Objective Yield Survey Program & Purpose

2025 Soybean Objective Yield
Project Code - 102

Purpose

- The purpose of the corn and soybean objective yield survey are to accurately forecast the production of corn and soybeans at the State, Regional, and National levels.

- The monthly Crop Production reports provide reliable and timely information to use by farmers to make knowledgeable crop marketing strategies and business decisions.

- The Objective Yield survey provides factual information about corn and soybean crop like row width, plants per acre, ears per acre, pods per 18 square feet, samples processed by the lab and implied grain weight.

- Field counts and measurements will be used to forecast or estimate yields per acre.

NASS Yield Estimates

- In Season Forecasts (September 1 - November 1). Published near the 10th - Crop Production Report
  - Ag. Yield
    - Subjective
    - Inexpensive
  - Objective Yield (OY)
    - Actual counts of stalks and grain-objective
    - Expensive
  - Remote Sensing – satellite imagery
- Year End
  - Final OY
  - December Crops Agricultural Production Survey (APS)
  - County Agricultural Production Survey – Row Crop (CAPS)

Estimating Yield

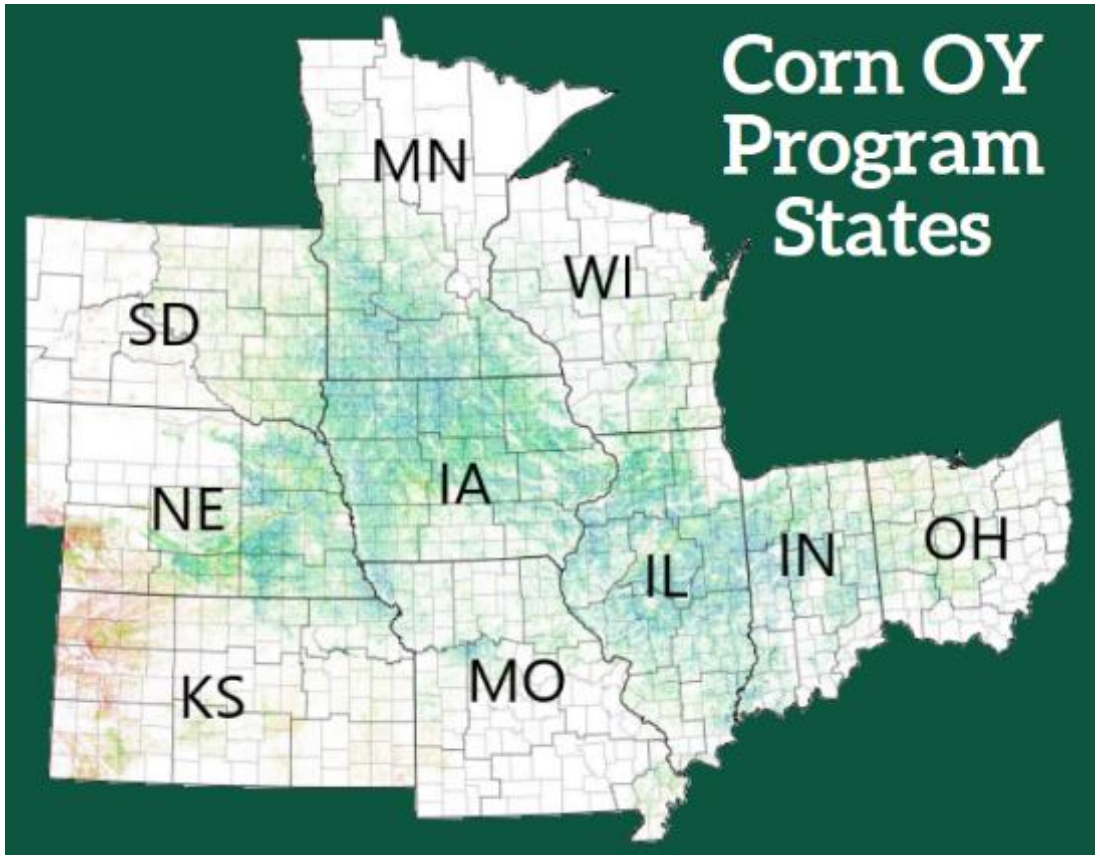
- Factors that affect Yield
  - Row Width
  - Plant Population
  - Number of Ears or Pods
  - Moisture Content
  - Weight of the Grain
  - Harvest Loss

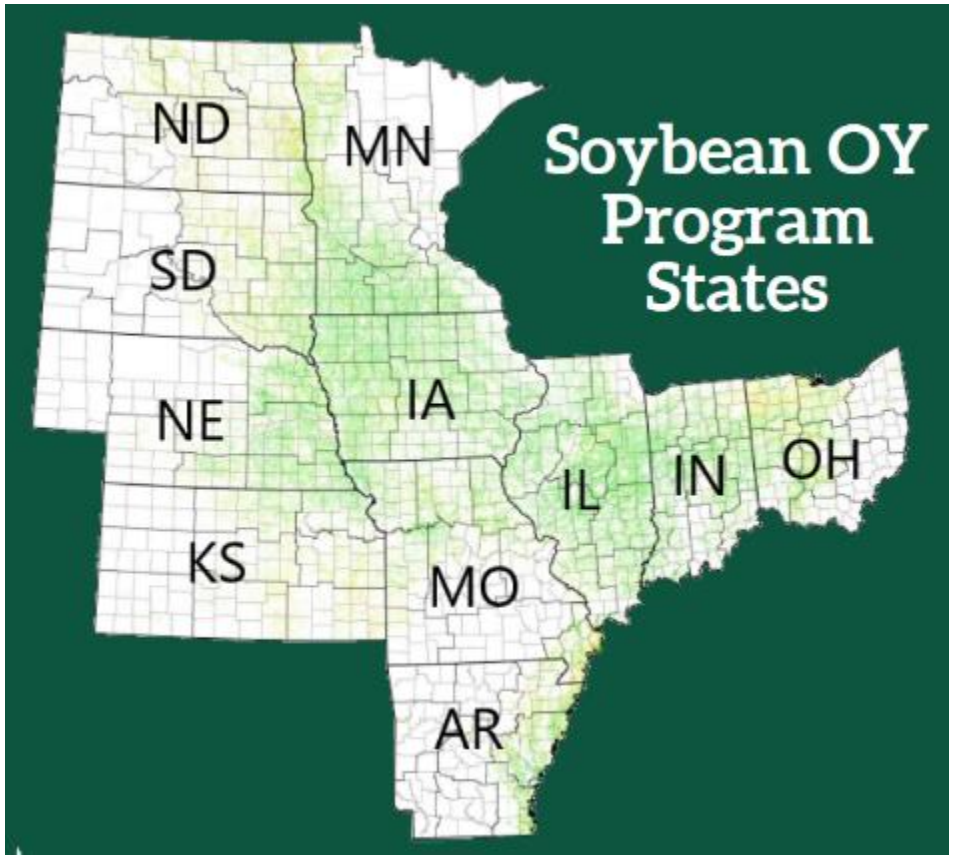
Overview

- Each sample field will have two units laid out. This is where the counts and measurements will be done.

- Two parts to the fieldwork
  - Forms A & Form B (data submitted in CAPI)
    - Form A = Initial interview with farmer
    - Form B = Yield count
  - Grain and Gleanings (bagged and shipped to the National Lab)
    - Form E = post-harvest gleaning form; determines harvest loss
      - Only one every fourth samples

Program States





Sample Size

NEW for 2025: Samples drawn from June Agricultural Survey (No Area)

National Soybean Objective Yield 2025 Sample Size

State	Sample Size
Arkansas	140
Illinois	200
Indiana	130
Iowa	200
Kansas	70
Minnesota	120
Missouri	150
Nebraska	130
North Dakota	120
Ohio	150
South Dakota	120
Total	**1,530**

Farmer Benefit

- The size of the corn & soybean crop is crucial information needed by many people involved in and out of agriculture.
- Farmers are the most needing of this accurate information to make knowledgeable decisions about their farming operation.
  - Update crop marketing strategies (forward contract, hedge into futures, cash market)
  - Decide on farming practices about grain storage (sell vs store)
  - Change intended crop usage (corn for silage)

Use of Reports

- End Users
  - Farmers, bankers, credit associations, buyers, economist, policy makers, media, brokers, extension, and universities
- Communicated Through
  - Farm magazines, radio, internet, TV (RFD), newspapers, commodity news services, email and State Field Offices
- Unbiased Source
  - No one has an advantage that could unfairly influence prices.
- Grain Markets
  - It is actual supply entering the market along with demand that determines prices for farmers.
  - USDA reports have had a positive effect on prices as often as negative effect.

