



**Five Year Follow-up Interview**  
**Pesticide Use Module**  
***Private Pesticide Applicator***

**March 30, 2007**

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I would like to start by verifying some general information we received from you when you completed your enrollment questionnaire/interview:

1. **[If Birth Date is not known, Go to Q1NB]**

A2SAMEBD

Is your birthdate (.....)?

1. Yes **[go to Q1a]**

\_\_\_ REF **[go to SIGNAL SCREEN]**

0. No **[go to SIGNAL SCREEN]**

\_\_\_ DK **[go to SIGNAL SCREEN]**

Active Signal

Am I speaking with TEST FEMALE MENO 55?

---IF YES: PROBE TO DETERMINE IF:  
-----BIRTHDATE HAS BEEN MIS-READ OR NUMBERS HAVE BEEN TRANSPOSED  
-----OR  
-----THERE IS, OR EVER HAS BEEN, ANOTHER PERSON WITH THE SAME NAME LIVING AT THIS RESIDENCE.  
-----IS THEIR BIRTHDATE 12/19/1930?  
-----OR  
-----THE PERSON YOU ARE SPEAKING WITH IS A LICENSED PESTICIDE APPLICATOR  
-----OR  
-----THE PERSON REMEMBERS COMPLETING THE AHS QUESTIONNAIRE AT THEIR PESTICIDE LICENSING CLASS OR  
-----OVER THE PHONE IN 1994.

---IF CORRECT PARTY: SUPPRESS AND CONTINUE

---IF INCORRECT PARTY:  
-----APOLOGIZE FOR CONFUSION AND HANG UP. CLOSE, PRESS HOME KEY, PRESS DELETE KEY, ENTER  
-----SELECT SAVE FROM FORMS MENU.

Questions involved	Value
PRSameBD	No

Suppress Close Goto

1NB. What is your birth date?

A2N\_BD

\_\_\_\_/\_\_\_\_/\_\_\_\_?  
MM DD YYYY

<birth years limited to 1910..1980> <<datatype>>

[Go to Q1b if pre-loaded gender is NOT FILLED IN]

1a. WE CURRENTLY HAVE (APPLICATOR NAME) LISTED AS (AUTO FILL IN OF GENDER), IS THIS CORRECT?

A2VERGEN

1. yes [Go to Q2]

2. unsure

3. no

1b. IF NOT FILLED IN AND UNSURE, ASK

Are you:

A2ASKGEN

1. Male

\_\_\_REF

2. Female

\_\_\_DK

2. Is your current address (auto fill in)?

A2SAMEAD

1. Yes [If "state" in current address does not equal IA or NC, Go to Q3b, ELSE GO TO Q4]

2. No

3. New 911

\_\_\_DK [Go to Q5]

\_\_\_REF [Go to Q5]

2NA. What is your address: \_\_\_\_\_ \_\_\_DK \_\_\_REF

2NC. What is your city: \_\_\_\_\_ \_\_\_DK \_\_\_REF

2NS. What is your state: \_\_\_\_\_ \_\_\_DK \_\_\_REF

2NZ. What is your zip code: \_\_\_\_\_ \_\_\_DK \_\_\_REF

[If Q2=new 911, Go to Q4]

[If "state" in Q2NS does not equal IA or NC, Go to Q3]

2a. Did you change your residence when you changed your address?

A2CHANGE

1. Yes \_\_\_Ref [Go to Q4]

0. No [Go to Q4] \_\_\_DK [Go to Q4]

3. What year did you move into your current residence?

A2MOVEIN

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

\_\_\_DK \_\_\_REF

<<1900-2005>>

[If "state" in Q2NA = IA or NC, Go to Q4]

3a. What was the month that you left (Iowa/North Carolina)?

A2LEFTSM           |\_|\_|           \_\_\_DK \_\_\_REF  
<<01-12>>

3b. What was the year that you left (Iowa/North Carolina)?

A2LEFTSY           |\_|\_|\_|\_|           \_\_\_DK \_\_\_REF  
<<1900-2005>> < 1993-current year>

4. Is this residence a farm (i.e., is your house located on a farming operation that sold over \$1000 worth of crops, nursery, greenhouse, or animal products in a year)?

A2LIVEFA           1. Yes           \_\_\_Ref  
                          0. No           \_\_\_DK

Now I would like to ask you some questions concerning your primary source of drinking water.

5. Is a private well (or spring) your usual source of drinking water ( at any time within the last 12 months)?

A2PRIVWE           1. Yes           \_\_\_Ref [Go to Q10]  
                          0. No [Go to Q10]     \_\_\_DK [Go to Q10]

6. How deep is your well (or spring)?

A2DEEPWE           1. <50 feet           \_\_\_DK  
                          2. 50-100 feet        \_\_\_REF  
                          3. > 100 feet

Private wells (or springs) are tested for both bacteria and nitrates. The following questions are concerned only with nitrate levels.

7. Has your well (or spring) been tested for nitrates?

A2TESTWE           1. Yes           \_\_\_Ref [Go to Q8]  
                          0. No [Go to Q8]     \_\_\_DK [Go to Q8]

7a. Did the report indicate that the nitrate level was safe or unsafe for bottle-fed infants?

A2TESTSA           1.safe (Less Than or Equal to 45 mg/liter)           \_\_\_DK  
                          2.unsafe for infants (Greater Than 45 mg/liter)        \_\_\_REF

7b. What year was the well (or spring) tested?

A2TESTYR           |\_|\_|\_|\_|           \_\_\_DK \_\_\_REF

**8. How far is your drinking water well ( or spring) from the nearest area where pesticides are mixed, handled or loaded?**

A2WDFMIX

- 1. No pesticides mixed on farm  DK
- 2. < 50 feet  REF
- 3. 50-99 feet
- 4. 100-199 feet
- 5. 200-1/4 mile (1320 ft)
- 6. > 1/4 mile

**9. How far is your well (or spring) from the nearest area where pesticides are applied?**

A2WDFAPL

- 1. No pesticides applied on farm  DK
- 2. < 50 feet  REF
- 3. 50-99 feet
- 4. 100-199 feet
- 5. 200-1/4 mile (1320 ft)
- 6. > 1/4 mile

**10. Have you been actively engaged in farming or worked on a farm during any of the years since (year of enrollment)? (By farming we mean working on a farm that sold over \$1000 worth of crops, nursery, greenhouse or animal products in a year.)**

A2ACFARM

- 1. Yes
- 0. No  REF [Go to Q11; If current month Jan-Oct then REFERENCE YEAR= last year else REFERENCE YEAR= this year]
- DK [Go to Q11; If current month Jan-Oct then REFERENCE YEAR= last year else REFERENCE YEAR= this year]

