stop me at any time. Would that be all right?

- 0. NO (Skip to QIntro.13)
- 1. YES

QIntro.8) **IF Q.SITE <> Iowa, SKIP TO QIntro.12**

QIntro.9) Good, before we get started, I would like to ask if it is all right to record this interview. The purpose is to ensure that I've recorded your answers correctly. We do erase the recordings after we have checked them. Please be assured that your answers are confidential to the extent of the law. Your participation in this or any part of the Agricultural Health Study is voluntary and you may refuse to answer any question. Your name will not be linked to any of your information in reports. If you have questions about the study, you may call 1-800-217-1954. Is this all right with you?

- 0. NO
- 1. YES (Skip to QIntro.11)

QIntro.10) That's not a problem, I will leave the recorder off then.

- 1. CONTINUE

QIntro.11) Do you have any questions before we begin? Okay, let's get started.

- 1. CONTINUE (Skip to Q1.2Intro)

QIntro.12) Good, before we get started I want to assure you that your answers will be kept confidential to the extent of the law. Your participation in this or any part of the Agricultural Health Study is voluntary and you may refuse to answer any question. Your name will not be linked to any of your information in reports. If you have questions about the study, you may call 1-800-424-7883. My supervisor may listen to the interview to be sure I am doing the best job possible. Is this all right with you?

- 0. NO
- 1. YES (Skip to Q1.2Intro)
- 8. REF
- 9. DK

NoSupervisor) That's not a problem, my supervisor will not listen to the interview.

- 1. CONTINUE (Skip to Q1.2Intro)

QIntro.13) When would you like us to call you back?

- 1. RESPONDENT GAVE TIME FOR CALLBACK (End call)
- 2. RESPONDENT ASKED NOT TO CALLBACK (End call)
- 3. RESPONDENT TOO TILL OR LANGUAGE PROBLEM (End call)
- 4. RESPONDENT REFUSED ALL FURTHER CONTACT (End call)

Q1.2Intro) First let me make certain that I have reached the correct individual. Have I reached ^DSP.Respondent\_Fullname who reported a date of birth of ^STN.Respondent\_Birthdate?

- 0. NO
- 1. YES (Skip to Q1.2e)
- 8. REF
- 9. DK

Q1.2a) Is there another person with a similar name but with a different date of birth living there?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q1.2b) Was there a person with a similar name but with a different date of birth living there in the past?

- 0. NO (Skip to Q1.2c)
- 1. YES
- 8. REF
- 9. DK

ReachPast) Do you know how we can reach ^DSP.TitleRespondentName?

RESPONSE:

Q1.2c) Is it possible that the numbers in the date of birth, ^STN.Respondent\_Birthdate, have been transposed, mis-read, or are reversed?

- 0. NO (Skip to QIntroEnd2)
- 1. YES
- 8. REF
- 9. DK

Q1.2d) What is your correct date of birth?

DOB:

Q1.2e) [ONLY ASK IF NOT OBVIOUS] (Just for our records, can you tell me whether you are male or female?)

- 1. MALE
- 2. FEMALE

Q1.3 Is your current address:

<<display street>>

<<display city, state and zip>>

- 0. NO, ADDRESS IS INCORRECT OR INCOMPLETE (Skip to Q1.5)
- 1. YES, ADDRESS IS CORRECT (Skip to Q1.7)
- 8. REF
- 9. DK

Q1.5) Did your address change because you moved to a new residence?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q1.6a) What is the address of your current residence?

STREET NAME AND NUMBER:

Q1.6b [What is the address of your current residence?]  
CITY:

Q1.6c [What is the address of your current residence?]  
STATE:

Q1.6d [What is the address of your current residence?]  
ZIP CODE:

Q1.7) In what year did you move into your current residence?  
YEAR: |\_\_|\_|\_|\_|\_| (1900-2020)  
9998. REF  
9999. DK

Q1.8M) What month and year did you move out of ^FullState?  
MONTH: |\_\_|\_| (1-12)  
98. REF  
99. DK

Q1.8Y) [What month and year did you move out of ^FullState?]  
YEAR: |\_\_|\_|\_|\_|\_| (1900-2020)  
9998. REF  
9999. DK

Q1.9) Is this residence located on a farm? (A farm is defined as any establishment from which \$1,000 or more of agricultural products were sold or would normally be sold during the year.)  
0. NO  
1. YES  
8. REF  
9. DK

Q1.10) What has been your primary source of drinking water at your current residence? Was it . . .  
1. Private well (Skip to Q1.12)  
2. Spring (Skip to Q1.13)  
3. Private well then switched to public supply (Skip to Q1.11)  
4. Public or community supply (Skip to Section 2)  
5. Bottled water (Skip to Section 2)  
6. Rural water (Skip to Section 2)  
91. OTHER, SPECIFY  
98. REF (Skip to Section 2)  
99. DK (Skip to Section 2)

Q1.10a) [What has been your primary source of drinking water at your current residence?]  
OTHER, SPECIFY: \_\_\_\_\_

Q1.11) What year did you switch to a public water supply?  
YEAR: |\_\_|\_|\_|\_|\_| (1900-2020)  
9998. REF  
9999. DK

**BOX Q1.12: Ask about well depth for applicators only; Spouses skip to Q1.16**

Q1.12) How deep is (was) your private well ?

- 1. <50 feet
- 2. 50-100 feet
- 3. 101-150 feet
- 4. >150 feet
- 8. REF
- 9. DK

**BOX Q1.13 – Ask about well test for spouses only**

Q1.13) Has your private well been tested for nitrates since <<year of last interview>> (or <<year moved>> IF MORE RECENT)?

- 0. NO (Skip to Section 2)
- 1. YES
- 8. REF (Skip to Section 2)
- 9. DK (Skip to Section 2)

Q1.14) Did the test results indicate that the nitrate level in your well water was safe or unsafe for bottle-fed infants?

- 1. SAFE
- 2. UNSAFE
- 8. REF
- 9. DK

**SECTION 2. FARMING OPERATIONS**

I would like to ask some questions about farm work or farming activities you may have performed since you were last interviewed.

When answering these questions, please think about the time period since: ^DSP.YearOfLastInterview.

**NOTE: FOR COMMERCIAL APPLICATORS, ASK Q2.1 AND Q2.9, THEN SKIP TO SECTION 3**

Q2.1) Since ^DSP.YearOfLastInterview, have you personally performed farm work or farming activities?

- 0. NO (Skip to Q3)
- 1. YES
- 8. REF (Skip to Q3)
- 9. DK (Skip to Q3)

Q2.2) Are you currently farming or performing farming activities?

- 0. NO (Skip to Q2.2a)
- 1. YES (Skip to Q2.3)
- 8. REF (Skip to Q2.3)
- 9. DK (Skip to Q2.3)

Q2.2a) What was the last year you farmed or performed farming activities?

YEAR: |\_|\_|\_|\_| (1900-2020)  
9998. REF  
9999. DK

Q2.3) Excluding gardens for personal use, what crops, including fruits and vegetables, were raised on your farm since ^DSP.YearOfLastInterview?

[CODE ALL THAT APPLY]

- 10. NONE
- 11. APPLES
- 12. ALFALFA
- 13. BARLEY
- 14. BERMUDA GRASS
- 15. BLUEBERRIES
- 16. CABBAGE
- 17. CHRISTMAS TREES
- 18. CORN FIELD
- 19. CORN POP
- 20. CORN SEED
- 21. CORN SWEET
- 22. COTTON
- 23. CUCUMBERS
- 24. GRAPES
- 25. HAY OR FORAGE
- 26. MELONS
- 27. OATS
- 28. PEACHES
- 29. PEANUTS
- 30. PEPPERS
- 31. POTATOES
- 32. RYE
- 33. SNAPBEANS
- 34. SORGHUM
- 35. SOYBEANS
- 36. STRAWBERRIES
- 37. SWEET POTATOES
- 38. TOMATOES
- 39. TOBACCO
- 40. WHEAT
- 41. NURSERY CROPS
- 42. PUMPKINS
- 91. OTHER, SPECIFY
- 98. REF
- 99. DK

**BOX Q2.3a: If no Crop = "other", skip to Q2.4.**

Q2.3a) [Excluding gardens for personal use, what crops, including fruits and vegetables, were raised on your farm since ^DSP.YearOfLastInterview?]

OTHER, SPECIFY: \_\_\_\_\_

Q2.4) Since ^DSP.YearOfLastInterview, in an average year, how many total acres of crops did you grow?

|\_|\_|\_|\_|\_|\_|\_| [Range: 1 to 100000]

999997. Less than one

999998. REF

999999. DK

Q2.5) (Since ^DSP.YearOfLastInterview), what poultry or livestock did you raise on your farm?

[CODE ALL THAT APPLY]

- 10. NONE
- 11. NON DAIRY CATTLE
- 12. DAIRY CATTLE
- 13. HOGS/SWINE
- 14. POULTRY
- 15. POULTRY FOR EGGS
- 16. SHEEP OR GOATS
- 17. HORSES
- 91. OTHER, SPECIFY
- 98. REF
- 99. DK

**BOX Q2.5a: If no Anim = "other", skip to Q2.6.**

Q2.5a) [Since ^DSP.YearOfLastInterview, what poultry or livestock did you raise on your farm?]

OTHER ANIMAL SPECIFIED: \_\_\_\_\_

Q2.6) (Since ^DSP.YearOfLastInterview), what was the largest number of animals you had at any one time?

\_\_\_\_ [Range: 0 to 999,996]

999998. REF

999999. DK

Q2.7a) Since ^DSP.YearOfLastInterview, how often did you personally:

Till or disc the soil with farm machinery. Was it:

- 0. Never
- 1. Less than 10 days per year
- 2. 10 to 30 days per year
- 3. More than 30 days per year
- 8. REF
- 9. DK

Q2.7b) [Since ^DSP.YearOfLastInterview, how often did you personally]

Harvest crops with farm machinery. Was it:

- 0. Never
- 1. Less than 10 days per year
- 2. 10 to 30 days per year
- 3. More than 30 days per year
- 8. REF
- 9. DK

Q2.7c) [Since ^DSP.YearOfLastInterview, how often did you personally]

Harvest crops by hand? Was it:

- 0. Never
- 1. Less than 10 days per year
- 2. 10 to 30 days per year
- 3. More than 30 days per year
- 8. REF
- 9. DK



Q2.7d) [Since ^DSP.YearOfLastInterview, how often did you personally] Apply natural fertilizers, such as manure, to fields? Was it:

- 0. Never
- 1. Less than 10 days per year
- 2. 10 to 30 days per year
- 3. More than 30 days per year
- 8. REF
- 9. DK

Q2.8) [Since ^DSP.YearOfLastInterview, how often did you personally] Operate diesel-powered tractors? Was it:

- 0. Never
- 1. Less than 10 days per year
- 2. 10 to 30 days per year
- 3. 31 to 90 days per year
- 4. More than 90 days per year
- 8. REF
- 9. DK

### SECTION 3. GENERAL PESTICIDE USAGE

3.1) Are you currently a certified (or licensed) pesticide applicator or handler?