OY Data Collection Calendar

September, Plot Counts & Lab Samples

- August 25 – September 1
- Production Forecast – September 12

October, Plot Counts & Lab Samples

- September 24 – October 1
- Production Forecast – October 9

November, Plot Counts & Lab Samples

- October 25 – November 1
- Production Forecast – November 10

Final Lab Samples for Remaining Fields

- November 2 – December 10
- Annual Summary – January 2026

Additional Training Resources

Soybean OY Training Videos

Soybean OY Purpose, Forms, Supplies, and Unit Location Video 1 (24:33)

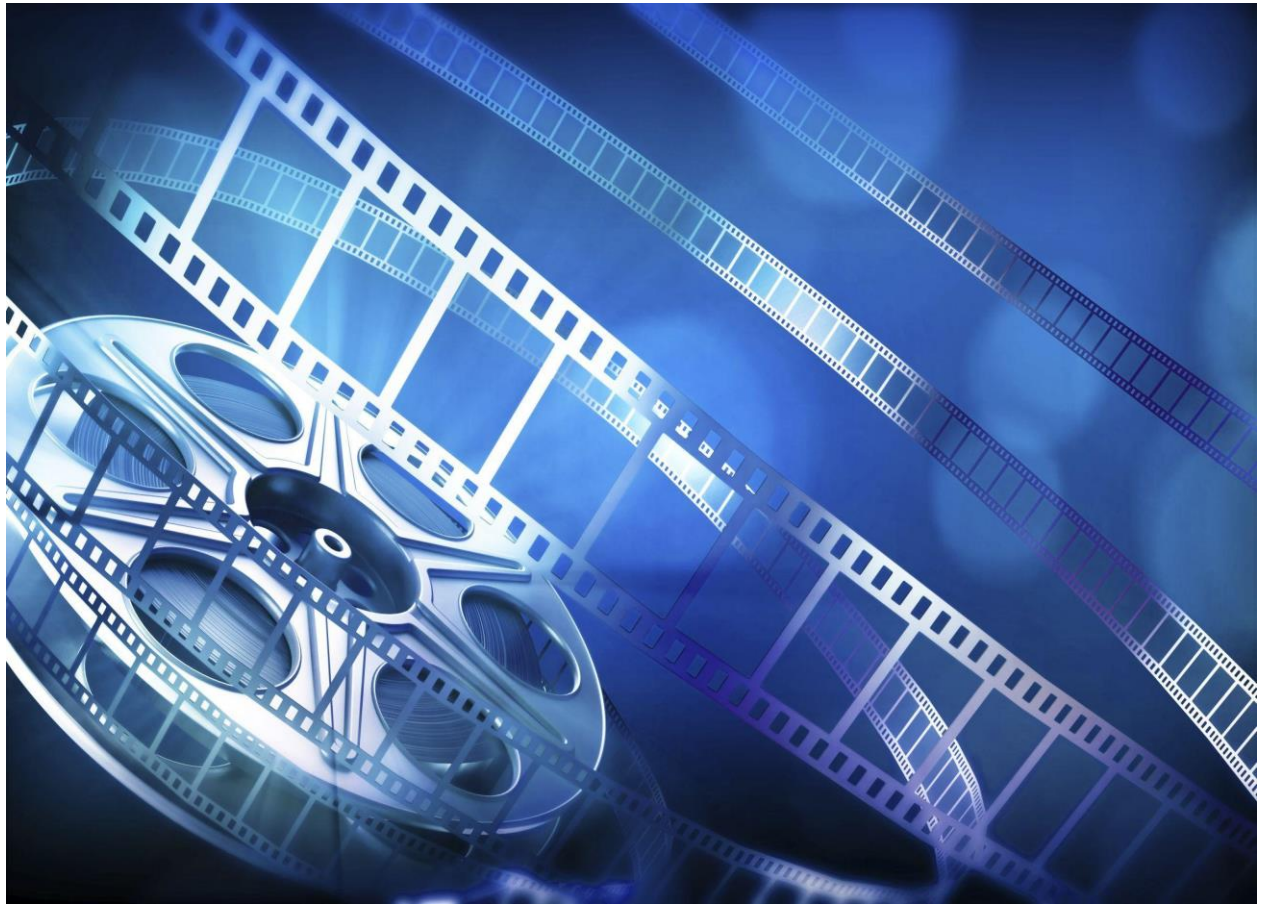
Soybean OY Unit Layout Video 2 (15:57)

Soybean OY Maturity Stages and Counts Video 3 (12:19)

Soybean OY Harvest and Gleaning Procedures Video 4

OY Sample Packaging Video

OY Sample Packaging Video (30:55)



Additional Training Resources

Website information

- Location – https://www.nasda.org/nass/surveys/
- Contains
  - Interviewer's manuals
  - Pre- survey letters
  - All Forms
  - Corn and Soybean Date Pages
  - Equipment memo
  - Kit Envelope Assembly instructions
  - Training (including this presentation)
  - Soybean Stages Brochure

New for Objective Yield 2025

United States Department of Agriculture
National Agricultural Statistics Service

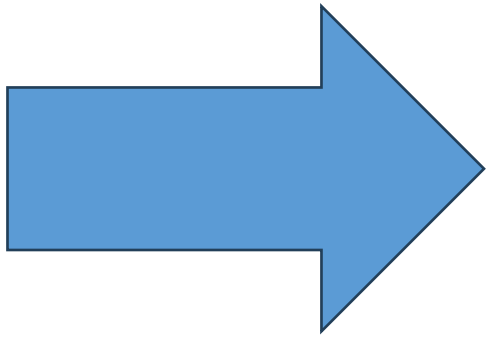
2025 Program Changes

1. Assemble your own Kit Envelopes
2. Fillable Label on Form B & Form E
3. Unit Location Sheets for Row & Pace Counts
4. Assignment Listing & OY Materials List
5. OY Sample drawn from June Agricultural Survey respondents
6. Reimbursement for specific equipment items

Kit Envelope Assembly

You will receive all Kit Envelope materials for your assignments:

- Kit Envelopes
- Labeled Form A
- Form B
- Form E
- Sample ID Tags
- Unit Location Sheet/Objective Yield Grid Map (2-sided)



Assemble a Kit Envelope for each sample:

- 1 Kit Envelope
- 1 Labeled Form A
- 4 Form B
- 1 Form E (samples divisible by 4)
- 5 Sample ID Tags (Soybean=Pink Tags)
- 1 Unit Location Sheet/Objective Yield Grid Map

Label Change – Form B & Form E

Form B & Form E have fillable labels

- It is crucial that the labels are filled out with the corresponding sample information
  - State FIPS code, POID, Sample Number, Forecast Month

Form B & Form E Label:

STEP 1:	↓ FILL OUT THIS LABEL ↓	
__ __	__ __ __ __ __ __ __ __ __	__ __ __
STATE	POID	SAMPLE

(Circle Forecast Month)

Forecast Month: Sep 1 / Oct 1 / Nov 1 / Dec 1

- Do this while building Kit envelopes
  - Form A will come labeled with operator/sample info
  - Fill out 4 Form B labels
    - One for each forecast month (Sep, Oct, Nov, Dec)
  - Fill out Form E label, if applicable
  - Place all in the same Kit Envelope

Unit Location Sheets

Unit Location Row/Pace Counts				
If Field =	< 10 Acres	10-19.9 Acres	20-39.9 Acres	>= 40 Acres
Unit 1				
Rows=	93	7	186	33
Paces=	67	107	190	330
Unit 2				
Rows=	31	5	156	211
Paces=	140	19	77	175

Unit Location Sheets will be used to determine the rows and paces counts for locating units in the sample field.

- You will get one Unit Location Sheet for every sample assigned
  - Unit Location Sheets replaced unit location information that printed Kit Envelopes and Forms B & E labels prior to 2025
- Place one Unit Location Sheet in each Kit Envelope
  - Row & Pace counts are random number
- Reference this sheet, based on sample field size, to determine rows and paces to take into the field

Assignment & Materials Listing

Assignment materials shipments were made from a packing list

- Front side has enumerator name, and all survey materials sent
- Reverse side has an assignment listing information:
  - Corn or Soybean OY samples
  - Sample Number
  - Gleaning samples denoted
  - FIPS, POID, Operation Name, Place Name, Sample #

Check shipment upon arrival to verify all listed materials were received.

Objective Yield Grid Map

The Objective Yield Grid Map is printed on the same sheet as the Unit Location Sheet (opposite side).

- You will get one Objective Yield Grid Map for every sample assigned
    - Unit Location Sheets replaced unit location information printed on Kit Envelope and Forms B & E labels prior to 2025
- Place one Unit Location Sheet in each Kit Envelope
    - Row & Pace counts are random number. Unit 2 counts= Unit 1 Rows & Paces + 30
- Use this sheet for sketching out field geographic location and marking starting corner location vicinity in the field where samples are laid out

2025 OY Sample

The 2025 OY sample was drawn from the June Ag Survey respondents since June Area Survey was not conducted.

- Farms reporting a target crop on June Ag were eligible to be selected for Objective Yield.
- Objective Yield sample fields will be selected based on a cardinal direction
  - No Aerial Photos will be used
  - All fields planted to target crops are eligible to be selected for OY

Reimbursable Equipment

Employees new to the Objective Yield Survey will need to acquire:

- Bucket – to carry supplies (*replaces canvas satchel previously issued*)
- Mallet – to drive stakes when needed
- First Aid Kit – very basic
- Pruning Shears (*corn*)

Reimbursement guidance will be provided by NASDA management.