**10A. Are you still farming? (By farming, we mean working on a farm that sold over \$1000 worth of crops, nursery, greenhouse or animal products in a year.)**

A2STFARM

- 1. Yes  REF [Go to Q11; If current month Jan-Oct then REFERENCE YEAR= last year else REFERENCE YEAR= this year]
- 0. No  REF [Go to Q11; If current month Jan-Oct then REFERENCE YEAR= last year else REFERENCE YEAR= this year]
- DK [Go to Q11; If current month Jan-Oct then REFERENCE YEAR= last year else REFERENCE YEAR= this year]

**10B. What was the last year you farmed?**

A2LAFARM

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

[If year=current year and current month Jan-Oct then REFERENCE YEAR= last year  
Elseif year=current year and current month Nov-Dec then REFERENCE YEAR= this year  
Elseif year < enrollment date, Go to SIGNAL SCREEN  
Else insert this response as REFERENCE YEAR]

DK

[If current month Jan-Oct then REFERENCE YEAR= last year else REFERENCE YEAR= this year; At DECISION BOX, treat as "NO" TO Q10]

REF

[If current month Jan-Oct then REFERENCE YEAR= last year else REFERENCE YEAR= this year; At DECISION BOX, treat as "NO" TO Q10]

**Hard Error**

1900 CONFLICTS WITH APPLICATORS ANSWER TO EARLIER QUESTION (HAVE YOU BEEN ACTIVELY ENGAGED IN FARMING SINCE 1994).

IF 1900 IS CORRECT: GO TO AND YOU WILL RETURN TO Q10.  
CHANGE Q10 TO NO

IF 1900 IS INCORRECT: CLOSE AND ENTER  
CORRECT YEAR FOR LAST YEAR FARMED.

Questions involved	Value
PRAcFarm	Yes
PRLaFarm	1900

Suppress Close Goto

**The next questions will ask about your personal pesticide use. Some people do not consider “herbicides” or weed killers to be pesticides. During this interview, when answering questions about pesticides, we would like for you to include your use of herbicides and weed killers, as well as any chemicals used to kill insects, fungus, molds, or rodents.**

11. Since (date of enrollment), did you personally mix, load or apply pesticides for use on crops, animals, or for any other purpose?

A2MIXAPL

1. Yes

0. No [Go to Health Module and then to Decision Box]

\_\_REF [Go to Health Module and then to Decision Box]

\_\_DK [Go to Health Module and then to Decision Box]

11a. On the average, how many days per year did you personally mix, load or apply pesticides?

A2DMXAPL

|\_|\_|\_| days

<<1-365>> <1-80>

\_\_DK [Go to Health Module and then to Decision Box]

\_\_REF [Go to Health Module and then to Decision Box]

11b. On days when you worked with pesticides, how many hours per day did you mix, load or apply them?

A2HMXAPL

|\_|\_| hours

<<1-24>> <1-8>

\_\_DK [Go to Health Module and then to Decision Box]

\_\_REF [Go to Health Module and then to Decision Box]

*Decision Box:*

**Q10**

**If YES**

**If YES**

**If NO, DK, Ref**

**Or Q10b=DK, Ref**

**If NO, DK, Ref**

**Or Q10b=DK, Ref**

**Q11**

**if YES**

**if NO, DK, Ref**

**if YES**

**if NO, DK, Ref**

>

>

>

>

**go to Q12**

**go to Q12, then Skip Q15- Q18;  
then Skip Q23-Q27; then Skip Q29-Q38;  
then Skip Q41,Q42, Q44, Q47-Q50, Q52**

**go to Q28a**

**go to Cooking Practice Module**

My next questions are about your farming operation in (Reference Year).

**12. What crops were raised on your farming operation during (Reference Year)?**

MARK ALL THAT APPLY. PROBE FOR COMPLETE LIST. ENTER AT MOST 10 VALUES. WHEN COMPLETE PRESS ENTER.

- |  |   |
|--|---|
| 1. Apples [Go to Q13] A2_CR_APPLES                     | 18. Peaches [Go to Q13] A2_CR_PEACHES                                       |
| 2. Alfalfa [Go to Q13] A2_CR_ALFALFA                   | 19. Peanuts [Go to Q13] A2_CR_PEAUNTS                                       |
| 3. Barley [Go to Q13] A2_CR_BARLEY                     | 20. Peppers [Go to Q13] A2_CR_PEPPERS                                       |
| 4. Bermuda Grass [Go to Q13]<br>A2_CR_BERMUDAGRASS     | 21. Potatoes [Go to Q13] A2_CR_POTATOES                                     |
| 5. Blueberries [Go to Q13] A2_CR_BLUEBERRIES           | 22. Rye [Go to Q13] A2_CR_RYE   |
| 6. Cabbage [Go to Q13] A2_CR_CABBAGE                   | 23. Snapbeans [Go to Q13] A2_CR_SNAPBEANS                                   |
| 7. Christmas Trees [Go to Q13]<br>A2_CR_CHRISTMASTREES | 24. Sorghum [Go to Q13] A2_CR_SORGHUM                                       |
| 8. Corn-field [Go to Q13] A2_CR_CORN_FIELD             | 25. Soybeans [Go to Q13] A2_CR_SOYBEANS                                     |
| 9. Corn-pop [Go to Q13] A2_CR_CORN_POP                 | 26. Strawberries [Go to Q13] A2_CR_STRAWBERRIES                             |
| 10. Corn-seed [Go to Q13] A2_CR_CORN_SEED              | 27. Sweet Potatoes [Go to Q13] A2_CR_SWEETPOTATOES                          |
| 11. Corn-sweet [Go to Q13] A2_CR_CORN_SWEET            | 28. Tomatoes [Go to Q13] A2_CR_TOMATOES                                     |
| 12. Cotton [Go to Q13] A2_CR_COTTON                    | 29. Tobacco (greenhouse included)[Go to Q13] A2_CR_TOBACCO                  |
| 13. Cucumbers [Go to Q13] A2_CR_CUCUMBERS              | 30. Wheat [Go to Q13] A2_CR_WHEAT   |
| 14. Grapes [Go to Q13] A2_CR_GRAPES                    | 31. Nursery Crops (including ornamentals)[Go to Q12a]<br>A2_CR_NURSERYCROPS |
| 15. Hay or forage [Go to Q13] A2_CR_HAY                | 32. Other[Go to Q12b] A2_CR_OTHER   |
| 16. Melons [Go to Q13] A2_CR_MELONS                    | 33. None[Go to Q22] A2_CR_NONE  |
| 17. Oats [Go to Q13] A2_CR_OATS                        |   |

\_\_\_DK [Go to Q22]

\_\_\_REF [Go to Q22]