- 0. NO (Skip to Q3.2)
- 1. YES
- 8. REF (Skip to Q3.2)
- 9. DK (Skip to Q3.2)

3.1a) Is your certification (or license) for commercial or private application of pesticides?

[CHECK ALL THAT APPLY]

- 1. COMMERCIAL
- 2. PRIVATE
- 3. PUBLIC
- 4. SOMETHING ELSE
- 8. REF
- 9. DK

Q3.2) We would now like to ask about your use of pesticides since ^DSP.YearOfLastInterview, including herbicides, insecticides, fungicides, fumigants, or other chemicals used to kill plants, insects, fungi, molds, or rodents. Please do not include the use of antibiotics, sanitizers, antimicrobial soaps or fertilizers.

Since ^DSP.YearOfLastInterview, have you personally mixed, loaded, handled or applied these chemicals for use on crops, animals, or any other purpose NOT including home and garden use?

- 0. NO (Skip to Section 7)
- 1. YES
- 8. REF (Skip to Section 7)
- 9. DK (Skip to Section 7)

Q3.3) Since ^DSP.YearOfLastInterview, for how many years did you personally mix, load, handle or apply any of these chemicals?

[ENTER 97 FOR EVERY YEAR]

- \_\_|\_\_| [Range: 1 – 50]
- 97. EVERY YEAR
- 98. REF
- 99. DK

Q3.4) (Since ^DSP.YearOfLastInterview), for how many days per year on average did you personally mix, load, handle or apply any of these chemicals?

\_\_\_\_ [Range: 1 – 365]

998. REF

999. DK

#### SECTION 4. PESTICIDE NAMES AND FREQUENCY OF USE<sup>1</sup>

[NOTE: For this section of the interview, a list of the pesticide names that were previously reported by each participant during the Phase II interview will be displayed. When the participant reports the names of pesticides in current use, the name should be selected from the list displayed, if present. If the name is not on the list displayed, then the name can be either selected from a master list of all pesticide names, or else entered verbatim. For subjects who did not participate in Phase II, or who did not report use of pesticides during Phase II, no list will be displayed]

Q4.1) Now we are going to ask you about crops. Since <Year of last interview>, have you personally used herbicides, insecticides, fungicides, fumigants or any other pesticides for crops or any other type of plants, including vegetables, greenhouse crops, nurseries, orchards, trees, or turf and sod?

0. NO (Skip to Q4.2)

1. YES

8. REF (Skip to Q4.2)

9. DK (Skip to Q4.2)

Q4.1a) What did you use? Please give product trade names, if possible. If you would like to get a list, we can hold the line while you do so.

<Display list of previously reported pesticide names for this applicator>

[Note: Select pesticide name from list; or enter name if not listed]

**BOX Q4.1c: If "other" not listed, skip to Q4.2.**

Q4.1c) [What did you use for crops or other types of plants? Please give product trade names, if possible.]

SPECIFY, OTHER PESTICIDES USED ON CROPS: \_\_\_\_\_

Q4.2) Now I am going to ask you about animals. (Since ^DSP.YearOfLastInterview), have you personally used insecticides or any other pesticides on farm animals or animal confinement areas?

0. NO (Skip to Q4.3)

1. YES

8. REF (Skip to Q4.3)

9. DK (Skip to Q4.3)

Q4.2a) What did you use (on animals or animal confinement areas)? Please do not include antibiotics and feed additives.

<Display list of previously reported pesticide names for this applicator>

[Note: Select pesticide name from list; or enter name if not listed]

**BOX Q4.2c: If "other" not listed, skip to Q4.3.**

Q4.2c) [What did you use (for application to animals or animal confinement areas)? Please do not include antibiotics and feed additives. (Please give the product trade name, if possible.)]

SPECIFY, OTHER PESTICIDES USED ON ANIMALS: \_\_\_\_\_

<sup>1</sup> Variables from Section 4 are found in the Supplemental Pesticide Dataset. These questions are not annotated due to data formatting.

Q4.3) Excluding home and garden use, since ^DSP.YearOfLastInterview, have you personally used herbicides, insecticides, fungicides, fumigants, rodenticides or other pesticides for application to pastures, fence rows, road sides, around buildings, grain bins, for rodent control or for applications not already mentioned?

- 0. NO (Skip to Q4.3e)
- 1. YES
- 8. REF (Skip to Q4.3e)
- 9. DK (Skip to Q4.3e)

Q4.3a) Other than home and garden use, what did you use (for applications, such as pastures, fence rows, roadsides, buildings, grain bins, for rodent control or for applications not already mentioned? Please use the product trade name, if possible.)

<Display list of previously reported pesticide names for this applicator>  
*[Note: Select pesticide name from list; or enter name if not listed]*

**BOX Q4.3c: If "other" not listed, skip to Q4.3e.**

Q4.3c) [Other than home and garden use, what did you use (for these types of applications, such as pastures, fence rows, roadsides, around buildings, grain bins, for rodent control or for applications not already mentioned? Please give the product trade name, if possible.)

SPECIFY, OTHER PESTICIDES USED ON NON-CROPS: \_\_\_\_\_

Q4.3e) ONCE CONTINUE IS SELECTED, YOU CANNOT GO BACK AND ADD MORE PESTICIDES.

- 1. CONTINUE

*[Note: Ask Q4.5 only for pesticide names on the list of previously reported pesticide names that are flagged "A-List" and have not been reported during this interview.]*

Q4.5) I would like to ask about some other commonly used pesticides that you have not mentioned. Have you personally mixed, loaded, handled, or applied ^PestNotMentioned since ^DSP.YearOfLastInterview?

- 0. NO
- 1. YES
- 2. ALREADY MENTIONED
- 8. REF
- 9. DK

Q4.5a1) ONCE CONTINUE IS SELECTED, YOU CANNOT GO BACK AND CHANGE YOU ANSWER FOR PHASE II PESTICIDE USAGE.

- 1. CONTINUE

Q4.5a) Are there any other pesticides that you have used that you have not mentioned, not including pesticides for home and garden use?

- 0. NO (Skip to Q4.5h)
- 1. YES
- 8. REF (Skip to Q4.5h)
- 9. DK (Skip to Q4.5h)

Q4.5b) What pesticide did you use?

OTHER PESTICIDE:

**BOX Q4.5e: If "other" not listed, skip to Q4.5c.**

Q4.5e) [What pesticide did you use?]

SPECIFY, OTHER PESTICIDES USED: \_\_\_\_\_

Q4.5c) Was it applied to crops, animals, or non-crops?

1. CROPS
2. ANIMALS
3. NON-CROPS
8. REF
9. DK

Q4.5h) Now I would like to ask you about how often you have used the pesticides mentioned during this interview over your lifetime.

1. CONTINUE

**NOTE: ASK Q4.6 AND Q4.7 TO DETERMINE FREQUENCY OF USE FOR EACH PESTICIDE NAME REPORTED IN Q4.1a, Q4.2a, Q4.3a, or Q4.5b ABOVE**

Q4.6) You mentioned that you have used ^Pesticide\_Verbatim ^Pst\_Used\_On\_Txt. For how many years over your lifetime have you personally mixed, loaded, handled, or applied this pesticide?

- \_\_\_\_ [Range: 1 to 96]  
97. INCORRECT PESTICIDE  
98. REF  
99. DK

Q4.7) During the years you applied ^Pesticide\_Verbatim ^Pst\_Used\_On\_Txt, for how many days per year on average did you personally mix, load, handle, or apply it?

- \_\_\_\_ [Range: 1 to 365]  
998. REF  
999. DK

**REPEAT Q4.6 AND Q4.7 FOR EACH PESTICIDE NAME MARKED ON LIST**

## **SECTION 5. APPLICATION METHODS AND PPE USE FOR MOST FREQUENTLY APPLIED PESTICIDES<sup>2</sup>**

We would now like to ask about the application methods you used for handling pesticides since <year of last interview>.

*[Note: Based on the days per year for each pesticide reported in Section 4, the names of the pesticide applied the most days per year in six categories of use will be identified and used for prompting when collecting information on mixing and application methods.]*

- |   |                       |
|---|-----------------------|
| 1. Herbicide to crop:                   | ^PST.HighCropHerb     |
| 2. Insecticide to crop:                 | ^PST.HighCropInsect   |
| 3. Fungicide to crop:                   | ^PST.HighCropFung     |
| 4. Insecticide to animal:               | ^PST.HighAnimalInsect |
| 5. Pesticide for non crop applications: | ^PST.HighNonCropPest  |
| 6. Fumigants                            | ^PST.HighFumigant     |

**[BOX 5.1: Ask Q5.1 to Q5.8 only for applicators who reported "Yes" to Q4.1 and who reported use of at least one herbicide for application to crops; Else skip to BOX 5.2**

<sup>2</sup> Variables from Section 5 are found in the Supplemental Pesticide Dataset. These questions are not annotated due to data formatting.

Q5.1) On the days when ^PST.HighCropHerb was applied to crops or other plants, how often did you personally mix it or load it into the application equipment? Was it:

- 1. Never (Skip to Q5.3)
- 2. Less than half the days
- 3. Half or more than half the days
- 4. Always
- 7. INCORRECT PESTICIDE (Skip to Box 5.2)
- 8. REF (Skip to Q5.3)
- 9. DK (Skip to Q5.3)

Q5.2) How many times per day, on average, did you personally mix this pesticide ^PST.HighCropHerb or load it into the application tank or bin?

- [Range: 1 to 96]  
98. REF  
99. DK

Q5.3) Since ^DSP.YearOfLastInterview, on the days when ^PST.HighCropHerb was applied to crops or other plants, did you personally apply it?