Kit Envelope, Form A, & Pesticide Safety

Kit Envelope

- Assemble one Kit Envelope for each sample
- Use Kit Envelope to record notes
  - Location of field
  - Map of sampled field
  - Pesticides
  - End rows- number & direction
  - Operator contact information & other helpful notes

KIT ENVELOPE CONTENTS

NEW for 2025: You will need to assemble kit envelopes for your assignments.

<u>Assemble a Kit Envelope for each sample</u>

- 1 – Form A (Labeled)
- 4 – Form B
- 5 – Sample ID Tags
- 1 – Unit Location Sheet/Objective Yield Grid Map
- 1 – Form E (gleaning samples only)

*Form B labels need to be filled out to match Form A information.

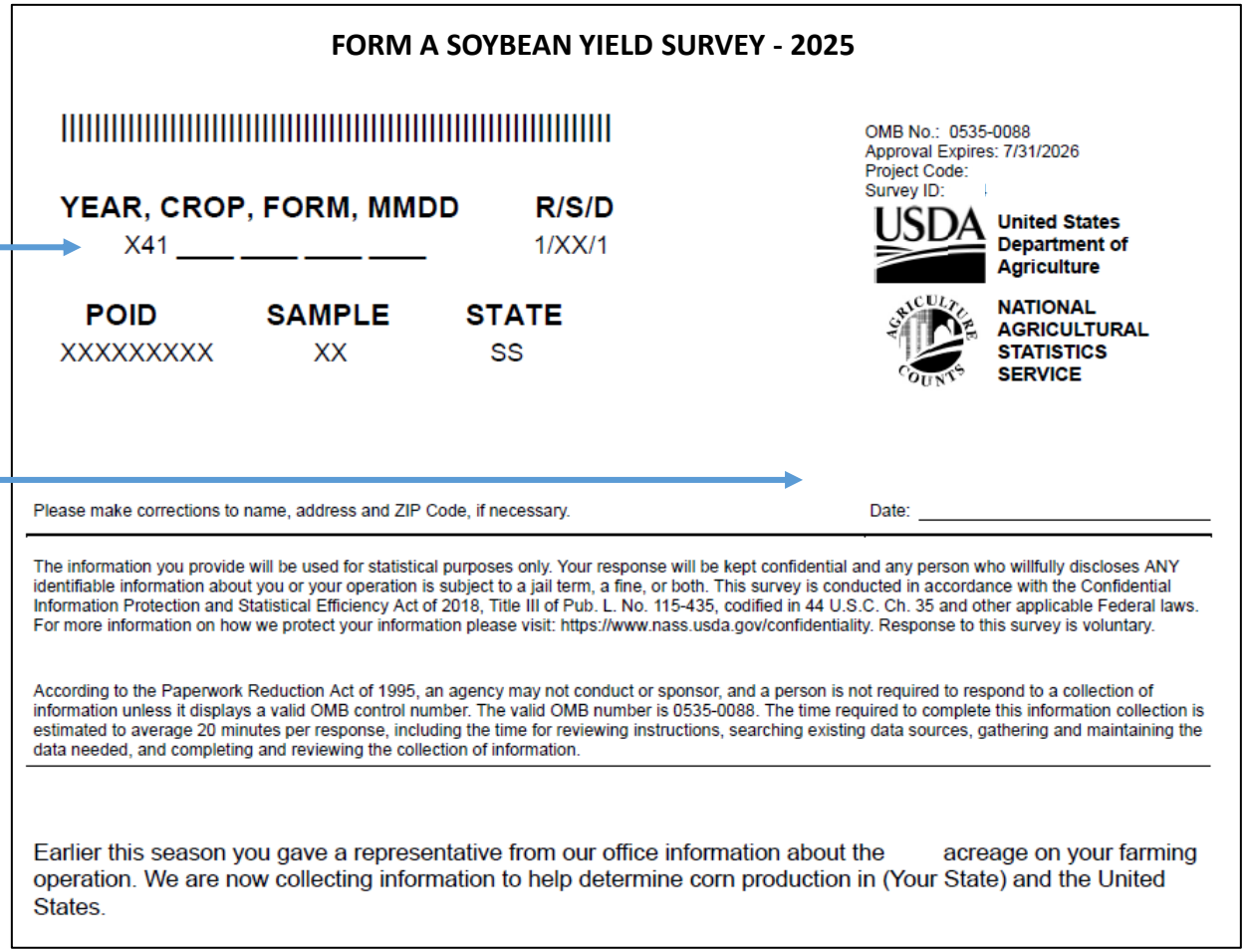
*If a gleaning sample, fill Form E label out the same way

Form A

- One Form A per sample, will have a printed label
- Purpose: Identify sample field and gain permission to set up plots
- Only form that requires an interview
  - Contact by phone first
  - Face-to-face appointment if cannot complete by phone
  - Attempt face-to-face if unable to contact by phone
- **All completed Form A assignments are due in CAPI by September 2**
  - Continue trying & submit as inaccessible if no contact by October 2 (this should be rare)
  - Must have permission before setting up plots and making Form B counts
  - Submit in CAPI
  - Hold on to paper Form A, DO NOT SHIP
- Operators may have multiple samples per crop

Soybean Form A – Page 1

- Each form will a have label at the top
- Record the date
- Operation was mailed a pre-survey letter on July 18



FORM A SOYBEAN YIELD SURVEY - 2025

OMB No.: 0535-0088
Approval Expires: 7/31/2026
Project Code:
Survey ID:

United States Department of Agriculture
NATIONAL AGRICULTURAL STATISTICS SERVICE

YEAR, CROP, FORM, MMDD	R/S/D
X41 ____ ____ ____ ____	1/XX/1

POID	SAMPLE	STATE
XXXXXXXXX	XX	SS

Please make corrections to name, address and ZIP Code, if necessary.

Date: _____

The information you provide will be used for statistical purposes only. Your response will be kept confidential and any person who willfully discloses ANY identifiable information about you or your operation is subject to a jail term, a fine, or both. This survey is conducted in accordance with the Confidential Information Protection and Statistical Efficiency Act of 2018, Title III of Pub. L. No. 115-435, codified in 44 U.S.C. Ch. 35 and other applicable Federal laws. For more information on how we protect your information please visit: https://www.nass.usda.gov/confidentiality. Response to this survey is voluntary.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB number is 0535-0088. The time required to complete this information collection is estimated to average 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Earlier this season you gave a representative from our office information about the acreage on your farming operation. We are now collecting information to help determine corn production in (Your State) and the United States.

Soybean Form A – Page 2

- Acres reported in June are preprinted.
- Question 1 – record the planted acres.
  - Verify from pre-printed acres
  - Don’t Copy – intentions change, reporting errors, weather events, etc.
- Question 2 – record the acres harvested for **beans**.

	JUNE PLANTED ACRES
Earlier this season, the number of soybean acres you planted or intended to plant for all purposes on all the land you operate was:.....	DO NOT CHANGE
1. Now I want to update this soybean acreage information.What is the current number of soybean acres you planted for all purposes on all the land you operate?..... ACRES	112
2. What are the total acres of soybeans to be harvested for beans on all the land you operate? (If total equals zero, end interview.)..... ACRES	102

Soybean Form A – Page 2, Table A

- Sample field reported in Table A.
- Direction variable pre-printed in column 1.
- Column 2 = Total acres in sample field
- Column 3&4 = non-bean acres.
- Column 5 = identifying markers, intersections, field name, or any other identifying information.

Notes: Complete Table A for the soybean fields based off the cardinal directions indicated in column 1 below. (e.g., northern most field)

Table A

SAMPLE NUMBER AND DIRECTION	TOTAL ACRES IN FIELD	ACRES in USE or CROPS OTHER THAN SOYBEANS to be HARVESTED for BEANS (*For example: ditches, fence rows, waterways, roads, other crops, etc.*)		LOCATION DESCRIPTION/ INTERSECTION OF FIELD (E.g., landmarks, features, street intersections)
		USE	ACRES	
1	2	3	4	5
	. ___		. ___	
	. ___		. ___	

Field Selection

- Samples will be labeled with cardinal direction
  - Cardinal direction - N, S, E, W, NE, SE, SW, NW
  - Example: “N” have the operation identify their northern-most field that is planted to soybeans.
- If two fields are the same distance in the direction variable, select the field furthest to the east (clockwise).
- Select one field per sample until there are no more fields, then go back to the first field and continue until there are no more samples.

Soybean Form A – Page 3

- Questions on Page 3 refer to Sample Field selected in Table A
- Box 103 = total acres to be harvested for beans
  - (Col 2: Total acres of sample field) *minus* (Col 4: Acres not for grain)
- Q4 - Record planter row width in inches
- Q5 – month and day of planting (reported as MM DD)
- Q6 – for KS & NE only
- Q7 – for AR only

All questions below apply to this SAMPLE.