**12a. What was the other nursery crop?** \_\_\_\_\_ (fill in) \_\_\_DK \_\_\_Ref [Go to Q13]

A2CONCSP

**12b. What was the other crop?** \_\_\_\_\_ (fill in) \_\_\_DK \_\_\_Ref

A2COSPEC

[For the following questions, number of screens will equal number of crops up to maximum of 10: (crop) is an automatic fill-in]

[ASK Q13 FOR EACH CROP. Then Go to Q14]

13. How many acres of (crop) did you grow in (reference year)?

IF MIXED OR LOADED ONLY, ENTER ZERO ACRES

|\_|\_|\_|\_|  
<<1-9997>>

\_\_DK[Go to next crop]

\_\_REF[Go to next crop]

1. Apples A2_CR_APPLES_ACRES	18. Peaches A2_CR_PEACHES_ACRES
2. Alfalfa A2_CR_ALFALFA_ACRES	19. Peanuts A2_CR_PEAUNTS_ACRES
3. Barley A2_CR_BARLEY_ACRES	20. Peppers A2_CR_PEPPERS_ACRES
4. Bermuda Grass A2_CR_BERMUDAGRASS_ACRES	21. Potatoes A2_CR_POTATOES_ACRES
5. Blueberries A2_CR_BLUEBERRIES_ACRES	22. Rye A2_CR_RYE_ACRES
6. Cabbage A2_CR_CABBAGE_ACRES	23. Snapbeans A2_CR_SNAPBEANS_ACRES
7. Christmas Trees A2_CR_CHRISTMASTREES_ACRES	24. Sorghum A2_CR_SORGHUM_ACRES
8. Corn-field A2_CR_CORN_FIELD_ACRES	25. Soybeans A2_CR_SOYBEANS_ACRES
9. Corn-pop A2_CR_CORN_POP_ACRES	26. Strawberries A2_CR_STRAWBERRIES_ACRES
10. Corn-seed A2_CR_CORN_SEED_ACRES	27. Sweet Potatoes A2_CR_SWEETPOTATOES_ACRES
11. Corn-sweet A2_CR_CORN_SWEET_ACRES	28. Tomatoes A2_CR_TOMATOES_ACRES
12. Cotton A2_CR_COTTON_ACRES	29. Tobacco (greenhouse included) A2_CR_TOBACCO_ACRES
13. Cucumbers A2_CR_CUCUMBERS_ACRES	30. Wheat A2_CR_WHEAT_ACRES
14. Grapes A2_CR_GRAPES_ACRES	31. Nursery Crops (including ornamentals) A2_CR_NURSERYCROPS_ACRES
15. Hay or forage A2_CR_HAY_ACRES	32. Other A2_CR_OTHER_ACRES
16. Melons A2_CR_MELONS_ACRES	
17. Oats A2_CR_OATS_ACRES	

[Ask Q14 FOR EACH CROP. Then GO to Q15]

**14. What insecticides, fungicides, fumigants, or herbicides (weed killers) were used on (crop) during (Reference Year)?**

A2\_PESTICIDE\_VERBATIM<sup>1</sup>

USE THIS STATEMENT FIRST TIME THROUGH. FOR EACH SUBSEQUENT CROP, SUBSTITUTE 'PESTICIDES' FOR INSECTICIDES...KILLERS'

TYPE PESTICIDE NAME, THEN CHOOSE FROM LIST BY ENTERING. IF NO PESTICIDES USED, TYPE AND ENTER NONE. ENTER AT MOST 15 PESTICIDES. AT LAST ENTRY, TYPE AND ENTER DONE.

FOR EACH CROP:

_____	__DK __Ref	None	__Other	__Done
[Insert pesticide list; pesticide can be listed ONCE PER CROP] [Atrazine and 2,4-d Go to Signal Screen]	[Go to next (crop)] [At last crop, Go to Q15]	[Go to next (crop)] [At last crop, Go to Q15]	[Go to Q14a]	[Go to next (crop)] [At last crop, Go to Q15]

PROBE FOR A COMPLETE LIST.

IF ONLY INSECTICIDES ARE REPORTED, PROBE FOR USE OF OTHER TYPES OF PESTICIDES.

(Are there any other (insecticides, herbicides, fungicides, fumigants) that you used on (crop) during (Reference Year)?)

**14a. What was this pesticide?** \_\_\_\_\_ (fill in)

[Ask next pesticide or probe]

A2\_PESTICIDE\_VERBATIM<sup>1</sup>

Now I am going to ask you about your personal use of these pesticides.

[Ask Q15 and Q16 FOR EACH PESTICIDE for each crop]

**15. In (Reference Year), how many days did you personally mix, load or apply (pesticide) to (crop)?**

A2\_DAYS<sup>1</sup>

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

\_\_DK [Go to Next Pesticide; At Last Pesticide Go to Q17]

<<0-365>> <0-80>

\_\_REF [Go to Next Pesticide; At Last Pesticide Go to Q17]

[IF Q15 = 0 THEN Go to Next Pesticide; At Last Pesticide Go to Q17]

<sup>1</sup> In Private Applicator Supplemental Pesticide File.

16. On average, how many hours per day did you personally, mix load or apply (pesticide)?

A2\_HOURS<sup>1</sup>

|\_|\_|\_|

\_\_DK

\_\_REF

<<0-24>> <0-8>

[ALL RESPONSES, Go to Next Pesticide; At Last Pesticide Go to Q17]

[Ask Q17 and Q18 for the first 4 pesticides for each crop that are applied for the most days as reported in Q15. Repeat the following Intro Statement only when beginning next crop. (Crop) is an automatic fill in.]<sup>2</sup>

Active Signal

Did you use Atrazine alone or was it part of a manufacturer's mixture?

IF ALONE: SUPPRESS AND CONTINUE.

IF MANUFACTURERS MIXTURE: Could you tell me the brand name?

----IF YES: CLOSE AND REPLACE Atrazine WITH BRAND NAME.

----IF NO: Could you tell me what chemicals it was mixed with?

-----IF YES: CLOSE AND REPLACE Atrazine WITH CHEMICAL NAME,

-----THEN USE INGREDTRI TO SEARCH FOR BRAND NAME.

-----IF NO: SUPPRESS AND CONTINUE AS IF Atrazine WAS USED

-----ALONE.

IF PERSONALLY MIXED: SUPPRESS AND CONTINUE, ENTERING OTHER CHEMICALS IN MIXTURE AS SEPARATE PESTICIDES FROM LIST.

Questions involved	Value
CRQP.Q14[1].Q14[1].PRCPe	Atrazine

Suppress Close Goto

<sup>1</sup> In Private Applicator Supplemental Pesticide File.