- 0. NO (Skip to Box 5.2)
- 1. YES
- 8. REF (Skip to Box 5.2)
- 9. DK (Skip to Box 5.2)

Q5.4) Did you use a tractor or other farm vehicle to apply ^PST.HighCropHerb?

- 0. NO (Skip to Q5.6a)
- 1. YES
- 8. REF (Skip to Q5.6a)
- 9. DK (Skip to Q5.6a)

Q5.5) Did the tractor or farm vehicle you usually used to apply this pesticide have an enclosed cab?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q5.6a) When you applied ^PST.HighCropHerb to crops, was it liquid, granular, powder, or something else?

- 1. LIQUID (Skip to Q5.7)
- 2. GRANULAR (Skip to Q5.7)
- 3. POWDER (Skip to Q5.7)
- 4. SOMETHING ELSE
- 8. REF (Skip to Q5.7)
- 9. DK (Skip to Q5.7)

Q5.6b) (What form was the ^PST.HighCropHerb when it was applied to crops or other plants?)  
What was it?

OTHER, SPECIFY: \_\_\_\_\_

Q5.7) When you applied ^PST.HighCropHerb to crops, what application method did you use the most? Was it:

- 1. Broadcast (Skip to Q5.7c)
- 2. Banded, or In-Furrow (Skip to Q5.7c)
- 3. Hand-held Sprayer (Skip to Q5.7c)
- 4. Something Else
- 8. REF (Skip to Q5.7c)
- 9. DK (Skip to Q5.7c)

Q5.7a) [What method did you use when you applied ^PST.HighCropHerb to crops?] What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.7b: If "other" not listed, skip to Q5.7c.**

Q5.7b) [What method did you use when you applied ^PST.HighCropHerb to crops?]

OTHER, SPECIFY: \_\_\_\_\_

Q5.7c) When you applied ^PST.HighCropHerb to crops, what application method did you use the second most?  
Was it:

- |                         |                |
|-------------------------|----------------|
| 1. NONE                 | (Skip to Q5.8) |
| 2. BROADCAST            | (Skip to Q5.8) |
| 3. BANDED, OR IN-FURROW | (Skip to Q5.8) |
| 4. HAND-HELD SPRAYER    | (Skip to Q5.8) |
| 5. SOMETHING ELSE       |                |
| 8. REF                  | (Skip to Q5.8) |
| 9. DK                   | (Skip to Q5.8) |

Q5.7d) [When you applied ^PST.HighCropHerb to crops, what application method did you use the second most?]  
What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.7e: If "other" not listed, skip to Q5.8.**

Q5.7e) [When you applied ^PST.HighCropHerb to crops, what application method did you use the second most?]

OTHER, SPECIFY: \_\_\_\_\_

Q5.8) For how many hours per day on average did you personally mix, load, handle, or apply ^PST.HighCropHerb?

- \_\_|\_\_| HOURS [Range: 1 to 20]  
97. LESS THAN ONE HOUR  
98. REF  
99. DK

**BOX 5.2: Ask Q5.9 to Q5.16 only for applicators who reported "Yes" to Q4.1 and who reported use of at least one insecticide (pesticide name 2) for application to crops, Else skip to BOX 5.3**

Q5.9) On the days when ^PST.HighCropInsect was applied to crops or other plants, how often did you personally mix it or load it into the application equipment? Was it:

- |                                    |                   |
|------------------------------------|-------------------|
| 1. Never                           | (Skip to Q5.11)   |
| 2. Less than half the days         |                   |
| 3. Half or more than half the days |                   |
| 4. Always                          |                   |
| 7. INCORRECT PESTICIDE             | (Skip to Box 5.3) |
| 8. REF                             | (Skip to Q5.11)   |
| 9. DK                              | (Skip to Q5.11)   |

Q5.10) How many times per day, on average, did you personally mix this pesticide (^PST.HighCropInsect) or load it into the application tank or bin when applied to crops or other plants?

- \_\_|\_\_| [Range: 1 to 96]  
98. REF  
99. DK

Q5.11) Since ^DSP.YearOfLastInterview, on the days when ^PST.HighCropInsect was applied to crops or other plants, did you personally apply it?

- 0. NO (Skip to Box 5.3)
- 1. YES
- 8. REF (Skip to Box 5.3)
- 9. DK (Skip to Box 5.3)

Q5.12) Did you use a tractor or other farm vehicle to apply ^PST.HighCropInsect?

- 0. NO (Skip to Q5.14a)
- 1. YES
- 8. REF (Skip to Q5.14a)
- 9. DK (Skip to Q5.14a)

Q5.13) Did the tractor or farm vehicle you usually used to apply ^PST.HighCropInsect (to crops and other plants) have an enclosed cab?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q5.14a) When you applied ^PST.HighCropInsect to crops, was it liquid, granular, powder, or something else?

- 1. LIQUID (Skip to Q5.15)
- 2. GRANULAR (Skip to Q5.15)
- 3. POWDER (Skip to Q5.15)
- 4. SOMETHING ELSE
- 8. REF (Skip to Q5.15)
- 9. DK (Skip to Q5.15)

Q5.14c) [What form was the ^PST.HighCropInsect when it was applied to crops?]  
What was it?

Q5.15) When you applied ^PST.HighCropInsect to crops, what application method did you use the most? Was it:

- 1. Broadcast (Skip to Q5.15c)
- 2. Banded, or In-Furrow (Skip to Q5.15c)
- 3. Hand-held sprayer (Skip to Q5.15c)
- 4. Something Else
- 8. REF (Skip to Q5.15c)
- 9. DK (Skip to Q5.15c)

Q5.15a) [When you applied ^PST.HighCropInsect to crops, what application method did you use the most?]  
What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.15b: If "other" not listed, skip to Q5.15c.**

Q5.15b) [When you applied ^PST.HighCropInsect to crops, what application method did you use the most?]  
OTHER, SPECIFY: \_\_\_\_\_

Q5.15c) When you applied ^PST.HighCropInsect to crops, what application method did you use the second most?

- 1. NONE (Skip to Q5.16)
- 2. BROADCAST (Skip to Q5.16)
- 3. BANDED OR IN-FURROW (Skip to Q5.16)
- 4. HAND-HELD SPRAYER (Skip to Q5.16)
- 5. SOMETHING ELSE
- 8. REF (Skip to Q5.16)
- 9. DK (Skip to Q5.16)

Q5.15d) [When you applied ^PST.HighCropInsect to crops, what application method did you use the second most?] What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.15e: If "other" not listed, skip to Q5.16.**

Q5.15e) [When you applied ^PST.HighCropInsect to crops, what application method did you use the second most?] OTHER, SPECIFY: \_\_\_\_\_

Q5.16) For how many hours per day on average did you personally mix, load, handle, or apply ^PST.HighCropInsect?

- \_\_\_\_ HOURS [Range: 1 to 20]
- 97. LESS THAN ONE HOUR
  - 98. REF
  - 99. DK

**BOX 5.3: Ask Q5.17 to Q5.24 only for applicators who reported "Yes" to Q4.1 and who reported use of at least one fungicide for application to crops, Else Skip to BOX 5.4**

Q5.17) On the days when ^PST.HighCropFung was applied to crops or other plants, how often did you personally mix it or load it into the application equipment? Was it:

- 1. Never (Skip to Q5.19)
- 2. Less than half the days
- 3. Half or more than half the days
- 4. Always
- 7. INCORRECT PESTICIDE (Skip to Box 5.4)
- 8. REF (Skip to Q5.19)
- 9. DK (Skip to Q5.19)

Q5.18) How many times per day, on average, did you personally mix this pesticide (^PST.HighCropFung) or load it into the application tank or bin?

- \_\_\_\_ [Range: 1 to 96]
- 98. REF
  - 99. DK

Q5.19) Since ^DSP.YearOfLastInterview, on the days when ^PST.HighCropFung was applied to crops or other plants, did you personally apply it?

- 0. NO (Skip to Box 5.4)
- 1. YES
- 8. REF (Skip to Box 5.4)
- 9. DK (Skip to Box 5.4)



- Q5.20) Did you use a tractor or other farm vehicle to apply ^PST.HighCropFung?
- 0. NO (Skip to Q5.22)
  - 1. YES
  - 8. REF (Skip to Q5.22)
  - 9. DK (Skip to Q5.22)

- Q5.21) Did the tractor or farm vehicle you usually used to apply ^PST.HighCropFung have an enclosed cab?
- 0. NO
  - 1. YES
  - 8. REF
  - 9. DK

- Q5.22) When you applied ^PST.HighCropFung to crops, was it liquid, granular, powder, or something else?
- 1. LIQUID (Skip to Q5.23)
  - 2. GRANULAR (Skip to Q5.23)
  - 3. POWDER (Skip to Q5.23)
  - 4. SOMETHING ELSE
  - 8. REF (Skip to Q5.23)
  - 9. DK (Skip to Q5.23)

Q5.22a) [What form was the ^PST.HighCropFung when it was applied to crops?]  
 What was it?

OTHER, SPECIFY: \_\_\_\_\_

- Q5.23) When you applied ^PST.HighCropFung to crops, what application method did you use the most? Was it:
- 1. Broadcast (Skip to Q5.23c)
  - 2. Banded, or In-Furrow (Skip to Q5.23c)
  - 3. Hand-held Sprayer (Skip to Q5.23c)
  - 3. Something Else
  - 8. REF (Skip to Q5.23c)
  - 9. DK (Skip to Q5.23c)

Q5.23a) [What method did you use when you applied ^PST.HighCropFung to crops?]  
 What was it?

Application Method:   
 <<display drop down list - mark one>>

**BOX Q5.23b: If "other" not listed, skip to Q5.23c.**

Q5.23b) [What method did you use when you applied ^PST.HighCropFung to crops?]  
 OTHER, SPECIFY: \_\_\_\_\_

- Q5.23c) When you applied ^PST.HighCropFung to crops, what application method did you use the second most?
- 0. NONE (Skip to Q5.24)
  - 1. BROADCAST (Skip to Q5.24)
  - 2. BANDED OR IN-FURROW (Skip to Q5.24)
  - 3. HAND-HELD SPRAYER (Skip to Q5.24)
  - 4. SOMETHING ELSE
  - 8. REF (Skip to Q5.24)
  - 9. DK (Skip to Q5.24)

Q5.23d) [What method did you use second most when you applied ^PST.HighCropFung to crops?]  
 What was it?