3. For the Sample Field, subtract Column 4 from Column 2 for the total acres of soybeans harvested for beans. Report these acres here:..... ACRES | 103 ____

4. What was the row width (planter setting) for the soybeans in the sample field?..... INCHES | 110 ____

5. On what date was planting completed in this soybean field?..... MM DD | 107

Kansas and Nebraska Only for Item 6

6. Has this field been (or will it be) irrigated? 1 ☐ Yes 3 ☐ No 2 ☐ Don't Know CODE | 114

Arkansas Only for Item 7

7. What Maturity Group are the soybeans in the selected field?.....

2=Group II	6=Group VI
3=Group III	7=Group VII
4=Group IV	8=Don't Know
5=Group V	

..... CODE | 108

Soybean Form A – Page 3

- Q8 – Indicate if operator gave you permission to set up plots in the field
- Q9 – Ask about application of organophosphorus pesticides (IM pg 107-109)
- For Gleaning Samples – remind operator that you will be setting up 2 plots within 3 days after they harvest to determine harvest loss

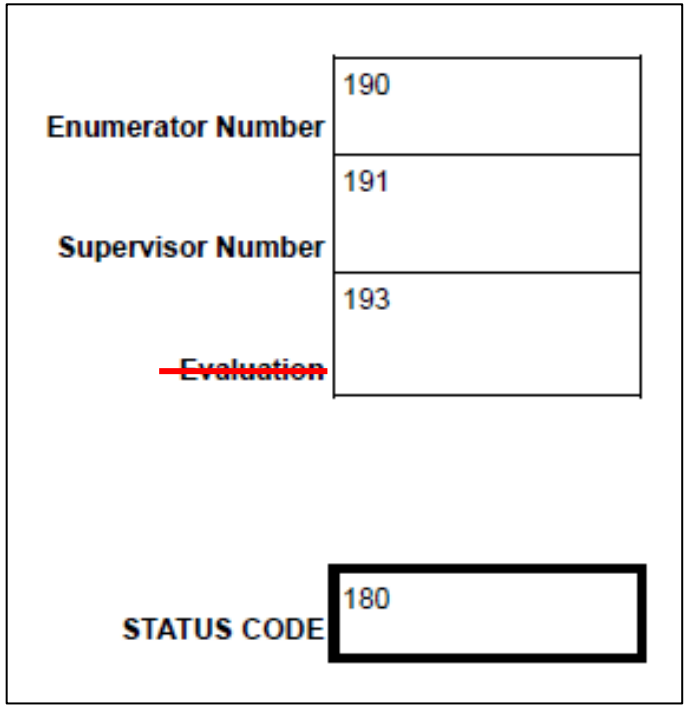
Soybean Form A – Page 3

Before completing the interview:

- Confirm location of field, how to get there, and where to park
- Explain the OY process and that you will be visiting the units each month until harvest
- Ask number of end rows and direction of rows in field
- Expected harvest date
- Good phone number
  - Remain in communication with the farmer, especially closer to harvest.

Soybean Form A – Page 3

- Enumerator number
- Supervisor number
- Status Code
  - List of status codes, IM pg 702



Form A Reminders

- Phone first, limited face-to-face interviewing
- Sample drawn and pre-printed acres from June Ag
- Select field based on cardinal direction
- Form A due September 2nd at the latest
  - CAPI will be used to submit Form A
  - Hold on to Form A, do not ship

PESTICIDE SAFETY

- Organophosphorus pesticides used in corn and soybean production.
- Use extreme caution to avoid exposure.
- Make notes on kit envelope if organophosphorus pesticides have been applied previously or in the future.
- You may want to contact the operator before going out to the field to verify it’s safe to enter.
- Reference IM Chapter 1: Pesticide Safety Precautions
  - EPA booklet “*Protect Yourself from Pesticides*"

PESTICIDE SAFETY

- Field Re-Entry Intervals Following Chemical Applications

Chemical Type:	Any Chemical	Organophosphorus Chemical	
Timing of Application:	Previous 24 hours	Previous 72 hours	Previous 30 days
Entry Restrictions:	Do Not Enter Field	Do Not Enter Field[1]	Follow Safety Requirements[2]

[1] Field re-entry is permitted 72 hours after application was made.

[2] Prior to entering fields treated with an organophosphorus chemical application within the last 30 days, you must:

a) Wear a long-sleeved shirt, long trousers and head covering.
b) Never wear any clothing more than one day without laundering.
c) Limit work time to a maximum of 6 hours per day in these fields.
d) Thoroughly wash all exposed skin (hands, face, etc.) that may have come into contact with plant foliage during the field visit.

PESTICIDE SAFETY

- Protective Clothing
  - Wear a Long-Sleeved Shirt
  - Wear Long Pants
  - Wear Head Covering

  - Wear only 1 day and launder separately from your other clothes!

PESTICIDE SAFETY

- Soap and Water For Decontamination
  - Carry Water and Bath/Bar Soap
  - Thoroughly Wash All Exposed Skin Areas

Organophosphorus Chemicals Commonly used in Soybean Production

Trade Name(s)	Common Name
Orthene	Acephate
Lorsban	Chlorpyrifos
Cygon, Dimethoate	Dimethoate
Cythion, Malathion	Malathion
Penncap-M, Methyl Parathion	Methyl parathion
Thimet	Phorate
Pyrethroids	
Asana	Esfenvalerate
Warrior	Lambda-cyhalothrin
Ambush, Pounce	Permethrin
Carbamates	
Temik	Aldicarb
Sevin	Carbaryl
Furadan	Carbofuran
Lannate, Nudrin	Methomyl
Larvin	Thiodicarb
Other Compounds	
Dimilin	Diflubenzuron
Tracer	Spinosad

PESTICIDE POISONING

- Common Symptoms of Pesticide Poisoning:
  - Headaches
  - Dizzy spells
  - Nervousness
  - Sudden weakness
  - Sick stomach
  - Cramps
  - Vomiting
  - Diarrhea
  - Heavy sweating
  - Breathing difficulty
  - Seizures
  - Coma
  - Pupils of the eye reduced in size

MEDICAL ATTENTION

- Go to the Nearest Qualified Physician!
- Notify Immediately:
  - Your Enumerator Coach
- Do Not Return to the Field Without:
  - The Doctor's Written Permission
  - Completing Form NAS-016 (Rev 11/95)

Enumerator Safety

- Enumerator safety is the #1 priority
  - Please drive safe, stop at stop signs in the county and be aware of your surrounding. During the spring and summer months, farmers are very busy in the fields.
- If you have plant or insect allergies, carry an anti-histamine, like Benadryl.
- Might be best to wear an insect repellant and apply sunscreen.
- Please be aware of the temperatures when working in the field. Might be best to work in early mornings or late evenings. I would bring along a water jug and wear a hat.

Locating the Units

- First determine the starting corner
  - Starting Corner Criteria
    - Allows an opportunity for the units to have an equal chance to fall anywhere in the field
    - Most accessible
- Second determine rows and paces
  - From Unit Location Sheet
  - Row and Pace Counts are based on field size

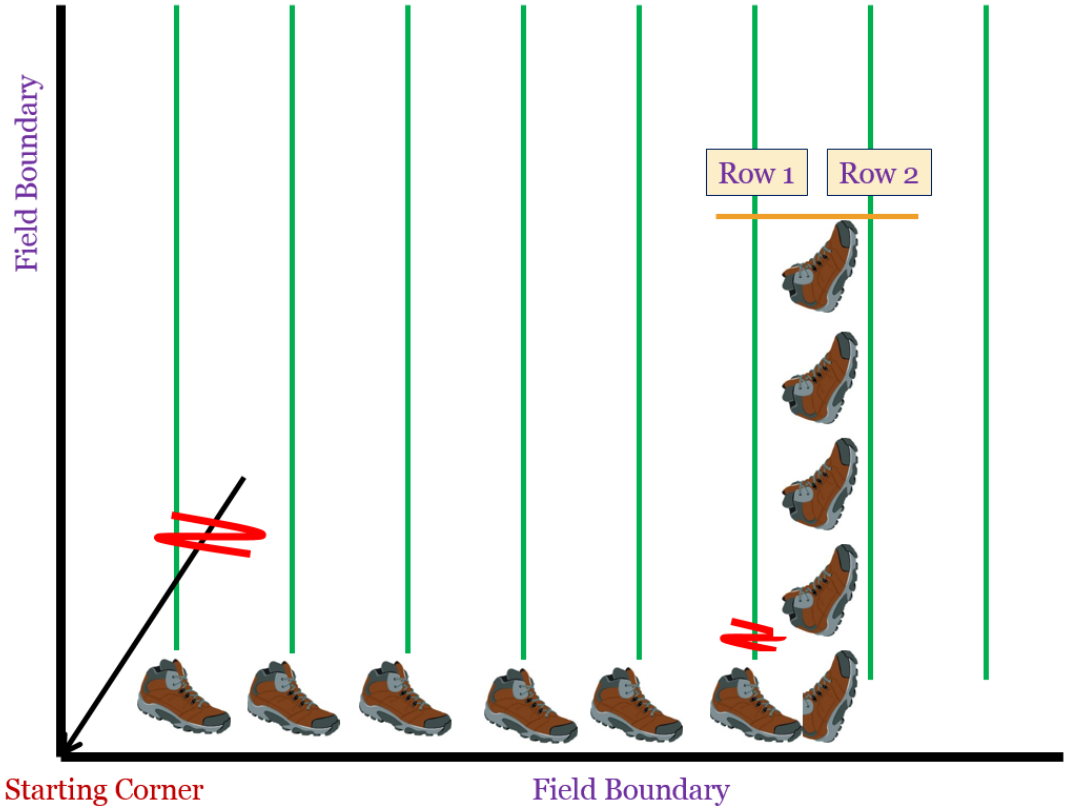
Corn Unit Location Row/Pace Counts

If Field =	< 10 Acres	10-19.9 Acres	20-39.9 Acres	>= 40 Acres
Unit 1				
Rows=	12	9	146	292
Paces=	30	39	141	8
Unit 2				
Rows=	42	39	176	322
Paces=	60	69	171	38