<sup>2</sup> If there were day counts identical to that for the fourth most frequently applied pesticide for the crop, all pesticides with that day count were included.

Now I am going to ask you some additional questions about those pesticides you used the most on **(crop)**.

17. During **(Reference Year)**, when **applied to (crop)**, was the **(pesticide)** liquid, dry, or gas?

A2CPC<sup>1</sup>

1. Liquid, including pastes and gels
  2. Dry, including granular
  3. Gas
- DK  
 REF

17a. (During **(Reference Year)**), when using **(pesticide)** for **(crop)**, did you usually fill (or load) the application equipment yourself?

A2CPD<sup>1</sup>

1. Yes [If Q17=2(DRY), go to Q17c; Else Go to Q17b]
  0. No [Go to Q18]
- DK [Go to Q18]  
 REF [Go to next pesticide for this crop]

17b. (During **(Reference Year)**), when filling the application equipment with **(pesticide)**, did you...?

A2CPE<sup>1</sup>

READ RESPONSES

1. pour or pump it directly into the application tank yourself (includes mini-bulk and mixing with seed)?[Go to Q18]
  2. use a closed system (dissovable packets or pumped directly from a storage tank into application equipment fill hose)?[Go to Q18]
  3. use something else?
- DK [Go to Q18]  
 REF [Go to Q18]

17b1. What was this?

A2CPF<sup>1</sup>

\_\_\_\_\_ (fill in)  DK  REF  
[ALL RESPONSES Go to Q18]

17c. (During **(reference year)**), when filling the application equipment with **(pesticide)**, did you...?

A2CPG<sup>1</sup>

READ RESPONSES

1. personally open the bags or containers and pour into the application equipment (includes mixing with seed)?[Go to Q18]
  2. use a closed system (includes Lock and Load, Smart Box systems)?[Go to Q18]
  3. use something else?
- DK [Go to Q18]  
 REF [Go to Q18]

---

<sup>1</sup> In Private Applicator Supplemental Pesticide File.

**17c1. What was this?**

A2CPH<sup>1</sup> \_\_\_\_\_(fill in)      \_\_\_DK      \_\_\_REF

**18. (During (reference year), did you personally apply the (pesticide) to the (crop)?**

A2CPI<sup>1</sup>

1. Yes
0. No [If Q17a is no, DK. or Ref, Go to next pesticide for this crop]  
\_\_\_DK [If Q17a is no, DK. or Ref, Go to next pesticide for this crop]  
\_\_\_REF [If Q17a is no, DK. or Ref, Go to next pesticide for this crop]

**18a. (During (reference year), did you use a tractor or other farm vehicle to apply the (pesticide) to (crop):**

A2CPJ<sup>1</sup>

1. Yes [If Q17=1(liquid), Go to Q18b; If Q17=2(dry), Go toQ18c; If Q17=3(gas), Go toQ18d]
0. No [Go to Q18e]  
\_\_\_DK [Go to Q18e]  
\_\_\_REF [Go to next pesticide]

**18b. (During (Reference Year)), when you applied (pesticide) to your (crop) did you usually use a:**

A2CPL<sup>1</sup>

READ RESPONSES

1. broadcast spray (spread over the entire field)[Go to next pesticide; at last pesticide, Go to Q19]
2. banded or directed spray (sprayed it over the rows; includes drip, in furrow, ridged up, T- band, and post emergent directed spraying)  
[Go to next pesticide; at last pesticide, Go to Q19]
3. hand held sprayer ( gun, wand, handboom, or pump)[Go to Q18b1]
4. mist blower or fogger [Go to next pesticide; at last pesticide, Go to Q19]
5. or something else..[Go to Q18b2]  
\_\_\_DK [Go to next pesticide; at last pesticide, Go to Q19]  
\_\_\_REF [Go to next pesticide; at last pesticide, Go to Q19]

**18b1. Was this..**

A2CPM<sup>1</sup> READ RESPONSES

1. low pressure
2. or high pressure  
\_\_\_DK  
\_\_\_REF  
[All responses Go to next pesticide; at last pesticide, Go to Q19]

---

<sup>1</sup> In Private Applicator Supplemental Pesticide File.

**18b2. What was this?**

A2CPN<sup>1</sup>

\_\_\_\_\_ (fill in)      \_\_\_DK      \_\_\_REF

[ALL RESPONSES Go to next pesticide; at last pesticide, Go to Q19]

**18c. (During (Reference Year)), when you applied (pesticide) to (crop) did you usually use a:**

A2CPO<sup>1</sup>

READ RESPONSES

1. broadcast (spread over the entire field; includes fertilizer spreader, buggy or hopper, broadcast sprayer, or duster.)

[Go to next pesticide; at last pesticide, Go to Q19]

2. banded (sprayed over the rows; includes in furrow, ridged up, planter box, or band sprayer) [Go to next pesticide; at last pesticide, Go to Q19]

3. or something else..

\_\_\_DK [Go to next pesticide; at last pesticide, Go to Q19]

\_\_\_REF [Go to next pesticide; at last pesticide, Go to Q19]

**18c1. What was this?**

A2CPP<sup>1</sup>

\_\_\_\_\_ (fill in)      \_\_\_DK      \_\_\_REF

[ALL RESPONSES Go to next pesticide; at last pesticide, Go to Q19]

**18d. (During (Reference Year)), did you usually inject the (pesticide) into the soil, or use some other method of application?**

A2CPQ<sup>1</sup>

1. injected or drilled (includes row fumigation) [Go to next pesticide; at last pesticide, Go to Q19]

2. something else...

\_\_\_DK [Go to next pesticide; at last pesticide, Go to Q19]

\_\_\_REF [Go to next pesticide; at last pesticide, Go to Q19]

**18d1. What was this?**

A2CPR<sup>1</sup>

\_\_\_\_\_ (fill in)      \_\_\_DK      \_\_\_REF

[ALL RESPONSES Go to next pesticide; at last pesticide, Go to Q19]

---

<sup>1</sup> In Private Applicator Supplemental Pesticide File.

18e. (During (Reference Year)), which application method did you usually use?

A2CPS<sup>1</sup> READ RESPONSES 1-7; CHOOSE ONE

1. hand-held sprayer (gun, wand, hand, boom or pump)[Go to next pesticide; at last pesticide, Go to Q19]
2. backpack sprayer [Go to next pesticide; at last pesticide, Go to Q19]
3. band sprayer [Go to next pesticide; at last pesticide, Go to Q19]
4. gas canister [Go to next pesticide; at last pesticide, Go to Q19]
5. mist blower or fogger [Go to next pesticide; at last pesticide, Go to Q19]
6. pre-treated seed [Go to next pesticide; at last pesticide, Go to Q19]
7. personally applied to seed [Go to next pesticide; at last pesticide, Go to Q19]
8. greenhouse sprayer [Go to next pesticide; at last pesticide, Go to Q19]
9. dusting [Go to next pesticide; at last pesticide, Go to Q19]
- something else...