Application Method:   
 <<display drop down list - mark one>>

**BOX Q5.23e: If "other" not listed, skip to Q5.24.**

Q5.23e) [What method did you use second most when you applied ^PST.HighCropFung to crops?]  
OTHER, SPECIFY: \_\_\_\_\_

Q5.24) For how many hours per day on average did you personally mix, load, handle, or apply  
^PST.HighCropFung (for crops and other plants)?  
[ENTER 97 FOR LESS THAN 1 HOUR]  
|\_|\_| HOURS [Range: 1 to 20]  
97. LESS THAN ONE HOUR  
98. REF  
99. DK

**BOX 5.4: Ask Q5.25 to Q5.27 only for applicators who answered "Yes" to Q4.2; and reported the name of at least one insecticide applied to animals; else skip to BOX 5.5**

Q5.25) These next questions are about your use of insecticides on animals or animal confinement areas. Since  
^DSP.YearOfLastInterview, when you applied ^PST.HighAnimalInsect on animals or animal confinement areas,  
how often did you personally mix the insecticide or load the application equipment yourself? Was it . . .

1. Never
2. Less than half the days
3. Half or more than half the days
4. Always
7. INCORRECT PESTICIDE (Skip to Box 5.5)
8. REF
9. DK

Q5.26) When you applied ^PST.HighAnimalInsect on animals or animal confinement areas, what application  
method did you use the most? Was it:

0. DID NOT APPLY (Skip to Q5.27)
1. Dips, pour-ons (also hand wipes, oral paste, or boluses) (Skip to Q5.26c)
2. Sprayer or Duster (backpack sprayer, air sprayer) (Skip to Q5.26c)
3. Something Else
8. REF (Skip to Q5.26c)
9. DK (Skip to Q5.26c)

Q5.26a) [What method did you use when you applied ^PST.HighAnimalInsect on animals or animal confinement  
areas?]

What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.26b: If "other" not listed, skip to Q5.26c.**

Q5.26b) [What method did you use when you applied ^PST.HighAnimalInsect on animals or animal confinement  
areas?]

OTHER, SPECIFY: \_\_\_\_\_

Q5.26c) When you applied ^PST.HighAnimalInsect on animals or animal confinement areas, what application method did you use the second most?

1. NONE (Skip to Q5.27)
2. Dips, pour-ons (also hand wipes, oral paste, or boluses) (Skip to Q5.27)
3. Sprayer or Duster (backpack sprayer, air sprayer) (Skip to Q5.27)
4. Something Else
8. REF (Skip to Q5.27)
9. DK (Skip to Q5.27)

Q5.26d) [What method did you use the second most when you applied ^PST.HighAnimalInsect on animals or animal confinement areas?]

What was it?

Application Method:

<<display drop down list - mark one>>

**BOX Q5.26e: If "other" not listed, skip to Q5.27.**

Q5.26e) [What method did you use the second most when you applied ^PST.HighAnimalInsect on animals or animal confinement areas?]

OTHER, SPECIFY: \_\_\_\_\_

Q5.27) For how many hours per day on average did you personally mix, load, handle, or apply ^PST.HighAnimalInsect?

[ENTER 97 FOR LESS THAN 1 HOUR]

\_\_\_\_ HOURS [Range: 1 to 20]

97. LESS THAN ONE HOUR
98. REF
99. DK

**BOX 5.5 – Ask Q5.28 to Q5.30 only for applicators who answered yes to Q4.3; and reported the name of at least one pesticide applied for non-crop application; else skip to BOX 5.6**

Q5.28) These next questions are about the pesticides you applied for purposes other than to crops or animals. (Since ^DSP.YearOfLastInterview), on days when ^PST.HighNonCropPest was applied, how often did you personally mix the pesticide or load the application equipment yourself? Was it:

1. Never
2. Less than half the days
3. Half or more than half the days
4. Always
7. INCORRECT PESTICIDE (Skip to Box 5.6)
8. REF
9. DK

Q5.29) When you applied ^PST.HighNonCropPest, what application method did you use the most? Was it:

0. DID NOT APPLY (Skip to Box 5.6)
1. Hand-held Sprayer (gun, wand, boom, or pump) (Skip to Q5.29c)
2. Broadcast from Farm Vehicle (NOT hand-held) (Skip to Q5.29c)
3. Backpack Sprayer (Skip to Q5.29c)
4. Dusting by hand (including powders) (Skip to Q5.29c)
5. Something Else
7. INCORRECT PESTICIDE (Skip to Box 5.6)
8. REF (Skip to Q5.29c)
9. DK (Skip to Q5.29c)

Q5.29a) [What method did you use when you applied ^PST.HighNonCropPest?]  
What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.29b: If "other" not listed, skip to Q5.29c.**

Q5.29b) [What method did you use when you applied ^PST.HighNonCropPest?]  
OTHER, SPECIFY: \_\_\_\_\_

Q5.29c) When you applied ^PST.HighNonCropPest, what application method did you use the second most?

- 0. NONE
- 1. HAND-HELD SPRAYER (Skip to Q5.30)
- 2. BROADCAST FROM FARM VEHICLE (Skip to Q5.30)
- 3. BACKPACK SPRAYER (Skip to Q5.30)
- 4. DUSTING BY HAND (Skip to Q5.30)
- 5. SOMETHING ELSE
- 8. REF (Skip to Q5.30)
- 9. DK (Skip to Q5.30)

Q5.29d) [What method did you use the second most when you applied ^PST.HighNonCropPest?]  
What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.29e: If "other" not listed, skip to Q5.30.**

Q5.29e) [What method did you use the second most when you applied ^PST.HighNonCropPest?]  
OTHER, SPECIFY: \_\_\_\_\_

Q5.30) For how many hours per day on average did you personally mix, load, handle, or apply  
^PST.HighNonCropPest?

- HOURS [Range: 1 to 20]
- 97. LESS THAN ONE HOUR
  - 98. REF
  - 99. DK

**BOX 5.6: Ask Q5.31 to Q5.32 only for applicators who answered yes to Q4.3; and reported the name of at least one fumigant; else skip to Box 5.7.**

Q5.31) We would now like to ask about your use of ^PST.HighFumigant. When you applied ^PST.HighFumigant, what application method did you use the most? Was it:

- 0. DID NOT APPLY (Skip to Box 5.7)
- 1. Hand-held Sprayer (gun, wand, boom, or pump) (Skip to Q5.31c)
- 2. Broadcast from Farm Vehicle (NOT hand-held) (Skip to Q5.31c)
- 3. Backpack Sprayer (Skip to Q5.31c)
- 4. Dusting by hand (including powders) (Skip to Q5.31c)
- 5. Something Else
- 7. INCORRECT PESTICIDE (Skip to Box 5.7)
- 8. REF (Skip to Q5.31c)
- 9. DK (Skip to Q5.31c)

Q5.31a) [What method did you use when you applied ^PST.HighFumigant?]  
What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.31b: If "other" not listed, skip to Q5.31e.**

Q5.31b) [What method did you use when you applied ^PST.HighFumigant?]  
OTHER, SPECIFY: \_\_\_\_\_

Q5.31c) When you applied ^PST.HighFumigant, what application method did you use the second most?

- 0. NONE (Skip to Q5.32)
- 1. HAND-HELD SPRAYER (Skip to Q5.32)
- 2. BROADCAST FROM FARM VEHICLE (Skip to Q5.32)
- 3. BACKPACK SPRAYER (Skip to Q5.32)
- 4. DUSTING BY HAND (Skip to Q5.32)
- 5. SOMETHING ELSE
- 8. REF (Skip to Q5.32)
- 9. DK (Skip to Q5.32)

Q5.31d) [What method did you use the second most when you applied ^PST.HighFumigant?]  
What was it?

Application Method:   
<<display drop down list - mark one>>

**BOX Q5.31e: If "other" not listed, skip to Q5.32.**

Q5.31e) [What method did you use the second most when you applied ^PST.HighFumigant?]  
OTHER, SPECIFY: \_\_\_\_\_

Q5.32) For how many hours per day on average did you personally mix, load, handle, or apply ^PST.HighFumigant?

- HOURS [Range: 1 to 20]  
97. LESS THAN ONE HOUR  
98. REF  
99. DK

**BOX 5.7: Ask Q5.33 to Q5.35a only for applicators who reported mixing and loading at least one pesticide; else skip to Q5.36.**

Q5.33) Since ^DSP.YearOfLastInterview, when you **mixed and/or loaded** herbicides, insecticides, fungicides or other pesticides, did you normally wear gloves?

- 0. NO (Skip to 5.35)
- 1. YES
- 8. REF (Skip to 5.35)
- 9. DK (Skip to 5.35)

Q5.34) What type of glove did you normally wear? Was it:

- 1. Chemical Resistant Glove, like Nitrile (Skip to Q5.35)
- 2. Rubber or Plastic Waterproof Glove (Skip to Q5.35)
- 3. Thin Disposable Glove Like Latex (Skip to Q5.35)
- 4. Fabric or Leather (Skip to Q5.35)
- 91. OTHER, SPECIFY
- 98. REF (Skip to Q5.35)
- 99. DK (Skip to Q5.35)

Q5.34a) [What type of glove did you normally wear?]

OTHER, SPECIFY: \_\_\_\_\_

Q5.35) What (other) protective equipment did you normally wear (when you mixed herbicides, insecticides, fungicides, or other pesticides)? Did you wear: (CHECK ALL THAT APPLY)

- 0. NONE
- 1. Goggles
- 2. Face Shield
- 3. Disposable Coveralls, like Tyvek
- 4. Rubber boots
- 5. Respirator with cartridge
- 6. Dust mask
- 7. Long-sleeved shirt
- 91. OTHER
- 98. REF
- 99. DK

**BOX Q5.35a: If no PPE = "other", skip to Q5.36.**

Q5.35a) [What (other) protective equipment did you normally wear (when you mixed herbicides, insecticides, fungicides, or other pesticides)?]

OTHER, SPECIFY: \_\_\_\_\_

Q5.36) Since ^DSP.YearOfLastInterview, when you **applied** pesticides, did you normally wear gloves?

- 0. NO (Skip to 5.38)
- 1. YES
- 8. REF (Skip to 5.38)
- 9. DK (Skip to 5.38)

Q5.37) What type of glove did you normally wear? Was it:

- 1. Chemical Resistant Glove, like Nitrile (Skip to Q5.38)
- 2. Rubber or Plastic Waterproof Glove (Skip to Q5.38)
- 3. Thin Disposable Glove like Latex (Skip to Q5.38)
- 4. Fabric or Leather (Skip to Q5.38)
- 91. OTHER
- 98. REF (Skip to Q5.38)
- 99. DK (Skip to Q5.38)

Q5.37a) [What type of glove did you normally wear?]