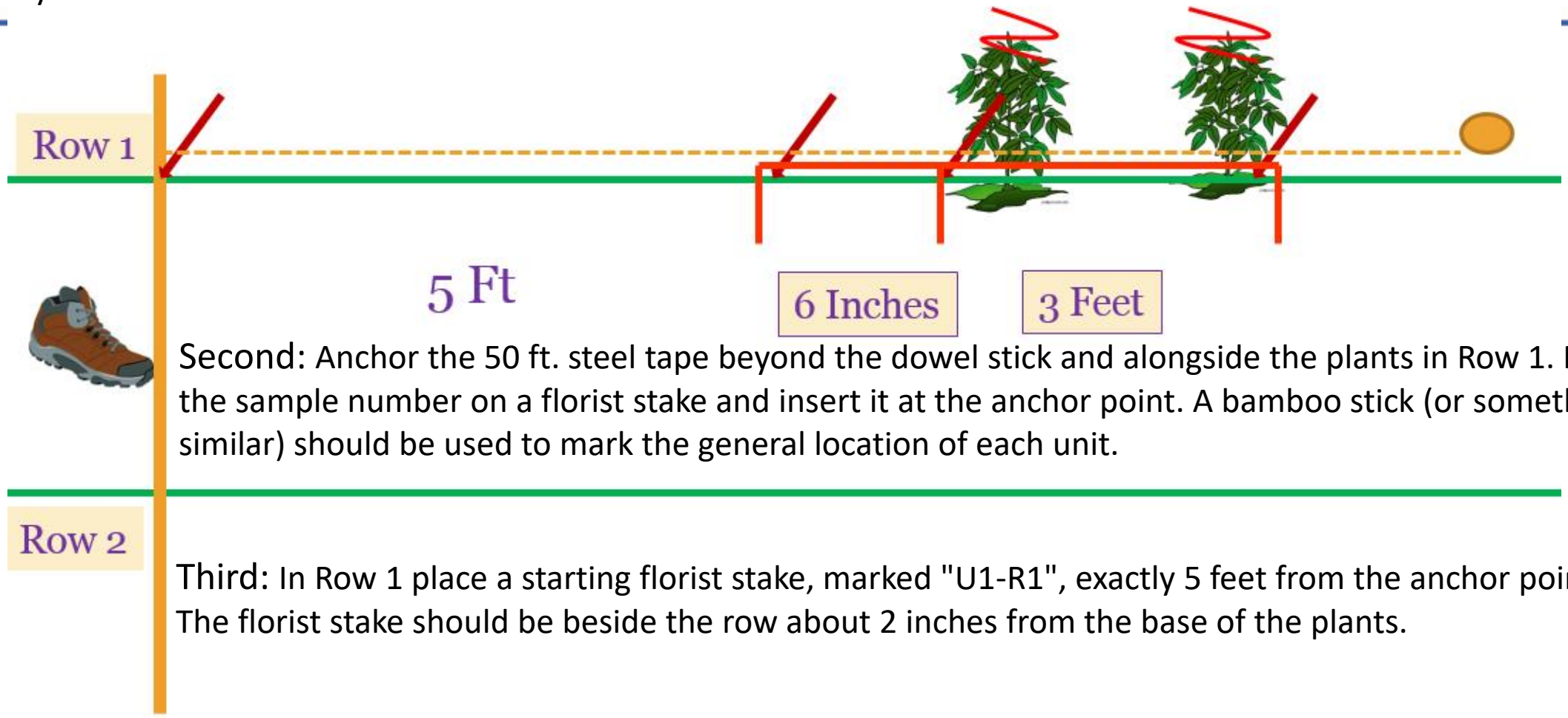
- Third, step out paces to find unit location
  - When stepping off, skip areas denoted as “Other Uses” in the Table A of Form A

Stepping Out Paces

- Remember:
  - Step off pace outside edge of field
  - You can substitute rows for paces
  - Excluded area deducted in Form A
    - Ex. Waterways, waste, etc.
  - Use bounce back technique if needed
    - Might happen more often this year



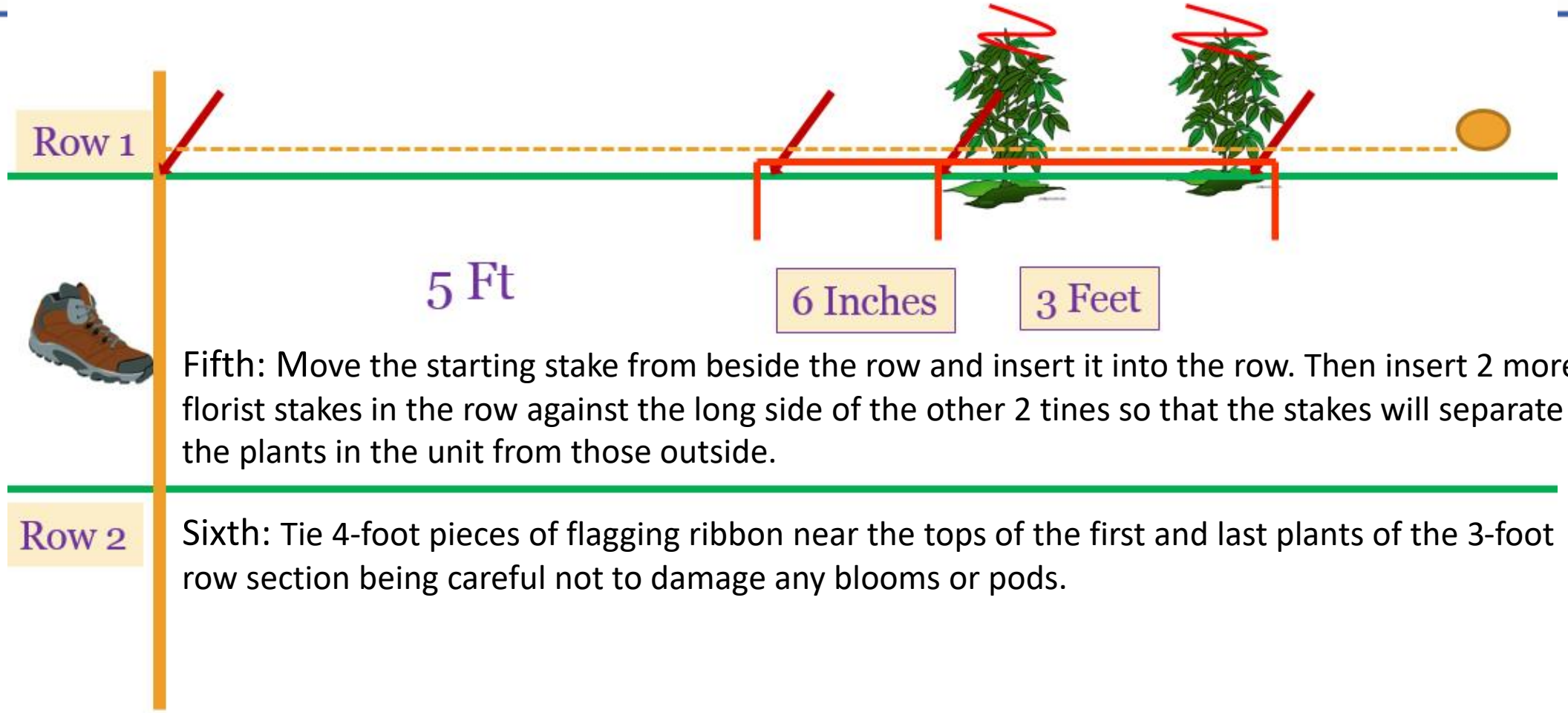
First: lay the dowel at toe of your shoe, across Row 1, and Row 2. Lay out Unit 1 in the direction of your travel.



Second: Anchor the 50 ft. steel tape beyond the dowel stick and alongside the plants in Row 1. Mark the sample number on a florist stake and insert it at the anchor point. A bamboo stick (or something similar) should be used to mark the general location of each unit.