\_\_\_DK [Go to next pesticide; at last pesticide, Go to Q19]

10. \_\_\_REF [Go to next pesticide; at last pesticide, Go to Q19]

18e1. What was this?

A2CPT<sup>1</sup>

\_\_\_\_\_ (fill in) \_\_\_DK \_\_\_REF

[ALL RESPONSES Go to next pesticide; at last pesticide, Go to Q19]

19. During (Reference Year), was any natural fertilizer such as manure (including poultry litter) applied to your farm land?

A2NATFER

1. Yes \_\_\_REF

0. No \_\_\_DK

20. (During (Reference Year),) was nitrogen in any other form applied to your farm land?

A2ONITRO

1. Yes \_\_\_REF [Go to Q21]

0. No [Go to Q21] \_\_\_DK [Go to Q21]

20a. (During (Reference Year), which of the following types of nitrogen did you personally apply?

READ RESPONSES. MARK ALL THAT APPLY. PROBE FOR COMPLETE LIST. WHEN COMPLETE PRESS ENTER.

1. Anhydrous ammonia [Go to Q20b] A2\_ANHYD\_AMMONIA
  2. Liquid nitrogen [Go to Q20b] A2\_LIQUID\_NITROGEN
  3. Dry nitrate [Go to Q20b] A2\_DRY\_NITRATE
  4. Regular or complete fertilizer [Go to Q20b] A2\_REGULAR\_FERTILIZER
  5. Did not personally apply [Go to Q20b] A2\_NIT\_DID\_NOT\_PERSONALLY\_APPLY
  6. Something else... A2\_NIT\_SOMETHING\_ELSE
- \_\_\_DK [Go to Q20b] \_\_\_REF [Go to Q20b]

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<sup>1</sup> In Private Applicator Supplemental Pesticide File.



22a. What type was this?

A2ASPEC<sup>1</sup>

\_\_\_\_\_ (fill in)      \_\_\_DK      \_\_\_REF

[ASK FOR EACH ANIMAL, (animal) is an automatic fill in]

22b. How many (animal) did you have in (Reference Year)?

\_\_\_\_\_ # of Animals      \_\_\_DK      \_\_\_REF  
<1-9,999,997>

1. Non-dairy cattle (beef, feeder, stock)

2. Dairy cattle A2\_AN\_CATTLE\_DAIRY\_NUMBER

3. Hogs/swine A2\_AN\_HOGS\_NUMBER

4. Poultry A2\_AN\_POULTRY\_NUMBER

5. Sheep A2\_AN\_SHEEP\_NUMBER

6. Horses A2\_AN\_HORSES\_NUMBER

7. Ostriches A2\_AN\_OSTRICHES\_NUMBER

8. Llamas A2\_AN\_LLAMAS\_NUMBER

9. Emu A2\_AN\_EMU\_NUMBER

10. Goats A2\_AN\_GOATS\_NUMBER

11. Buffalo A2\_AN\_BUFFALO\_NUMBER

12. "Beefalo" A2\_AN\_BEEFALO\_NUMBER

13. Something else A2\_AN\_OTHER\_NUMBER

23. Did you personally spray, dust or otherwise apply insecticides to your animals or to the animal confinement area in (Reference Year)?

A2AINSEC<sup>1</sup>

1. Yes      \_\_\_REF [Go to Q28]

0. No [Go to Q28]      \_\_\_DK [Go to Q28]

24. During (Reference Year), which type of animal received the most pesticide applications from you?

A2AIMOST CHOOSE ONE FROM LIST

[List=Response Categories=animals reported in Q22]

[Response to Q24= (animal) automatic fill in for Q24a-Q27]

[ASK FOR ANIMAL SPECIFIED IN Q24]

24a. What pesticides did you personally apply to (animal), during (Reference Year)?

A2\_PESTICIDE\_VERBATIM<sup>1</sup> TYPE PESTICIDE NAME, THEN CHOOSE FROM LIST BY ENTERING.

\_\_\_\_\_ [Insert pesticide list; pesticide can be listed ONCE]

\_\_\_DK [Do Not Enter, Go to next pesticide for (animal)]

\_\_\_REF [Do Not Enter, Go to next pesticide for (animal)]

\_\_\_Other [Go to Q24a1]

\_\_\_Done [Go to Q25]

<sup>1</sup> In Private Applicator Supplemental Pesticide File.

PROBE FOR COMPLETE LIST. ENTER AT MOST 6 PESTICIDES. AT LAST PESTICIDE, TYPE AND ENTER DONE.  
(Are there any other pesticides that you personally applied to (animal) during (Reference Year)?)

24a1. What was this pesticide?

A2\_PESTICIDE\_VERBATIM<sup>1</sup>

\_\_\_\_\_ (fill in)    \_\_\_DK    \_\_\_REF

[ALL RESPONSES Ask next pesticide or probe]

[Ask Q25 - Q27 FOR EACH PESTICIDE for (animal). (Animal) is an automatic fill in.]

25. How was the (pesticide) normally applied?

A2APAPP<sup>1</sup> READ RESPONSES. CHOOSE ONE.

1. sprayer or duster (backpack sprayer, air sprayer)[Go to Q25b]
2. dips, pour-ons (also hand wipes, oral paste, or boluses)[Go to Q26]
3. injection[Go to Q26]
4. animal rubbing device, ear tags, or feed and water additives ( also dust bags, rope wicks) [Go to Q26]
5. something else..

\_\_\_DK[Go to Q26]

\_\_\_REF[Go to Q26]

25a. What was this?

A2APAO<sup>1</sup>

\_\_\_\_\_ (fill in)    \_\_\_DK    \_\_\_REF

[ALL RESPONSES Go to Q26]

25b. Was this application done in an enclosed area?

A2APAE<sup>1</sup>

1. Yes    \_\_\_REF

0. No    \_\_\_DK

26. In (Reference Year), how many days did you personally mix, load or apply (pesticide) to (animal)?

A2\_DAYS<sup>1</sup>

|\_|\_|\_|    \_\_\_DK    \_\_\_REF

<<1-365>> <1-80>

27. On average, how many hours per day did you personally mix, load, or apply (pesticide)?

A2\_HOURS<sup>1</sup>

|\_|\_|    \_\_\_DK    \_\_\_REF

<<1-24>> <1-8>

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<sup>1</sup> In Private Applicator Supplemental Pesticide File.