OTHER, SPECIFY: \_\_\_\_\_

Q5.38) What (other) protective equipment did you normally wear (when you **applied** pesticides)? Did you wear: (CHECK ALL THAT APPLY)

- 0. NONE
- 1. Goggles
- 2. Face Shield
- 3. Disposable Coveralls, like Tyvek
- 4. Rubber boots
- 5. Respirator with Cartridge
- 6. Dust Mask
- 7. Long-sleeved shirt
- 91. OTHER
- 98. REF
- 99. DK

**BOX Q5.38a: If "other" not listed, skip to Q5.39.**

Q5.38a) [What (other) protective equipment did you normally wear (when you **applied** pesticides)?]  
OTHER, SPECIFY: \_\_\_\_\_

Q5.39) (Since ^DSP.YearOfLastInterview), in general, on days when pesticides were applied, how often did you stop to readjust or repair your application equipment? Was it:

1. Never
2. Less than half the days
3. Half or more than half the days
4. Always
8. REF
9. DK

## SECTION 6. HIGH PESTICIDE EXPOSURE EVENTS

Q6.1) Since ^DSP.YearOfLastInterview, have you had any incidents or spills that resulted in an unusually high exposure to pesticides from contact with your skin, from breathing fumes, or dust, or from accidental ingestion?

0. NO (Skip to Section 7)
1. YES
8. REF (Skip to Section 7)
9. DK (Skip to Section 7)

Q6.2) Regarding the most recent incident, what was the name of the pesticide you were using?

<Display list of reported pesticide names for this applicator>

- 9999...8. REF (Skip to Q6.3)
- 9999...9. DK (Skip to Q6.3)

**BOX Q6.2: If "other" not listed, skip to Q6.3.**

Q6.2\_OS) [Regarding the most recent incident, what was the name of the pesticide you were using?]  
OTHER, SPECIFY: \_\_\_\_\_

Q6.3) Did this incident result in medical treatment or hospitalization?

0. NO
1. YES
8. REF
9. DK

## SECTION 7. NON-FARM OCCUPATION INFORMATION

Q7.1) Do you currently have a job other than working on a farm?

0. NO (Skip to Section 8)
1. YES
8. REF (Skip to Section 8)
9. DK (Skip to Section 8)

Q7.2) What is your current job other than farming?:

- \_\_\_\_\_
- 9999...8. REF
  - 9999...9. DK

Q7.3) What type of business is this job in? (For example: Building/home construction, trucking, grain silo)

- 
- 9999...8. REF
  - 9999...9. DK

Q7.4) For how many years have you had this job?

[ENTER 97 FOR LESS THAN 1 YEAR]

- \_\_|\_\_| [Range: 1 to 75]
- 97. LESS THAN ONE YEAR
- 98. REF
- 99. DK

Q7.5) Is this job year round or seasonal?

- 1. YEAR ROUND
- 2. SEASONAL
- 8. REF
- 9. DK

## SECTION 8. EXPOSURES AND IMPORTANT CONFOUNDERS

Q8.1) I am now going to ask you some questions about your health and lifestyle. What is your current marital status? Are you:

- 1. Single,
- 2. Married,
- 3. Living As Married,
- 4. Divorced or Separated, or
- 5. Widowed
- 91. OTHER
- 98. REF
- 99. DK

Q8.2) Our records show that you were living with ^DSP.Spouse\_Fullname at the start of the study in ^DSP.Enrollment\_Year, is this correct?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q8.3) What was the first year you lived in the same residence?

YEAR: \_\_|\_\_|\_\_|\_\_| [Range: 1900 to 2020]

- 9997. NEVER LIVED TOGETHER
- 9998. REF
- 9999. DK

(Skip to Q8.4)

Q8.3a) What was the last year you lived in the same residence?

YEAR: \_\_|\_\_|\_\_|\_\_| [Range: 1900 to 2020]

- 9997, STILL TOGETHER
- 9998. REF
- 9999. DK

Q8.4) How tall are you? (FEET)

- \_\_|\_\_| FEET [Range: 1 to 9]
- 98. REF
- 99. DK



Q8.4a) [How tall are you?] (INCHES)

|\_|\_| INCHES [Range: 0 to 11]  
98. REF  
99. DK

Q8.5) How much do you weigh now?

|\_|\_|\_| POUNDS [Range: 1 to 996]  
998. REF  
999. DK

Q8.6) Have you smoked a total of 100 cigarettes or more during your lifetime?

0. NO (Skip to Q8.14)  
1. YES  
8. REF (Skip to Q8.14)  
9. DK (Skip to Q8.14)

Q8.7) Have you ever been a regular smoker, that is have you ever smoked at least 3 cigarettes/week for at least 6 months or more?

0. NO (Skip to Q8.14)  
1. YES  
8. REF (Skip to Q8.14)  
9. DK (Skip to Q8.14)

Q8.8) How old were you when you first started smoking cigarettes on a regular basis? By regular basis, I mean 3 cigarettes/week for 6 months or more.

|\_|\_|\_| AGE [Range: 1 to 85] (Skip to Q8.9)  
998. REF  
999. DK

Q8.8a) What year did you begin smoking?

YEAR: |\_|\_|\_|\_| [Range: 1900 to 2020]  
9998. REF  
9999. DK

Q8.9) Do you currently smoke every day, some days or not at all?

1. EVERY DAY (Skip to Q8.11)  
2. SOME DAYS (Skip to Q8.11)  
3. NOT AT ALL  
8. REF (Skip to Q8.11)  
9. DK (Skip to Q8.11)

Q8.10) How old were you when you last smoked cigarettes on a regular basis? By regular basis, I mean 3 cigarettes/week for 6 months or more.

|\_|\_|\_| AGE [Range: 1 to 85] (Skip to Q8.10b)  
998. REF  
999. DK

Q8.10a) What year did you last smoke cigarettes on a regular basis? (IF DK AGE, PROBE FOR YEAR LAST SMOKED.) [IF NECESSARY SAY: By regular basis, I mean 3 cigarettes/week for 6 months or more.]

YEAR: |\_|\_|\_|\_| [Range: 1900 to 2020]  
9998. REF  
9999. DK

Q8.10b) When you used to regularly smoke, did you smoke every day or just on some days?

1. EVERY DAY
2. SOME DAYS
8. REF
9. DK

Q8.11) Thinking about all the years that you smoked, about how many cigarettes or packs per day did you usually smoke on days when you smoked? Please tell me whether you are reporting the number of cigarettes per day or the number of packs per day. [IF NEEDED: One pack usually equals 20 cigarettes.]

- \_\_\_\_ [Range: 1 to 120]
998. REF (Skip to Q8.12)
999. DK (Skip to Q8.12)

Q8.11a) [Thinking about all the years that you smoked, about how many cigarettes or packs per day did you usually smoke on days when you smoked? Please tell me whether you are reporting the number of cigarettes per day or the number of packs per day. [IF NEEDED: One pack usually equals 20 cigarettes.]

UNIT:

1. CIGARETTES
2. PACKS

Q8.12) Thinking about the years between age (AGE WHEN FIRST STARTED) to (AGE FROM Q8.10/now), was there ever a period of one year or longer during which you did not smoke cigarettes regularly?

0. NO (Skip to Q8.14)
1. YES
8. REF (Skip to Q8.14)
9. DK (Skip to Q8.14)

Q8.13) During the years between (AGE WHEN FIRST STARTED) and (AGE FROM Q8.7/now), for how many total months or years, did you stop smoking cigarettes?

- \_\_\_\_ [Range: 1 to 120]
998. REF (Skip to Q8.14)
999. DK (Skip to Q8.14)

Q8.13) During the years between (AGE WHEN FIRST STARTED) and (AGE FROM Q8.7/now), for how many total months or years, did you stop smoking cigarettes?

1. MONTHS
2. YEARS

Q8.14) Did you drink alcoholic beverages, including beer, wine, and liquor in the past 12 months?

0. NO (Skip to Q8.17)
1. YES
8. REF (Skip to Q8.17)
9. DK (Skip to Q8.17)

Q8.14a) (In the past 12 months) how often did you drink alcoholic beverages? Would you say:

1. Daily,
2. Weekly,
3. Monthly (Skip to Q8.17)
4. Less Than Once a Month (Skip to Q8.17)
8. REF (Skip to Q8.17)
9. DK (Skip to Q8.17)

Q8.15) During the week, on Monday through Thursday, how many servings, in total, of alcoholic beverages did you drink?

\_\_|\_\_|

[Range: 1 to 96]

98. REF

99. DK

Q8.16) During the weekend, on Friday through Sunday, how many servings, in total, of alcoholic beverages did you drink?

\_\_|\_\_|

[Range: 1 to 96]

98. REF

99. DK

Q8.17) Now I am going to ask you some questions about your health and your access to health care.

How would you describe your health in general? Would you say it is . . .

1. Excellent
2. Very Good
3. Good
4. Fair, or
5. Poor
8. REF
9. DK

Q8.18) About how long has it been since you last saw or talked to a doctor or other health care professional about your health? Would you say . . .

1. Less Than 1 Year
2. 1-3 Years
3. More Than 3 Years, or
4. Never
8. REF
9. DK

Q8.19) Have you ever had a bone scan to measure bone density?

0. NO
1. YES
8. REF
9. DK

Q8.20) Have you ever had your colon checked by having a colonoscopy or sigmoidoscopy exam? [In this exam a doctor inserts a long flexible lighted tube into your colon to look at it from the inside.]

0. NO
1. YES
8. REF
9. DK

**SECTION 9. PHYSICAL ACTIVITY**

Q9.1) The next few questions are about your physical activity. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do during the day, including on the farm, at any jobs you might have, as part of your house or yard work, and in your spare time for recreation, exercise or sport.

During the past 12 months, on how many days per week did you do vigorous physical activities that take hard physical effort and make you breathe much harder than normal, like heavy lifting, digging, chopping or sawing wood by hand, tossing straw bales, swimming, aerobics, or jogging?

[Range: 0 to 7] (If 0, skip to Q9.3)  
8. REF (Skip to Q9.3)  
9. DK (Skip to Q9.3)

Q9.2) How much time did you usually spend doing vigorous physical activities on one of those days?