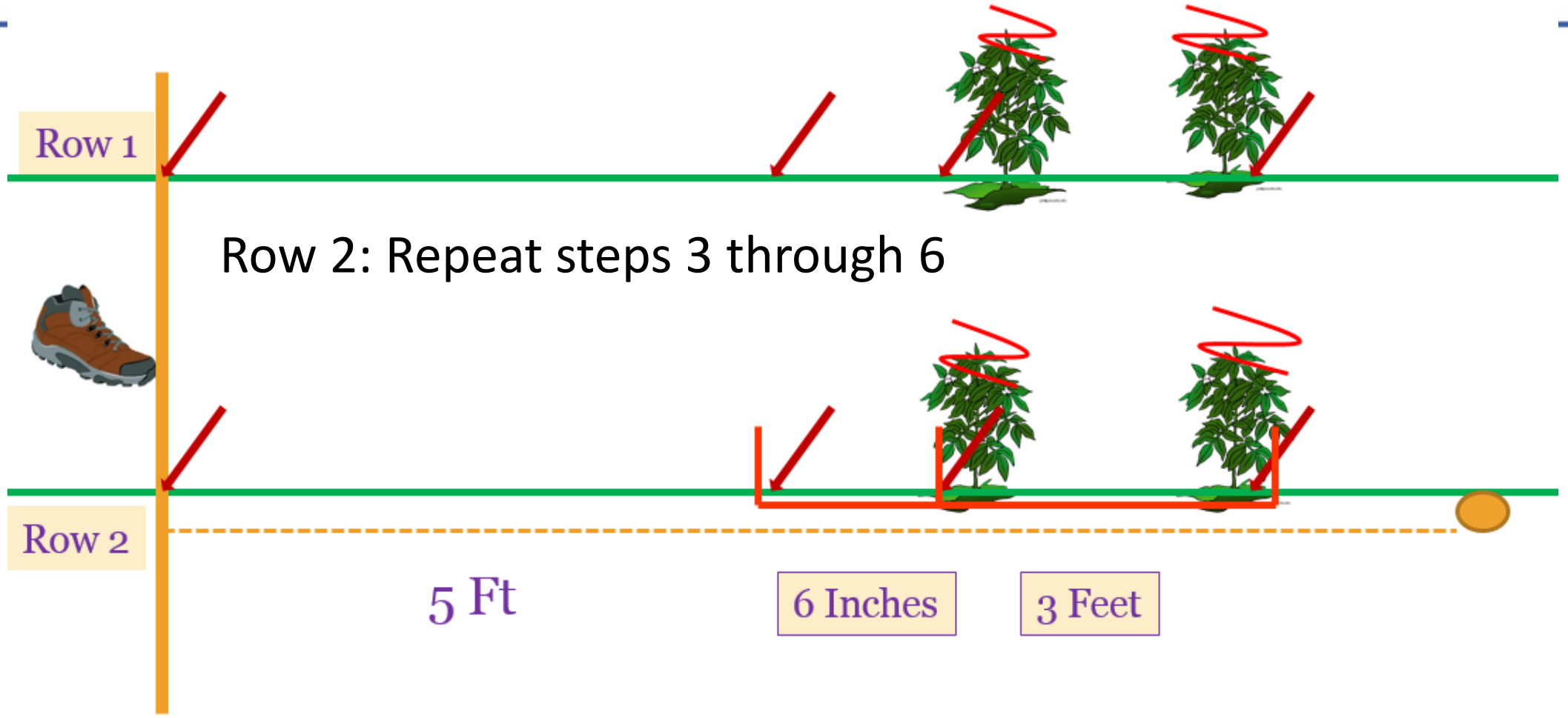
Third: In Row 1 place a starting florist stake, marked "U1-R1", exactly 5 feet from the anchor point. The florist stake should be beside the row about 2 inches from the base of the plants.

Fourth: Working from outside the unit, insert the soybean frame into Row 1 with the inside edge of the first tine of the double-tined end of the frame touching the florist stake just placed beside Row 1.



Fifth: Move the starting stake from beside the row and insert it into the row. Then insert 2 more florist stakes in the row against the long side of the other 2 tines so that the stakes will separate the plants in the unit from those outside.

Sixth: Tie 4-foot pieces of flagging ribbon near the tops of the first and last plants of the 3-foot row section being careful not to damage any blooms or pods.


Row 1
Row 2: Repeat steps 3 through 6
Row 2
5 Ft
6 Inches
3 Feet

Place A Red Plastic Tag Around The First And Last
Plant In Each Of The Six Inch Sections Of Row 1 And Row 2

Friendly Reminders

- Labeling Units: Remember to label your wooden stakes

  S-1 (Sample Number)

  U-1,R-1 (Unit 1, Row 1)
  U-2,R-1 (Unit 2, Row 1)
  U-1,R-2 (Unit 1, Row 2)
  U-2,R-2 (Unit 2, Row 2)

- Do NOT enter the unit

- Remember the 5’ buffer zone

- Utilize flagging ribbon/plant tags to make the units easy to identify for future months, and for your supervisor!

Fieldwork
Equipment & Supplies

The Satchel or Bucket

- Holds fieldwork supplies
- One per enumerator
- Guidance on items in satchel to follow.

50-foot tape measure

- Marked in feet and TENTHS of feet (as opposed to inches)
- Used to measure areas of the field that will be sampled.
- Anchored down by anchor pin

Other Tools

- First aid kit
- Clipboard
- Safety goggles
- Scale for weighing samples
- Anchor pin
- Marker

Sample Bundles

Soybean – yellow bag

1 – Roll of Flagging Ribbon

6 – Brown Paper Bags

18 – Red Stakes

2 – Green Tyvek Envelopes

8 – Rubber Bands

20 – Red Bean Tags

Gleaning Bundles

Soybean

2 – Brown Paper Bags

6 – Red Stakes

1 – Green Tyvek Envelope

4 – Rubber Bands

- *Gleanings are Every Fourth Sample

FORM B
Soybean Objective Yield Survey

United States Department of Agriculture
National Agricultural Statistics Service

Form B Procedures

- Record Form B data in the field on the paper form
- Enter data into CAPI when you are out of the field
- NEVER TAKE IPADS INTO THE FIELD

Soybean Form B

- Form B counts are used to forecast production estimates
- Layout ***ALL*** samples for September 1 survey period
  - Complete all samples each month
- 2 units for each sample

Use The Correct Month's Form & Fill In Date

FORM B SOYBEAN YIELD COUNTS - 2025

STEP 1: ↓ FILL OUT THIS LABEL ↓

2 9	1 0 9 7 2 9 7 3 0	0 0 1
STATE	POID	SAMPLE

(Circle Forecast Month)

Forecast Month: Sep 1 / Oct 1 / Nov 1 / Dec 1

OMB No.: 0535-0088
Approval Expires: 7/31/2026
Project Code: 104
Survey ID: 3224

United States Department of Agriculture

NATIONAL AGRICULTURAL STATISTICS SERVICE

Date: August 27

UNIT LOCATION	UNIT 1		UNIT 2
1. Number of rows along edge of field		+ 30	
2. Number of paces into field		+ 30	

Copy Rows & Paces from Unit Location Sheet

Soybean Unit Location Row/Pace Counts

If Field =	< 10 Acres	10-19.9 Acres	20-39.9 Acres	>= 40 Acres
Unit 1				
Rows=	2	40	87	101
Paces=	127	140	283	120
Unit 2				
Rows=	32	70	117	131
Paces=	157	170	313	150

UNIT LOCATION

		UNIT 1		UNIT 2
1.	Number of rows along edge of field.....	101	+ 30	131
2.	Number of paces into field.....	120	+ 30	150

3. Has operator applied pesticides with organophosphorus content to the sample field?

☐ Yes ☒ No

If YES, enter latest application date _____ and name of pesticide _____

4. UNIT LOCATION CODE.....

1 First visit to lay out unit
2 Unit relocated this month
3 Sample unit laid out previously

	UNIT 1	UNIT 2
Enter Code	350 **1**	351 **1**

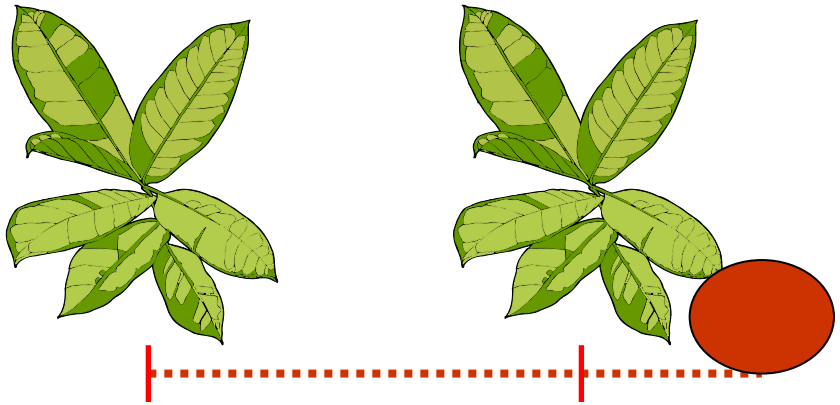
If code = 3, skip to Item 6

5. ROW SPACE MEASUREMENTS

		UNIT 1	UNIT 2
a. Measure distance from plants in Row 1 to plants in Row 2.....	Feet & Tenths	301 **2 .5**	303 **2 .5**
b. Measure distance from plants in Row 1 to plants in Row 5.....	Feet & Tenths	304 **10 .1**	305 **10 .0**