**28. INTERVIEWER: CODE YES TO THIS QUESTION.**

A2NONCRO

1. Yes [Go to Q28b] \_\_\_REF [Go to Q34]  
0. No [Go to Q34] \_\_\_DK [Go to Q34]

**28a. INTERVIEWER: CODE YES TO THIS QUESTION.**

A2NONCRP

1. Yes \_\_\_REF [Go to Q34]  
0. No [Go to Q34] \_\_\_DK [Go to Q34]

**28b. During (reference year), were pesticides used for:**

READ RESPONSES AND WAIT FOR YES/NO REPLY. MARK ALL YES RESPONSES.

**IF RESPONDENT REPLIES 'NO' TO ALL ITEMS, GO BACK TO Q28 AND RECORD 'NO'.**

1. Weed or brush control for fence rows & other farm areas [Go to Q28c] A2\_NC\_WEEDCONTROL
2. Stored grains or grain bin applications [Go to Q28c] A2\_NC\_GRAINBIN
3. Building applications [Go to Q28c] A2\_NC\_BUILDINGS
4. Nursery & garden applications (including shrubs, flowers & ornamentals)[Go to Q28c] A2\_NC\_GARDENS
5. Trees, including fruit trees [Go to Q28c] A2\_NC\_TREES
6. Lawn and turf applications [Go to Q28c] A2\_NC\_LAWNS
7. Rodent control [Go to Q28c] A2\_NC\_RODENTCONTROL
8. Something else...A2\_NC\_OTHER

\_\_\_DK [Go to Q34]

\_\_\_REF [Go to Q34]

**28b1. What was this?**

A2NCAO<sup>1</sup>

\_\_\_\_\_ (fill in)

\_\_\_DK

\_\_\_REF

[NUMBER OF SCREENS/questions=NUMBER OF NON-CROP APPLICATIONS/ AUTOMATIC FILL IN OF (non-crop application)]  
[ASK Q28c FOR EACH NON-CROP APPLICATION]

28c. What pesticides were typically used for **(non-crop application)** (during **(reference year)**)?

A2\_PESTICIDE\_VERBATIM<sup>1</sup> TYPE PESTICIDE NAME, THEN CHOOSE FROM LIST BY ENTERING.

IF NO PESTICIDES USED, TYPE AND ENTER NONE.

FOR EACH NON-CROP:

\_\_\_\_\_

[Insert pesticide list;  
pesticide can be listed  
ONCE PER NON-CROP]  
[Atrazine and 2,4-d:  
Go to Signal Screen]

\_\_DK \_\_Ref

[Go to next (non-crop)]  
[After last non-crop GO to Q29]  
[If DK, Ref for all non-crop  
applications, Go to Q34]

\_\_Other

[Go to Q28c1]

\_\_None

\_\_Done

[Go to next (non-crop)]  
[After last non-crop GO to Q29]

PROBE FOR A COMPLETE LIST.

(Were there any other pesticides used for **(non-crop)** during **(reference year)**?)

28c1. What was this pesticide? \_\_\_\_\_ (fill in) \_\_DK \_\_Ref [Ask next pesticide or probe]  
A2\_PESTICIDE\_VERBATIM<sup>1</sup>

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<sup>1</sup> In Private Applicator Supplemental Pesticide File.

Active Signal

Did you use 2,4-D alone or was it part of a manufacturer's mixture?

IF ALONE: SUPPRESS AND CONTINUE.

IF MANUFACTURERS MIXTURE: Could you tell me the brand name?

----IF YES: CLOSE AND REPLACE 2,4-D WITH BRAND NAME.

----IF NO: Could you tell me what chemicals it was mixed with?

-----IF YES: CLOSE AND REPLACE 2,4-D WITH CHEMICAL NAME,

-----THEN USE INGREDTRI TO SEARCH FOR BRAND NAME.

-----IF NO: SUPPRESS AND CONTINUE AS IF 2,4-D WAS USED

-----ALONE.

IF PERSONALLY MIXED: SUPPRESS AND CONTINUE, ENTERING OTHER

CHEMICALS IN

MIXTURE AS SEPARATE PESTICIDES FROM LIST.

Questions involved	Value
PRNONCROP.Q28C[1].innerQ28c[2].PRNCPe	2,4-D

Suppress

Close

Goto

[Number or screens (questions) will equal number of pesticides/ Automatic fill-in of (pesticide)]

[Ask Q29-Q33 for each pesticide for each non-crop application]

29. During (Reference Year), when using (pesticide) for (non-crop application), did you personally mix or fill (load) application equipment?

A2NCMIX<sup>1</sup>

1. Yes \_\_\_\_\_REF

0. No \_\_\_\_\_DK

30. (During (Reference Year)), did you personally apply (pesticide) for (non-crop application)?

A2NCAPP<sup>1</sup>

1. Yes \_\_\_\_\_REF [Go to Q32]

0. No [Go to Q32] \_\_\_\_\_DK [Go to Q32]

[If Q29 and Q30 = NO, DK or Ref, Go to Next Pesticide; if last Pesticide, Go to Q34]

31. (In (Reference Year)), what application method(s) did you use to apply the (pesticide) for (non-crop application)?

A2NCMET<sup>1</sup>

READ FIRST 7 RESPONSES FOR FIRST PESTICIDE. THEN READ WHEN NECESSARY. CHOOSE ONE RESPONSE.

1. Hand-held sprayer (gun, wand, boom, or pump) [Go to Q32]

2. Broadcast from farm vehicle (NOT hand-held) [Go to Q32]

3. Backpack sprayer [Go to Q32]

4. Mist blower or fogger [Go to Q32]

5. Airblast [Go to Q32]

6. Banded spray [Go to Q32]

7. Gas canister [Go to Q32]

8. Dried pellets [Go to Q32]

9. Sealed packets [Go to Q32]

10. Dusting (including powders) [Go to Q32]

11. Spray Bottle [Go to Q32]

12. Something else...

\_\_\_\_\_DK [Go to Q32]

\_\_\_\_\_REF [Go to Q32]

31a. What was this?

A2NCMOT<sup>1</sup>

\_\_\_\_\_fill in \_\_\_\_\_DK \_\_\_\_\_REF

---

<sup>1</sup> In Private Applicator Supplemental Pesticide File.

32. In (Reference Year), how many days did you personally mix, load or apply (pesticide) for (non-crop application)?

A2\_DAYS<sup>1</sup>

|\_|\_|\_|  
<<0-365>> <0-80>

\_\_\_DK [Go to Q34]  
\_\_\_REF [Go to Q34]

33. On average, how many hours per day did you personally mix, load or apply (pesticide) for (non-crop application)?

A2\_HOURS<sup>1</sup>

|\_|\_|  
<<1-24>> <1-8>

\_\_\_DK  
\_\_\_REF

34. Was (Reference Year) a typical year for you as far as number of pesticides you used and the amount you used?

A2TYPICA

1. Yes \_\_\_REF  
0. No \_\_\_DK

[If Q17a=No, DK or Ref, for all four pesticides for all crops, AND Q29=No, Dk or Ref for all non-crops, Go to Q36]

35. During (Reference Year), when you mixed or loaded pesticides did you normally wear any of the following special clothing or protective equipment:

READ RESPONSES. MARK ALL THAT APPLY. WHEN COMPLETE PRESS ENTER.