[Range: 0 to 1440] (If 0, skip to Q9.3)  
8. REF (Skip to Q9.3)  
9. DK (Skip to Q9.3)

Q9.2a) [How much time did you usually spend doing vigorous physical activities on one of those days?]

- 1. HOURS
- 2. MINUTES

Q9.3) During the past 12 months, on how many days per week did you do moderate physical activities like fishing or hunting, driving a tractor or other farm equipment, carrying light loads, house work, or gardening? Do not include walking. (other examples: carpentry, painting, feeding farm animals.)

[Range: 0 to 7] (If 0, skip to Q9.5)  
8. REF (Skip to Q9.5)  
9. DK (Skip to Q9.5)

Q9.4) How much time did you usually spend doing moderate physical activities on one of those days?

[Range: 0 to 1440] (If 0, skip to Q9.5)  
8. REF (Skip to Q9.5)  
9. DK (Skip to Q9.5)

Q9.4a) [How much time did you usually spend doing moderate physical activities on one of those days?]

- 1. HOURS
- 2. MINUTES

Q9.5) During the past 12 months, on how many days per week did you walk for at least 10 minutes at a time? This includes walking on the farm, at work and at home, walking to travel from place to place, and any other walking you might do solely for recreation, sport, exercise, or leisure.

[Range: 0 to 7] (If 0, skip to Q9.7)  
8. REF (Skip to Q9.7)  
9. DK (Skip to Q9.7)

Q9.6) How much time did you usually spend walking on one of those days?

[Range: 0 to 1440] (If 0, skip to Q9.7)  
8. REF (Skip to Q9.7)  
9. DK (Skip to Q9.7)

Q9.6a) [How much time did you usually spend walking on one of those days?]

- 1. HOURS
- 2. MINUTES

Q9.7) During the past 12 months, how much time did you usually spend sitting on a typical weekday while at work, at home, and during leisure time? This may include time you spent sitting at a desk, reading, riding in a car, or watching television.

\_|\_|\_|\_|\_|

[Range: 0 to 1440]

(If 0, skip to Section 10)

8. REF

(Skip to Section 10)

9. DK

(Skip to Section 10)

Q9.7a) [During the past 12 months, how much time did you usually spend sitting on a typical weekday while at work, at home, and during leisure time? This may include time your spent sitting at a desk, reading, or watching television?]

1. HOURS

2. MINUTES

## SECTION 10. SUN EXPOSURE

Q10.1) Now I would like to ask you some questions about how you spend your time outdoors.

On average, from March to October, how many hours a day do you generally spend outside during daylight hours? Would you say:

1. up to 1 hour,

2. 1-2 hours

3. 3-5 hours

4. 6-10 hours

5. more than 10 hours

8. REF

9. DK

Q10.2) On days when you apply pesticides, do you usually use an insect repellent containing DEET?

0. NO

1. YES

2. DO NOT APPLY PESTICIDES

8. REF

9. DK

## SECTION 11. OTHER AGRICULTURAL EXPOSURES

Q11.1) As a child, how much time did you spend around farm animals (for example, cattle, pigs, or chickens)?

Would you say . . .

1. Never

2. Less than once a month

3. Monthly

4. Weekly, or

5. Daily

8. REF

9. DK

Q11.2) The next couple of questions may not apply to you, but in the past 12 months, how often did you clean grain bins? Would you say...

1. Never

2. Less than once a month

3. Monthly

4. Weekly, or

5. Daily

8. REF

9. DK

Q11.3) In the past 12 months, how often did you work with or around moldy hay or straw? Would you say...

- 1. Never
- 2. Less than once a month
- 3. Monthly
- 4. Weekly, or
- 5. Daily
- 8. REF
- 9. DK

## SECTION 12. CARDIOVASCULAR CONDITIONS

These next questions are about medical conditions that you may have had. Please only report conditions that were diagnosed by a doctor or other health professional.

Q12.1) Have you ever been diagnosed with **high blood pressure or hypertension**? *[IF FEMALE: Please do not count this condition if it occurred only during pregnancy.]*

- 0. NO (Skip to Q12.4)
- 1. YES
- 8. REF (Skip to Q12.4)
- 9. DK (Skip to Q12.4)

Q12.2) How old were you when you were first diagnosed with high blood pressure or hypertension?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q12.3) Do you currently take any prescribed medicines for this condition?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q12.4) [Have you ever been diagnosed with] an **irregular heartbeat** (or arrhythmia)?

- 0. NO (Skip to Q12.7)
- 1. YES
- 8. REF (Skip to Q12.7)
- 9. DK (Skip to Q12.7)

Q12.5) How old were you when you were first diagnosed with an irregular heartbeat (or arrhythmia)?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q12.6) Do you currently take any prescribed medicines for this condition?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q12.7) [Have you ever been diagnosed with] a **heart attack** (or myocardial infarction)?

- 0. NO (Skip to Q12.9)
- 1. YES
- 8. REF (Skip to Q12.9)
- 9. DK (Skip to Q12.9)

Q12.8) How old were you when you were first diagnosed with a heart attack (or myocardial infarction)?

\_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q12.9) Have you ever had a **stroke**?

0. NO (Skip to Section 13)  
1. YES  
8. REF (Skip to Section 13)  
9. DK (Skip to Section 13)

Q12.10) How old were you when you first had a stroke?

\_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

### SECTION 13. RESPIRATORY CONDITIONS

Q13.1) Have you ever been diagnosed with **asthma**?

0. NO (Skip to Q13.6)  
1. YES  
8. REF (Skip to Q13.6)  
9. DK (Skip to Q13.6)

Q13.2) How old were you when you were first diagnosed with asthma?

\_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q13.3) Do you still have asthma?

0. NO  
1. YES (Skip to Q13.5)  
8. REF (Skip to Q13.5)  
9. DK (Skip to Q13.5)

Q13.4) At what age did it stop?

\_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q13.5) During the past 12 months, have you taken any medications for asthma including an inhaler?

0. NO  
1. YES  
8. REF  
9. DK

Q13.6) [Have you ever been diagnosed with] **Farmer's Lung**?

0. NO (Skip to Q13.10)  
1. YES  
8. REF (Skip to Q13.10)  
9. DK (Skip to Q13.10)

Q13.7) How old were you when you were first diagnosed with Farmer's Lung?

\_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q13.8) Have you had Farmer's Lung more than once?  
0. NO (Skip to Q13.10)  
1. YES  
8. REF (Skip to Q13.10)  
9. DK (Skip to Q13.10)

Q13.9) How old were you when you last had Farmer's Lung?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK

Q13.10) [Have you ever been diagnosed with] **emphysema**?  
0. NO (Skip to Q13.12)  
1. YES  
8. REF (Skip to Q13.12)  
9. DK (Skip to Q13.12)

Q13.11) How old were you when you were first diagnosed with emphysema?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK

Q13.12) [Have you ever been diagnosed with] **chronic bronchitis**?  
0. NO (Skip to Q13.14)  
1. YES  
8. REF (Skip to Q13.14)  
9. DK (Skip to Q13.14)

Q13.13) How old were you when you were first diagnosed with chronic bronchitis?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK

Q13.14) [Have you ever been diagnosed with] **chronic obstructive pulmonary disease (COPD)**?  
1. YES  
2. NO (Skip to Section 14)  
8. REF (Skip to Section 14)  
9. DK (Skip to Section 14)

Q13.15) How old were you when you were first diagnosed with chronic obstructive pulmonary disease (COPD)?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK

#### SECTION 14. DIABETES

Q14.1) Have you ever been diagnosed with **diabetes or high blood sugar**, (IF FEMALE: other than when pregnant)?  
0. NO (Skip to Section 15)  
1. YES  
8. REF (Skip to Section 15)  
9. DK (Skip to Section 15)



Q14.2) How old were you when you were first diagnosed with diabetes or high blood sugar?

\_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q14.3) Do you currently take any prescribed medicines for this condition?

0. NO (Skip to Section 15)  
1. YES  
8. REF (Skip to Section 15)  
9. DK (Skip to Section 15)

Q14.4) Do you currently take insulin?

0. NO  
1. YES  
8. REF  
9. DK

## SECTION 15. THYROID CONDITIONS

Q15.1) [Have you ever been diagnosed with] **thyroid disease or thyroid problems**?

0. NO (Skip to Section 16)  
1. YES  
8. REF (Skip to Section 16)  
9. DK (Skip to Section 16)

Q15.2) [Have you ever been diagnosed with] an **overactive thyroid (hyperthyroidism)**?

0. NO (Skip to Q15.6)  
1. YES  
8. REF (Skip to Q15.6)  
9. DK (Skip to Q15.6)

Q15.3) Was this **Graves' disease** or some other type of thyroid condition that caused the overactive thyroid gland?

1. GRAVES  
2. OTHER THYROID CONDITION  
8. REF  
9. DK

Q15.4) How old were you when you were first diagnosed with an overactive thyroid condition?

\_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q15.5) Do you currently take any prescribed medicines for this condition?

0. NO  
1. YES  
8. REF  
9. DK

Q15.6) [Have you ever been diagnosed with] an **underactive thyroid (hypothyroidism)**?

0. NO (Skip to Box 15.1)  
1. YES  
8. REF (Skip to Box 15.1)  
9. DK (Skip to Box 15.1)

Q15.7) Was this **thyroiditis** (sometimes called Hashimoto's thyroiditis) or was this some other type of thyroid condition that caused the underactive thyroid gland?

- 1. THYROIDITIS
- 2. OTHER THYROID CONDITION
- 8. REF
- 9. DK

Q15.8) How old were you when you were first diagnosed with an underactive thyroid (hypothyroidism)?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q15.9) Do you currently take any prescribed medicines for this condition?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

**BOX 15.1: IF Q15.2 AND Q15.6 = DK/REF, SKIP TO Q15.10. ELSE, SKIP TO SECTION 16.**

Q15.10) How old were you when you were first diagnosed with thyroid disease or thyroid problems?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q15.11) Do you currently take any prescribed medicines for this condition?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

## SECTION 16. NEUROLOGICAL CONDITIONS

Q16.1) Have you ever been diagnosed with **Parkinson's disease**?

- 0. NO (Skip to Q16.5)
- 1. YES
- 8. REF (Skip to Q16.5)
- 9. DK (Skip to Q16.5)

Q16.2) How old were you when you were first diagnosed with Parkinson's disease?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q16.3) Do you currently take any prescribed medicines for this condition? For example, sinemet, atamet, L-dopa, Mirapex, pramipexole, requip, ropinirole, permax, or pergolide.