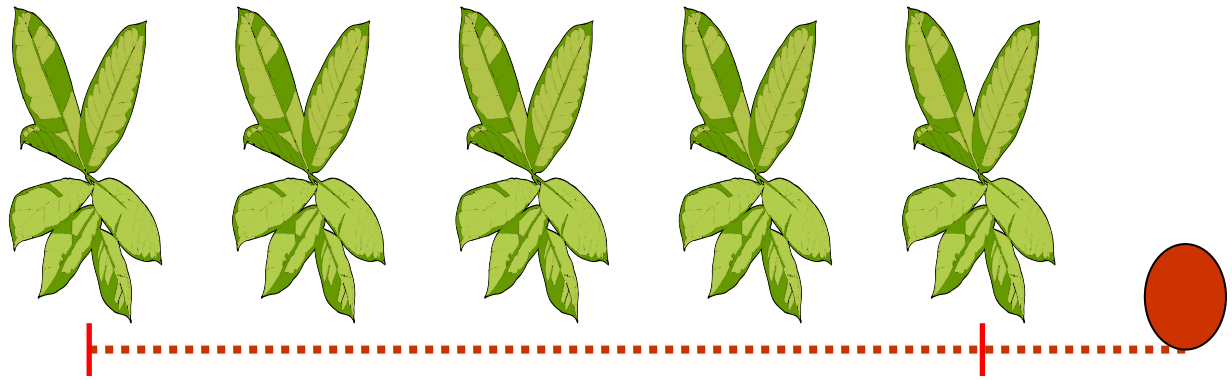
- Measurements of row spaces will be made on first visit and skipped on later visits (unless unit has been relocated)
- Record all distances in feet and tenths of feet, NOT feet and inches

1 Row Space Measurement
Record in Feet and Tenths of Feet



Measure From Center of Row 1 to Center of Row 2

5 Row Space Measurement
Record in Feet and Tenths of Feet

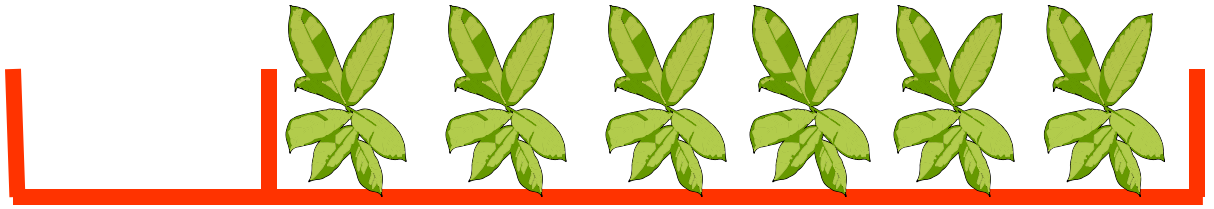


Measure From Center of Row 1 to Center of Row 5

Number of Plants – 3 Foot Area

OBSERVATIONS WITHIN 3-FOOT UNITS

	UNIT 1		UNIT 2	
	ROW 1	ROW 2	ROW 1	ROW 2
6. Number of plants in row.....	306 **20**	307 **17**	308 **25**	309 **24**



- Items 6 and 7 are to be determined each month for each unit
- Count and record the number of plants in each 3-foot row section

Stages of Maturity

7. Stage of maturity. Circle the Maturity Code for each unit.

When in doubt, classify the unit in the lower stage of maturity.

	Pods Set, Leaves Still Green or Earlier	Pods Filled, Leaves Turning Yellow	Pods Turning Color, Leaves Shedding	Pods Brown, Almost Mature or Mature
UNIT 1	300 **2**	300 **3**	300 **4**	300 **5**
UNIT 2	302 **2**	302 **3**	302 **4**	302 **5**
	For each unit in Stage 2, complete items 8, 9, 10, 11 and 12 only	For each unit in Stage 3 or 4, complete items 8 and 12 only.		For each unit in Stage 5, complete items 8, 12, 13, 14, 15 and 16 only

- Maturity of each unit is determined separately
- When in doubt, always go lower!
- Follow instructions for each Maturity Code

Make sure to answer questions 15 and 16 during final pre-harvest

Stage 2

Pods set, Leaves Still Green or Earlier

Stage 3

Pods Filled, Leaves Turning Yellow

Stage 4

Pods Turning Color, Leaves Shedding

Stage 5

Pods Brown, Almost Mature or Mature

Number of Plants – 6-inch Area

COUNTS for 6-INCH ROW SECTIONS (in front of 3-foot units)

If no plants are present, enter dashes (-) for items 8 thru 12. In each unit, complete all items for Row 1 before starting on Row 2. Perform the check after completing item 12.

	UNIT 1		UNIT 2	
	ROW 1	ROW 2	ROW 1	ROW 2
8. Number of plants	310 **3**	311 **2**	312 **4**	313 **4**

- All soybean plants in the 6-inch row section of each row are to be counted even though a plant may be dead or have no fruit of any kind
- On the initial visit, the first and last plants in the 6-inch row section are to be tagged with a red plastic tag attached near the bottom of the stalk

Number of Nodes

9. Number of nodes on main stem of plants	314	315	316	317

- Record the number of nodes on the main stem above the ground on all plants (including dead plants) in the 6-inch row section
- A node normally will be found about every two inches along the main stem
- Add one node for the growing tip unless it is in the ripening stages
- In a few rare cases the main stem may fork and form two main stems. If this happens treat them both as the main stem

Number of Lateral Branches

10. Number of lateral branches with blooms, dried flowers, or pods

318	319	320	321

- These can be a challenge to identify correctly!
- Branches which bear blooms are called lateral branches
- A lateral branches will have at least one node
- The growing tip is not a lateral branch and should not be counted
- If more than **4** lateral branches per plant are counted, make sure leaves are not mistaken as lateral branches

Fruiting Stalk vs. Lateral Branch with Fruit

- **Fruiting Stalk**
  - Grow from a node on the main stem
  - Usually 1 to 3 inches long
  - They do not contain nodes or support leaves
  - Only contain flower buds, flowers, or pods
  - **NOT** counted as a lateral branch

Fruiting Stalk vs. Lateral Branch with Fruit

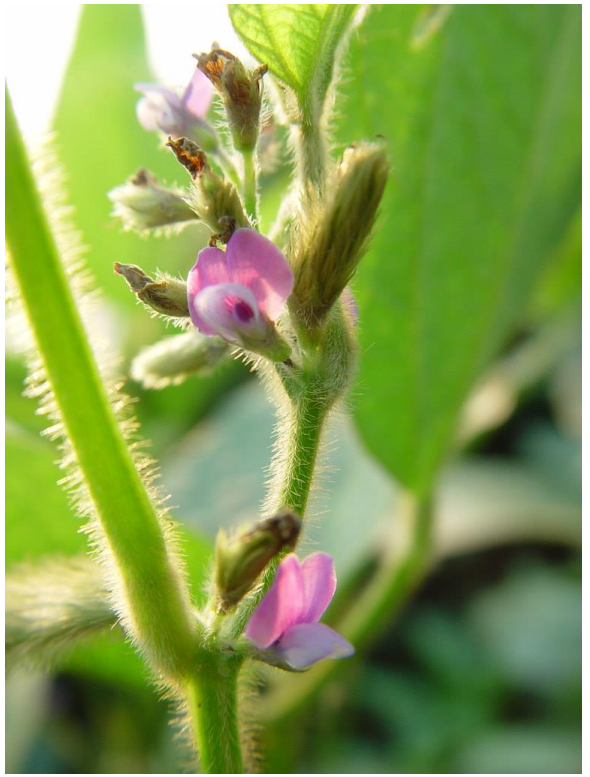
- **Lateral Branch**
  - Has nodes
  - May be several inches long or as short as a fruiting stalk
  - Contains one or more leaves or scar where leave was attached
  - Has blooms, dried flowers, or pods

Blooms, Dried Flowers & Pods

11. Number of blooms, dried flowers, and pods

326	327	328	329

- Consider blooms as any buds which have the white or purple petals of the flower showing
- Counts of blooms, dried flowers and pods on lateral branches and on main stems are combined for this item



Number of Pods with Beans

12. Number of pods with beans (include all pods in which beans have begun to form regardless of size or condition of beans)	346	347	348	349

FOR ANY ROW, if item 12 is greater than item 11, recount 11 and 12.

- Count and record the number of pods in which one or more beans are forming
- Do not include pods with no noticeable beans in the pod

Mature – Final Pre-Harvest

STAGE 5 MATURITY OR FARMER HARVEST WITHIN 3 DAYS

13. When MATURITY is in Stage 5 Only:
    - Harvest all pods (all sizes with or without beans) from all plants in the 3-foot section of Row 1 for each unit in Stage 5. **NOTE**: Special care should be taken so that pods are not damaged to ensure an accurate count of pods at the National Lab.
    - Pick up all beans and loose pods in Row 1 middle
    - Deposit the pods and beans from each unit in separate paper bags.
    - Always complete and SHIP TWO ID TAGS even if ONE UNIT is not mature enough or has no pods
    - Attach ID tags and ship soybeans to the National Lab.