1. Chemically resistant overalls like Tyvek. A2\_TYVEK\_MIX
2. Chemically resistant boots/shoes (different than normal work boots) A2\_BOOTS\_MIX
3. Cartridge respirator, gas mask A2\_RESP\_MIX
4. Full face shield A2\_FACE\_SHIELD\_MIX
5. Gloves A2\_GLOVES\_MIX
6. None

\_\_\_DK [Go to Q36]  
\_\_\_REF [Go to Q36]

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<sup>1</sup> In Private Applicator Supplemental Pesticide File.

**[If Q35 is not equal to 5, Go to Q36]**

**35a. Which type of glove do you normally wear (when mixing or loading pesticides):**

**A2GLOVES** READ RESPONSES- CHOOSE ONE

1. fabric or leather gloves[Go to Q36]
  2. chemically resistant gloves, or those designed for pesticide use (includes natural, butyl, chloroprene, nitrile, and fluorocarbon (Viton); or various plastics: polyvinyl chloride (PVC), polyvinyl alcohol, and polyethylene; brand names Silver Shield and 4H)[Go to Q36]
  3. thin, disposable gloves (includes surgical gloves)[Go to Q36]
  4. other waterproof rubber or plastic gloves[Go to Q36]
  5. something else...
- \_\_\_DK [Go to Q36]  
\_\_\_REF [Go to Q36]

**35a1. What type are these?**

**A2GOTHER**

\_\_\_\_\_ fill in                      \_\_\_DK                      \_\_\_REF

**[If Q18=No, DK or Ref for all four pesticides for all crops AND Q23=No, DK or Ref for each pesticide for animal AND Q30= No, DK or Ref for all pesticides for all non-crop, Go to Q37]**

**Now, I want to ask about applying pesticides.**

**36. During (Reference Year), when you applied pesticides, did you normally wear any of the following special clothing or protective equipment?**

READ RESPONSES. MARK ALL THAT APPLY. WHEN COMPLETE PRESS ENTER

1. Chemically resistant overalls like Tyvek [Go to Q37] A2\_TYVEK\_APPLY
  2. Chemically resistant boots/shoes (different than normal work boots)[Go to Q37] A2\_BOOTS\_APPLY
  3. Cartridge respirator, gas mask [Go to Q37] A2\_RESP\_APPLY
  4. Full face shield [Go to Q37] A2\_FACE\_SHIELD\_APPLY
  5. Gloves A2\_GLOVES\_APPLY
  6. None [Go to Q37]
- \_\_\_DK [Go to Q37]  
\_\_\_REF [Go to Q37]



38d. (During (Reference Year), did you normally use this type of glove when applying) fungicides?

A2GFUNG

1. Yes \_\_\_\_\_DK  
2. No \_\_\_\_\_Ref  
3. Did not use

39. Since (year of enrollment), did you have any incidents with fertilizers, herbicides or other pesticides that caused you an unusually high personal exposure?

A2HIEXP

1. Yes \_\_\_\_\_REF [Go to Q41]  
0. No [Go to Q41] \_\_\_\_\_DK [Go to Q41]

39a. How many of the exposure incidents have you had since (enrollment date)?

A2HENUM

\_\_\_\_\_ \_\_\_\_\_DK \_\_\_\_\_REF

39b. Were any of the incidents during (last calendar year)?

A2HELYR

1. Yes \_\_\_\_\_REF [Go to Q41]  
0. No [Go to Q41] \_\_\_\_\_DK [Go to Q41]

39c. Regarding the most recent incident, what was the name of the chemical you were exposed to?

A2HECHEM SELECT ONLY ONE PESTICIDE. IF MORE THAN ONE, MAKE REMARK.

\_\_\_\_\_ \_\_\_\_\_DK \_\_\_\_\_REF

39d. (Regarding the most recent incident,) what parts of your body were exposed?

READ RESPONSES. MARK ALL THAT APPLY. WHEN COMPLETE PRESS ENTER.

- |  |   |
|--|---|
| 1. Head[Go to Q39e] A2_HEAD                          | 5. Feet[Go to Q39e] A2_FEET   |
| 2. Face (eyes, nose, mouth)[Go to Q39e] A2_FACE      | 6. Lungs (from breathing)[Go to Q39e] A2_LUNGS                      |
| 3. Torso, arms, legs [Go to Q39e] A2_TORSO_ARMS_LEGS | 7. Digestive tract (from swallowing)[Go to Q39e] A2_DIGESTIVE_TRACT |
| 4. Hands[Go to Q39e] A2_HANDS                        | 8. Something else... A2_BP_SOMETHING_ELSE                           |
- \_\_\_\_\_DK [Go to Q39e]  
\_\_\_\_\_REF [Go to Q39e]

39d1. What part was this?

A2HEBOTH

\_\_\_\_\_ fill in \_\_\_\_\_DK \_\_\_\_\_REF

**39e. (Regarding the most recent incident,) what pesticide or fertilizer-related job were you doing when the exposure occurred?**

A2HEJOB

1. Mixing[Go to Q39g]
2. Loading[Go to Q39g]
3. Applying[Go to Q39f]
- \_\_\_DK[Go to Q39g]
- \_\_\_REF[Go to Q39g]
4. Cleaning/maintenance/repair of equipment[Go to Q39g]
5. Cleaning up a spill[Go to Q39g]
6. Something else...