- 0. NO (Skip to Q16.5)
- 1. YES
- 8. REF (Skip to Q16.5)
- 9. DK (Skip to Q16.5)

Q16.4) Did your symptoms improve after taking medication?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q16.5) [Have you ever been diagnosed with] a **tremor** such as essential, benign or familial tremor? (IF Q16.1 = YES: Please do not include tremor due to Parkinson's disease.)

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q16.6) [Have you ever been diagnosed with] **ALS (amyotrophic lateral sclerosis), motor neuron disease, or Lou Gehrig's disease?**

- 0. NO (Skip to Q16.8)
- 1. YES
- 8. REF (Skip to Q16.8)
- 9. DK (Skip to Q16.8)

Q16.7) How old were you when you were first diagnosed with ALS (amyotrophic lateral sclerosis), motor neuron disease, or Lou Gehrig's disease?

- \_\_\_\_ AGE [Range: 1 to 120]
- 998. REF
- 999. DK

Q16.8) [Have you ever been diagnosed with] **depression?**

- 0. NO (Skip to Section 17)
- 1. YES
- 8. REF (Skip to Section 17)
- 9. DK (Skip to Section 17)

Q16.9) How old were you when you were first diagnosed with depression?

- \_\_\_\_ AGE [Range: 1 to 120]
- 998. REF
- 999. DK

Q16.10) Are you currently taking any prescribed medicines for depression?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

## SECTION 17. ALLERGIC CONDITIONS

Q17.1) Have you ever been diagnosed with **hayfever, seasonal allergies, or allergic rhinitis?**

- 0. NO (Skip to Section 18)
- 1. YES
- 8. REF (Skip to Section 18)
- 9. DK (Skip to Section 18)

Q17.2) How old were you when you were first diagnosed with hayfever, seasonal allergies, or allergic rhinitis?

- \_\_\_\_ AGE [Range: 1 to 120]
- 998. REF
- 999. DK

Q17.3) In the past 12 months, have you taken any prescribed or over-the-counter medicines, including shots, for these allergies?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

## SECTION 18. INFECTIOUS CONDITIONS

Q18.1) In this question, just think back to ^DSP.CurrYear-10, the year you had your  $N^{\text{th}}$  birthday. Since ^DSP.CurrYear-10, have you been diagnosed with **shingles**?

- 0. NO (Skip to Section 19)
- 1. YES
- 8. REF (Skip to Section 19)
- 9. DK (Skip to Section 19)

Q18.2) How old were you when you last had shingles?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

## SECTION 19. AUTOIMMUNE CONDITIONS

Q19.1) Have you ever been diagnosed with **multiple sclerosis**?

- 0. NO (Skip to Q19.4)
- 1. YES
- 8. REF (Skip to Q19.4)
- 9. DK (Skip to Q19.4)

Q19.2) How old were you when you were first diagnosed with multiple sclerosis?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q19.3) Did you see a neurologist for this condition?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q19.4) [Have you ever been diagnosed with] **sarcoidosis**?

- 0. NO (Skip to Q19.6)
- 1. YES
- 8. REF (Skip to Q19.6)
- 9. DK (Skip to Q19.6)

Q19.5) How old were you when you were first diagnosed with sarcoidosis?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q19.6) [Have you ever been diagnosed with] **lupus**?

- 0. NO (Skip to Q19.9)
- 1. YES
- 8. REF (Skip to Q19.9)
- 9. DK (Skip to Q19.9)

Q19.7) How old were you when you were first diagnosed with lupus?

\_\_\_\_ AGE [Range: 1 to 120]

998. REF

999. DK

Q19.8) Did you see a rheumatologist (a physician who specializes in bone, joint, and skin diseases) for this illness?

0. NO

1. YES

8. REF

9. DK

Q19.9) [Have you ever been diagnosed with] **Sjogren's disease**?

0. NO

(Skip to Section 20)

1. YES

8. REF

(Skip to Section 20)

9. DK

(Skip to Section 20)

Q19.10) How old were you when you were first diagnosed with Sjogren's disease?

\_\_\_\_ AGE [Range: 1 to 120]

998. REF

999. DK

Q19.11) Did you see a rheumatologist (a physician who specializes in bone, joint, and skin diseases) for this illness?

0. NO

1. YES

8. REF

9. DK

## SECTION 20. EYE AND EAR CONDITIONS

Q20.1) Have you ever been diagnosed with **retinal or macular degeneration**?

0. NO

(Skip to Q20.3)

1. YES

8. REF

(Skip to Q20.3)

9. DK

(Skip to Q20.3)

Q20.2) How old were you when you were first diagnosed with retinal or macular degeneration?

\_\_\_\_ AGE [Range: 1 to 120]

998. REF

999. DK

Q20.3) Have you ever been prescribed or fitted for a hearing aid?

0. NO

1. YES

8. REF

9. DK

**SECTION 21. HEAD INJURY**

- Q21.1) Have you ever had a head injury where you lost consciousness?  
0. NO (Skip to Section 22)  
1. YES  
8. REF (Skip to Section 22)  
9. DK (Skip to Section 22)
- Q21.2) How old were you the first time you lost consciousness from a head injury?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK

**SECTION 22. ARTHRITIS AND OSTEOPOROSIS**

- Q22.1) Have you ever been diagnosed with **osteoarthritis**, the most common type of arthritis?  
0. NO (Skip to Q22.3)  
1. YES  
8. REF (Skip to Q22.3)  
9. DK (Skip to Q22.3)
- Q22.2) How old were you when you were first diagnosed with osteoarthritis?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK
- Q22.3) Have you ever been diagnosed specifically with **rheumatoid arthritis** (an autoimmune disease)?  
0. NO (Skip to Q22.6)  
1. YES  
8. REF (Skip to Q22.6)  
9. DK (Skip to Q22.6)
- Q22.4) How old were you when you were first diagnosed with rheumatoid arthritis?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK
- Q22.5) Do you currently take any prescribed or over-the-counter medicines for this condition?  
0. NO  
1. YES  
8. REF  
9. DK
- Q22.6) Have you ever been diagnosed with **osteoporosis, osteopenia, or low bone density**?  
0. NO (Skip to Q22.9)  
1. YES  
8. REF (Skip to Q22.9)  
9. DK (Skip to Q22.9)
- Q22.7) How old were you when you were first diagnosed with osteoporosis, osteopenia, or low bone density?  
|\_|\_|\_| AGE [Range: 1 to 120]  
998. REF  
999. DK

Q22.8) Do you currently take any prescribed medicines for this condition? For example this might include medication such as Fosamax.

- 0. NO
- 1. YES
- 8. REF
- 9. DK

**BOX 22.1: IF R <40 YEARS OF AGE, SKIP TO SECTION 23**

Q22.9) Since the age of 40, have you ever broken your hip?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q22.10) Since the age of 40, have you ever broken your wrist?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

### **SECTION 23. RESPIRATORY SYMPTOMS**

Now I am going to ask you about respiratory symptoms that you may have experienced in the past year.

Q23.1) Do you usually cough on waking up, or first thing in the morning?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q23.2) Do you usually cough during the rest of the day or at night?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

**BOX 23.1: IF Q23.1 OR Q23.2 = YES (1), ASK Q23.3 AND Q23.4. IF BOTH Q23.1 AND Q23.2 = NO (2), SKIP TO Q23.5**

Q23.3) During the past 12 months, have you had this cough on most days for three months or more?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q23.4) How many years have you had this cough?

- [Range: 1 to 96]
- 98. REF
- 99. DK

Q23.5) Do you usually bring up phlegm on waking up, or first thing in the morning? Don't count phlegm from your nose as a result of seasonal allergies or colds.

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q23.6) Do you usually bring up phlegm during the rest of the day or at night? Don't count phlegm from your nose as a result of seasonal allergies or colds.

- 0. NO
- 1. YES
- 8. REF
- 9. DK

**BOX 23.2: IF Q23.5 OR Q23.6 = YES (1), ASK Q23.7 AND Q23.8. IF BOTH Q23.5 AND Q23.6 = NO (2), SKIP TO Q23.9**

Q23.7) During the past 12 months, have you brought up phlegm on most days for three months or more?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q23.8) How many years have you brought up phlegm regularly?

- \_\_|\_\_| [Range: 1 to 96]  
98. REF  
99. DK

Q23.9) During the past 12 months, about how many days of wheezing or whistling in your chest have you had?

- 0. NONE (Skip to Q23.11)
- 1. 1-2
- 2. 3-6
- 3. 7-12
- 4. 13 OR MORE
- 5. VERSION 1 – 1 OR MORE TIMES, BUT SPECIFIC AMOUNT IS UNDETERMINED
- 7. NA (Skip to Q23.11)
- 8. REF (Skip to Q23.11)
- 9. DK (Skip to Q23.11)

Q23.10. During the past 12 months, have you had this wheezing or whistling in the chest when you did not have a cold?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q23.11. Are you troubled by shortness of breath when hurrying on level ground or walking up a slight hill or up a flight of stairs?

- 0. NO
- 1. YES
- 8. REF
- 9. DK



Q23.12. During the past 12 months, have you been awakened by shortness of breath, coughing, wheezing, or whistling in your chest?

- 0. NO (Skip to Q23.14)
- 1. YES
- 8. REF (Skip to Q23.14)
- 9. DK (Skip to Q23.14)

Q23.13) During the past 12 months, how often have you been awakened in this manner? Would you say..

- 1. most days or nights
- 2. a few times a week
- 3. a few times a month
- 4. a few times in the past 12 months
- 5. once in the past 12 months
- 8. REF
- 9. DK

Q23.14) During the past 12 months, have you used an inhaler to help you breathe?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q23.15) How many times within the past 12 months have you had a cold or the flu?

\_\_\_\_ [Range: 1 to 52]

- 98. REF
- 99. DK

#### **SECTION 24. NEUROLOGICAL SYMPTOMS**

Now, I'd like to ask you about various conditions that you may have experienced in the past year.

Q24.1) During the past 12 months, have you experienced your arms and legs shaking?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q24.2) Have you noticed your hands shaking or trembling, during the past 12 months?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q24.3) Have you experienced difficulty with your balance, during the past 12 months?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q24.4) Is your handwriting smaller than it once was?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q24.5) Is your voice softer than it once was?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q24.6) Do your feet shuffle when you walk?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q24.7) Do you move more slowly than other people your age?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

## SECTION 25. PESTICIDE CONDITIONS

Q25.1) Have you ever been diagnosed with pesticide poisoning?

