



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

March 30, 2007

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expires

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: PHS Reports Clearance Officer, Rm. 721-B, Humphrey Building, 200 Independence Ave., SW, Washington, D.C. 20201, ATTN: PRA; and to Office of Management and Budget, Paperwork Reduction Project (0925-0406), Washington, D.C. 20503.

This questionnaire is intended to be administered utilizing a CATI system. The following specific information will be available electronically prior to the start of the interview:

Subject Name	
Gender	A2GENDER
Birthdate	A2ENRDOB / A2_SASDATE_ENRDOB
Address; City, State, Zip Code	
Enrollment Date	A2ENRODATE
Current Date	A2_SASDATE_STARTDA
Current Time	

In addition, the CATI system will contain listings of common crops, animals, pesticides, pesticide application methods, etc., to facilitate the interviewer data entry.

In this document and when using the CATI system:

LARGE CASE PRINT = instructions to the interviewer; do not read these to the respondent

Shaded Areas =instructions to the programmer (will not appear on CATI screen); do not read to the respondent

Underline =portions of the question to be verbally stressed by interviewer; will appear as bold text on CATI

(Parenthesis) =clauses that the interviewer can choose to read or not to read, depending on the flow of the interview and the respondent's grasp of the question

< > = response edit check. A signal screen will appear: "Response is not in normal range. Are you sure this is correct?"

<< >> = response range. A signal screen will appear: "Input invalid, value not in range". Interview must change response.

WHEN CONDUCTING AN INTERVIEW WITHOUT USING THE CATI SYSTEM, FILL IN:

PARTID

Respondent ID # _____ Name of Interviewer _____

Date of Interview ___/___/___ Time Interview Started: _____ Time Interview Ended _____
DD YY

Call Result (on CATI): 1. Start Interview 2. Refuse 3. Applicator is deceased 4. Applicator chronically ill
5. Applicator is unable to participate because of language difficulties 6. Applicator is unable to participate for other reasons 7. Maxed

INTERVIEWER: CTRL F7 TO EXIT AND DO NOT SAVE

MM

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

|_|_|_|_|
<<1900-2005>>

DK REF

[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_PEANUTS |
| 3. Barley [Go to Q13] A2_CR_BARLEY | 20. Peppers [Go to Q13] A2_CR_PEPPERS |
| 4. Bermuda Grass [Go to Q13]
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]
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]
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_VERBATIM¹

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_VERBATIM¹

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_DAYS¹

|_|_|_|_|

__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]

¹ In Private Applicator Supplemental Pesticide File.

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

A2_HOURS¹

|_|_|_|

__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.]²

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

¹ In Private Applicator Supplemental Pesticide File.

² 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?

A2CPC¹

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?

A2CPD¹

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...?

A2CPE¹

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?

A2CPF¹

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

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

A2CPG¹

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]

¹ In Private Applicator Supplemental Pesticide File.

17c1. What was this?

A2CPH¹ _____(fill in) ___DK ___REF

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

A2CPI¹

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):

A2CPJ¹

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:

A2CPL¹

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..

A2CPM¹ READ RESPONSES

1. low pressure
2. or high pressure
___DK
___REF
[All responses Go to next pesticide; at last pesticide, Go to Q19]

¹ In Private Applicator Supplemental Pesticide File.

18b2. What was this?

A2CPN¹

_____ (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:

A2CPO¹

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?

A2CPP¹

_____ (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?

A2CPQ¹

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?

A2CPR¹

_____ (fill in) ___DK ___REF

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

¹ In Private Applicator Supplemental Pesticide File.

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

A2CPS¹ 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?

A2CPT¹

_____ (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]

¹ In Private Applicator Supplemental Pesticide File.

22a. What type was this?

A2ASPEC¹

_____ (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)?

A2AINSEC¹

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_VERBATIM¹ 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]

¹ 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_VERBATIM¹

_____ (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?

A2APAPP¹ 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?

A2APAO¹

_____ (fill in) ___DK ___REF

[ALL RESPONSES Go to Q26]

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

A2APAE¹

1. Yes ___REF

0. No ___DK

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

A2_DAYS¹

|_|_|_| ___DK ___REF

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

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

A2_HOURS¹

|_|_| ___DK ___REF

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

¹ 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?

A2NCAO¹

_____ (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_VERBATIM¹ TYPE PESTICIDE NAME, THEN CHOOSE FROM LIST BY ENTERING.

IF NO PESTICIDES USED, TYPE AND ENTER NONE.

FOR EACH NON-CROP:

_____	__DK __Ref	__Other	__None	__Done
[Insert pesticide list; pesticide can be listed ONCE PER NON-CROP] [Atrazine and 2,4-d: Go to Signal Screen]	[Go to next (non-crop)] [After last non-crop GO to Q29] [If DK, Ref for all non-crop applications, Go to Q34]	[Go to Q28c1]	[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_VERBATIM¹

¹ 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?

A2NCMIX¹

1. Yes _____REF

0. No _____DK

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

A2NCAPP¹

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)?

A2NCMET¹

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?

A2NCMOT¹

_____fill in _____DK _____REF

¹ 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_DAYS¹

|_|_|_|
<<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_HOURS¹

|_|_|
<<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]

¹ 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]