**39e1. What was this?**

A2HEJOTH

\_\_\_\_\_ fill in      \_\_\_DK      \_\_\_REF  
[ALL RESPONSES Go to Q39g]

**39f. What application method were you using?**

A2HEAPPL

1. broadcast from farm vehicle[Go to Q39g]
2. hand spray gun or wand[Go to Q39g]
3. backpack sprayer[Go to Q39g]
4. banded sprayer[Go to Q39g]
5. gas canister[Go to Q39g]
6. mist blower or fogger[Go to Q39g]
7. pre-applied to seed[Go to Q39g]
8. greenhouse sprayer (only in any greenhouse applications)[Go to Q39g]
9. airblast[Go to Q39g]
10. applied dried pellets[Go to Q39g]
11. power, knapsack or air sprayer or duster[Go to Q39g]
12. hand treatment such as pour-ons, hand wipes, oral paste or boluses[Go to Q39g]
13. injection[Go to Q39g]
14. animal self-application method, like rubbing devise, dust bags, ear tabs, rope wicks or in feed additives[Go to Q39g]
15. something else...
- \_\_\_DK[Go to Q39g]
- \_\_\_REF[Go to Q39g]

**39f1. What was this?**

A2HEAOTH

\_\_\_\_\_ fill in      \_\_\_DK      \_\_\_REF

**Did you have any of the following symptoms that you think may have been related to this incident?**

**39g1. (Did you have) headaches or dizziness?**

A2HEHEAD      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g2. (Did you have) nausea or vomiting?**

A2HENAUS      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g3. (Did you have) skin irritation?**

A2HESKIN      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g4. (Did you have) eye irritaion?**

A2HEEYEI      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g5. (Did you have) tightness or discomfort in your chest?**

A2HETIGH      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g6. (Did you have) difficulty breathing?**

A2HEDIFB      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g7. (Did you have) difficulty walking?**

A2HEDIFW      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g8. (Did you have) blurred or double vision?**

A2HEBLUR      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g9. (Did you have) drooling or tearing?**

A2HEDROO      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g10. (Did you have) twitching, jerking or involuntary movements of arms or legs?**

A2HETWIT      1. Yes      \_\_\_DK  
                         0. No      \_\_\_REF

**39g11. (Did you) pass out?**

A2HEPASS

1. Yes  
0. No

\_\_\_DK  
\_\_\_REF

**39g12. (Did you have) convulsions, seizures or fits?**

A2HECONV

1. Yes  
0. No

\_\_\_DK  
\_\_\_REF

**39g13. (Did you have) any other symptoms that we have not mentioned?**

A2HEOTHE

1. Yes  
0. No [Go to Q39h]

\_\_\_DK [Go to Q39h]  
\_\_\_REF [Go to Q39h]

**39g13a. What were these symptoms?**

A2HEOSPE

\_\_\_\_\_ fill in

\_\_\_DK \_\_\_REF

**39h. How soon after the incident did you wash off or change clothes?**

A2HEWASH

1. <30 minutes  
2. 30-59 minutes  
3. 1-3 hours  
4. 4-6 hours  
5. 7-9 hours  
6. >9 hours after the incident

\_\_\_DK  
\_\_\_REF

**40. Did this incident result in a health care visit?**

A2HECARE

1. Yes  
0. No [Go to Q41]

\_\_\_DK [Go to Q41]  
\_\_\_REF [Go to Q41]

**40a. Were you hospitalized?**

A2HEHOSP

1. Yes  
0. No

\_\_\_DK  
\_\_\_REF

For the next set of questions, I'd like you to think about the time period from **(date of enrollment)** to the present time.

41. After mixing or applying pesticides, do (did) you usually bathe or shower before continuing with other farm activities?

A2BATHE 1. Yes \_\_\_DK  
0. No \_\_\_REF

42. Do (did) you usually wear the same work clothes you used to mix or apply pesticides two or more days without washing them?

A2CLOTHE 1. Yes \_\_\_DK  
0. No \_\_\_REF

43. Do (did) you usually take your work boots off before entering your home?

A2BOOTS 1. Yes \_\_\_DK  
2. No \_\_\_REF  
3. Do not wear

44. Are (were) the clothes you use(d) when mixing or applying pesticides usually washed separately?

A2WASHED 1. Yes \_\_\_DK  
0. No \_\_\_REF

45. Are (were) agricultural or commercial pesticides ever stored (even temporarily) in your home or basement?

A2STORED 1. Yes \_\_\_DK  
0. No \_\_\_REF

46. How far is your house from the nearest field or orchard where pesticides are applied?

A2FIELD 1. No pesticides applied on farm  
2. Less than 50 feet  
3. 50-99 feet  
4. 100-199 feet  
5. 200-1/4 mile (1320 ft)  
6. GT 1/4 mile  
\_\_\_DK  
\_\_\_REF

[ask 47 - 49 only IF Q18a = YES for any pesticides reported in the crop section or Q31 = 2 for any non-crop pesticides]

47. Does (did) the farm vehicle you usually use to apply pesticides have an enclosed cab?

A2ENCLOS 1. Yes \_\_\_DK [Go to Q50]  
0. No [Go to Q50] \_\_\_REF [Go to Q50]

48. Do (did) you usually spray with the windows closed?

IF ANSWER IS "IT DEPENDS ON THE WEATHER", THEN ASK: When it is (was) warm, what do you do?

A2WINDOW 1. Yes \_\_\_DK  
0. No \_\_\_REF

49. Does (did) your cab have a charcoal filter?

A2FILTER 1. Yes  DK  
0. No  REF

50. Do (did) you usually repair your own spraying or mixing equipment?

A2REPAIR 1. Yes  DK  
0. No  REF

**[IF Q12 is NONE, DK, or Ref, Go to Q52]**

51. In most of your fields, how often do (did) you rotate the crops that you grow?

A2ROTATE READ RESPONSES.  
1. every year **[Go to Q52]**  
2. every other year **[Go to Q52]**  
3. every third year **[Go to Q52]**  
4. never **[Go to Q52]**  
5. something else...  
 DK **[Go to Q52]**  
 REF **[Go to Q52]**

51a. How often is (was) that?

A2OFTEN \_\_\_\_\_ fill in  DK  REF

52. For most of the herbicides, insecticides and fungicides that you use(d), do (did) you...

A2AMOUNT READ RESPONSES  
1. usually apply less than the minimum recommended label rate  
2. usually apply more than the recommended label rate  
3. usually apply the recommended rate  
 DK  
 REF

53. Have you substituted biological or cultural practices (resistant varieties, pheromones, Bt sprays, tillage, planting/harvesting date adjustments, etc.) for any of your chemical pesticide applications?

A2SUBSTI 1. Yes  DK  
0. No  REF

The next questions ask about your views regarding the occupation of farming. Do you agree or disagree with the following statements?

**54. Farming is more dangerous than jobs in industry or manufacturing.**

- A2DANGER** 1. agree  DK  
2. disagree  REF

**55. Accidents are just one of the occupational hazards of farming that must be accepted if you are going to be in the business.**

- A2ACCIDE** 1. agree  DK  
2. disagree  REF

**56. During a normal work week, it's common for me, while doing farm work, to experience a number of 'close calls' that under different circumstances might have resulted in personal injury or property loss.**

- A2CLOSEC** 1. agree  DK  
2. disagree  REF

**57. To make a profit, most farmers take risks that might endanger their health.**

- A2PROFIT** 1. agree  DK  
2. disagree  REF

**[GO TO COOKING PRACTICE MODULE]**