- 0. NO (Skip to Section 26)
- 1. YES
- 8. REF (Skip to Section 26)
- 9. DK (Skip to Section 26)

Q25.2) How old were you when you were first diagnosed with pesticide poisoning?

- \_\_\_\_ AGE [Range: 1 to 120]  
998. REF  
999. DK

Q25.3) How many times have you been poisoned by pesticides?

- \_\_\_\_ [Range: 1 to 60]  
98. REF  
99. DK

## SECTION 26. FAMILY HISTORY OF DISEASE

Now I would like to ask you about diseases some of your family members may have experienced.

Q26.1) Has your mother, father, sisters, brothers or children related to you by blood ever had cancer?

- 0. NO (Skip to Q26.3)
- 1. YES
- 8. REF (Skip to Q26.3)
- 9. DK (Skip to Q26.3)

Q26.2) What type(s) of cancer? [MARK ALL THAT APPLY.]

1. BRAIN
2. BREAST
3. COLON OR RECTAL
4. LEUKEMIA
5. LYMPHOMA
6. LUNG
7. MELANOMA OF THE SKIN
8. PANCREATIC
9. PROSTATE
10. STOMACH
11. BLADDER
12. BONE
13. CERVICAL
14. ESOPHAGUS
15. KIDNEY
16. LIVER
17. MULTIPLE MYELOMA
18. OVARIAN
19. SKIN
20. THYROID
21. UTERINE
91. OTHER (SPECIFY)

Q26.3) Has your mother, father, sisters, brothers or children related to you by blood ever been diagnosed with asthma?

1. YES
2. NO
8. REF
9. DK

**BOX 26.1: MEN, SKIP TO SECTION 27. WOMEN, SKIP TO SECTION 28**

**SECTION 27. PROSTATE HEALTH CARE**

Q27.1) Within the past 5 years, have you had your PSA (prostate specific antigen) level checked? PSA is the blood test for prostate cancer.

- |        |                   |
|--------|-------------------|
| 0. NO  | (Skip to CloStat) |
| 1. YES |                   |
| 8. REF | (Skip to CloStat) |
| 9. DK  | (Skip to CloStat) |

Q27.2) Was your PSA level, normal or above normal the last time it was tested?

1. NORMAL
2. ABOVE NORMAL
8. REF
9. DK

**BOX 27.1: SKIP TO CloStat**

**SECTION 28. WOMEN'S REPRODUCTIVE HEALTH**

Q28.1) The following questions are about mammograms, your menstrual cycles and reproductive health. When did you have your last mammogram? [ENTER 9997 FOR NEVER HAD]

- YEAR:     [Range: 1900 to 2020]  
9997. NEVER HAD (Skip to Q28.2)  
9998. REF (Skip to Q28.2)  
9999. DK (Skip to Q28.2)

Q28.1a) What was your age at the time of your last mammogram? [ENTER 97 FOR NEVER HAD]

- AGE [Range: 10 to 120]  
997. NEVER HAD  
998. REF  
999. DK

**BOX Q28.2: If R known to have gone through menopause, skip to Q28.7, if R ≤ 55, skip to Q28.13.**

Q28.2) How many times in your lifetime have you been pregnant? Please include live births and any pregnancies ending in a loss or abortion.

- [Range: 1 to 40]  
0. NEVER  
98. REF  
99. DK

**BOX 28.1: IF Q28.2 = 0, SKIP TO Q28.4**

Q28.3) How many children (live births) have you given birth to?

- [Range: 1 to 30]  
0. NONE  
98. REF  
99. DK

Q28.4) Do you still have menstrual periods?

0. NO  
1. YES (Skip to Q28.7)  
8. REF (Skip to Q28.7)  
9. DK (Skip to Q28.7)

Q28.4a) How old were you when you had your last menstrual period?

- [Range: 10 to 96]  
98. REF  
99. DK

Q28.5) Did your periods stop because of ...

1. natural menopause (Skip to Q28.7)  
2. surgery (a hysterectomy or removal of both your ovaries) (Skip to Q28.6)  
3. chemotherapy or radiation therapy (Skip to Q28.7)  
91. OTHER, SPECIFY  
8. REF (Skip to Q28.7)  
9. DK (Skip to Q28.7)

Q28.5) Other Meno reason:

- OTHER, SPECIFY: \_\_\_\_\_ (Skip to Q28.7)

Q28.6) Did you have both your ovaries removed?

- 0. NO
- 1. YES
- 8. REF
- 9. DK

Q28.7) Have you ever taken Premarin, estrogen, or other hormone replacement therapy, like Provera? Include pills, patches and shots.

- 0. NO (Skip to Q28.10)
- 1. YES
- 8. REF (Skip to Q28.10)
- 9. DK (Skip to Q28.10)

Q28.8) How old were you when you first used hormone replacement therapy?

- \_\_\_\_ AGE [Range: 10 to 120]
- 998. REF
- 999. DK

Q28.9) How many years altogether have you taken hormone replacement therapy? Not counting the years that you stopped.

[ENTER 97 FOR LESS THAN 1 YEAR]

- \_\_\_\_ [Range: 1 to 96]
- 97. LESS THAN ONE YEAR
- 98. REF
- 99. DK

Q28.10) Have you ever taken raloxifene or tamoxifen?

- 0. NO (Skip to CloStat)
- 1. YES
- 8. REF (Skip to CloStat)
- 9. DK (Skip to CloStat)

Q28.11) How old were you when you first took it?

- \_\_\_\_ AGE [Range: 10 to 120]
- 998. REF
- 999. DK

Q28.12) How many months or years all together have you taken raloxifene or tamoxifen?

- \_\_\_\_ [Range: 1 to 96]
- 98. REF (Skip to Box 28.2)
- 99. DK (Skip to Box 28.2)

Q28.12a) [How many months or years all together have you taken raloxifene or tamoxifen?]

- 1. MONTHS
- 2. YEARS

**BOX 28.2: SKIP TO CloStat FOR WOMEN KNOWN TO HAVE GONE THROUGH MENOPAUSE**

Q28.13) How many times in your lifetime have you been pregnant? Please include a current pregnancy, live births and any pregnancies ending in a loss or abortion.

- \_\_\_\_ [Range: 1 to 40]
- 0. NEVER
- 98. REF
- 99. DK

**BOX 28.3: IF Q28.13=0, SKIP TO Q28.17**

Q28.14) How many children -live births - have you given birth to?

\_\_|\_\_| [Range: 1 to 30]

0. NONE

98. REF

99. DK

**BOX 28.4: IF Q28.14=0, SKIP TO Q28.17**

Q28.15) Have you given birth to a baby since January 1st, ^DSPYearOfLastInterview?

0. NO

1. YES

8. REF

9. DK

Q28.16) Are you currently pregnant or breastfeeding?

0. NO

1. YES

8. REF

9. DK

Q28.17) Have you had a menstrual period in the past 12 months?

0. NO

1. YES

(Skip to Q28.21)

8. REF

(Skip to Q28.21)

9. DK

(Skip to Q28.21)

Q28.18) How old were you when you had your last menstrual period?

\_\_|\_\_| [Range: 10 to 96]

98. REF

99. DK

Q28.19) Did your periods stop because of ...

1. natural menopause

(Skip to Q28.21)

2. surgery (a hysterectomy or removal of both your ovaries)

(Skip to Q28.20)

3. chemotherapy or radiation therapy

(Skip to Q28.21)

91. OTHER, SPECIFY

8. REF

(Skip to Q28.21)

9. DK

(Skip to Q28.21)

Q28.19a) [Did your periods stop because of ]...

OTHER, SPECIFY: \_\_\_\_\_

(Skip to Q28.21)

Q28.20) Did you have both your ovaries removed?

0. NO

1. YES

8. REF

9. DK

Q28.21) Have you ever taken Premarin, estrogen, or other hormone replacement therapy, like Provera? Include pills, patches and shots.

- 0. NO (Skip to Q28.24)
- 1. YES
- 8. REF (Skip to Q28.24)
- 9. DK (Skip to Q28.24)

Q28.22) How old were you when you first used hormone replacement therapy?

- \_\_\_\_ AGE [Range: 10 to 120]
- 998. REF
- 999. DK

Q28.23) How many years altogether have you taken hormone replacement therapy? Do not include times when you stopped.

- \_\_\_\_ [Range: 1 to 96]
- 97. LESS THAN ONE YEAR
- 98. REF
- 99. DK

Q28.24) Have you ever taken raloxifene or tamoxifen?

- 0. NO (Skip to Q28.27)
- 1. YES
- 8. REF (Skip to Q28.27)
- 9. DK (Skip to Q28.27)

Q28.25) At what age did you first use raloxifene or tamoxifen?

- \_\_\_\_ AGE [Range: 10 to 120]
- 998. REF
- 999. DK

Q28.26) How many months or years all together have you taken raloxifene or tamoxifen?

- \_\_\_\_ [Range: 1 to 96]
- 98. REF (Skip to Q28.27)
- 99. DK (Skip to Q28.27)

Q28.26a) [How many months or years all together have you taken raloxifene or tamoxifen?]

- 1. MONTHS
- 2. YEARS
- 8. REF
- 9. DK

Q28.27) Have you ever taken birth control pills for any reason?

- 0. NO (Skip to CloStat)
- 1. YES
- 8. REF (Skip to CloStat)
- 9. DK (Skip to CloStat)

Q28.28) How old were you when you first took birth control pills?

- \_\_\_\_ AGE [Range: 10 to 120]
- 998. REF
- 999. DK

Q28.29) Not counting the times when you stopped, how many years altogether did you take birth control pills?  
|\_|\_| [Range: 1 to 96]  
97. LESS THAN ONE YEAR  
98. REF  
99. DK

**Section CLO**

CloStat) This concludes the interview. We appreciate your continued participation in the Agricultural Health Study. Thank you for taking the time to talk with me today.

1. CONTINUE (Skip to IntroEND)

IntroEnd1) Okay, then, thank you very much.

1. CONTINUE (Skip to IntroEND)

IntroEnd2) I'm sorry for the confusion. That is all the questions I have for you at this time. Thank you for speaking with me today.

1. CONTINUE

IntroEND) HANG UP  
END OF INTERVIEW