- If there is any doubt if the unit is in maturity stage 5 then code it stage 4 and don't harvest
- If the farmer plans to harvest within 3 days, harvest regardless of maturity stage and code as stage 5 to complete final pre-harvest

Mature – Final Pre-Harvest

STAGE 5 MATURITY OR FARMER HARVEST WITHIN 3 DAYS

13. When MATURITY is in Stage 5 Only:
    - Harvest all pods (all sizes with or without beans) from all plants in the 3-foot section of Row 1 for each unit in Stage 5. **NOTE**: Special care should be taken so that pods are not damaged to ensure an accurate count of pods at the National Lab.
    - Pick up all beans and loose pods in Row 1 middle
    - Deposit the pods and beans from each unit in separate paper bags.
    - Always complete and SHIP TWO ID TAGS even if ONE UNIT is not mature enough or has no pods
    - Attach ID tags and ship soybeans to the National Lab.

Continued…..

- If only one unit is classified in maturity stage 5 then harvest all pods from all plants in Row 1 of the 3-foot section for the stage 5 unit only. You still must complete an ID tag for both units. Enter the reason why no pods were harvested on the second ID tag.

Developed and Undeveloped Pods

*New questions for 2024 – Page 512 in Interviewer's Manual

14. Unit used (Always use pods from Unit 1, if possible).....	Unit Code	352
15. Number of pods with developed beans (Developed beans are at least 50% of the mass of normal beans in that field. Generally, they are thicker than a nickel.).....	Number	353
16. Number of pods with undeveloped beans.....	Number	354

- NOTE: Special care should be taken so that pods are not damaged to ensure an accurate count of pods at the National Lab

- **Developed pod** is defined as a pod containing beans whose mass is at least 50% of the mass of normal beans in that sample field. Such beans normally will be thicker than a nickel.
- **Undeveloped pod** is defined as a pod with beans less than 50 percent of the mass of normal beans.

Developed Pods vs. Undeveloped Pods

Developed Pods

Undeveloped Pods

Developed Pods

- A pod with both developed and undeveloped beans should be counted as developed.
- Any pods which were shelled out before reaching the lab are counted as pods with developed beans.
- When in doubt, assume the pod has developed beans.

Split Pods

- Split pods, two halves make one whole
- Do not count a split pod as 1 pod

Aborted Pods

- **Aborted pod** is a very small pod where fertilization did not occur, and no beans ever began to develop. These pods usually fall from the plant early in the season. However, some may remain in a cluster of normal pods on a plant.
- The aborted pods are <u>not</u> to be included in any counts or measurements.

Tips for Counting Pods

- Lab recommends not working at the kitchen table.
- Set up workspace in a well-ventilated area, open window, or use a fan. Wear a facemask, if needed.
- Keep pods together, if possible.
- Watch out for pets and bugs
- After counting, wash your hands!

UPS Tracking Number

ENUMERATOR COMMENTS: _____

ENUMERATOR: _____

19. Did a supervisor assist you in working a sample? 1 ☐ Yes 3 ☐ No

UPS Tracking Number: 1Z17A32W0391900645

(For samples sent to National Laboratory)

Enumerator Number	390	46888
Supervisor Number	391	46999
Evaluation	393	
STATUS CODE	380	4

Friendly Reminders

- Fill out the all Form B labels for the sample, circle the forecast month Record counts on the appropriate month Form B.
- Remember to never take iPad into a field
- Unit location code 3 is used when the sample unit was laid out **and** counted previously
- Only record row space measurements at first layout or when units were relocated
- When in doubt about maturity stage, always go lower
- The counts for the 6-inch section is on the back page, do not confuse number of plants with 3-foot section plants
- There cannot be more lateral branches than nodes and pods with beans must be less than the total number of blooms, dried flowers, and pods
- Always complete and ship **TWO ID Tags** when maturity is stage 5 even if one unit isn't mature
- When in doubt, assume the pod has developed beans.
- If Maturity Code equals 5, the Status Code needs to equal 4

CAPI

Objective Yield Data Entry on the iPad

United States Department of Agriculture
National Agricultural Statistics Service

CAPI: OY Assignment Listing

Survey Date
(will change each month)

	INF	CMT	MAP	ST	CTY	POID	Tra	Sub	OP DOM	SEQ. NUM	DCMS	Name
FORM B COTTON YIELD COUNTS 2023-08-01 (108)												
☐	ⓘ		📍	48	383	10108734**0***	1	1	0	598	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	10108734**0***	1	2	0	599	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	10108734**0***	1	3	0	600	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	10108734**0***	1	4	0	601	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	10108734**0***	1	5	0	602	240	*DOE FARMS INC JOHN DOE*

*** = Multi-Sample Operation**

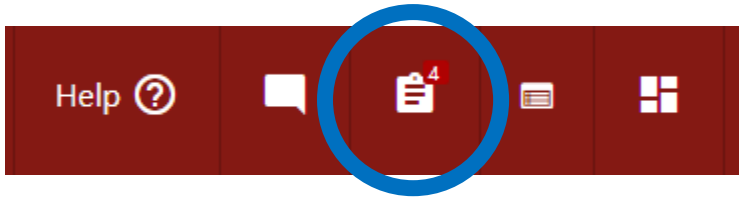
SEQ. NUM = Sample #

CAPI: Multi-Sampled Operations

	INF	CMT	MAP	ST	CTY	POID	Tra	Sub	OP DOM	SEQ. NUM	DCMS	Name
FORM B COTTON YIELD COUNTS 2023-08-01 (108)												
☐	ⓘ		📍	48	383	101087340*	1	1	0	598	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	101087340*	1	2	0	599	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	101087340*	1	3	0	600	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	101087340*	1	4	0	601	240	*DOE FARMS INC JOHN DOE*
☐	ⓘ		📍	48	383	101087340*	1	5	0	602	240	*DOE FARMS INC JOHN DOE*

***Pay close attention to Sequence Number = Sample Number**

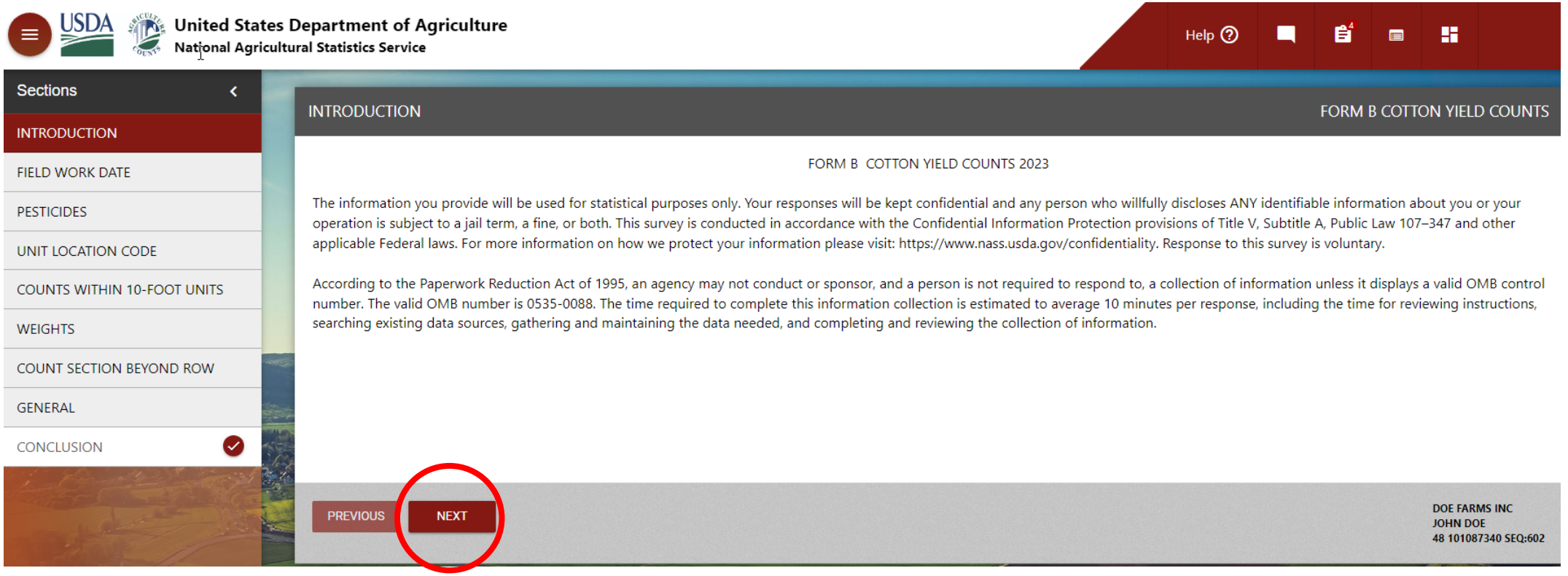
Tapping on the POID, then tapping on clipboard icon shows count of additional samples



Survey Title	Seq.	OP DOM	Poid	Status	
FORM B COTTON YIELD COUNTS	599	0	101087340		▶
FORM B COTTON YIELD COUNTS	600	0	101087340		▶
FORM B COTTON YIELD COUNTS	601	0	101087340	Enum Started - INTRODUCTION	▶
FORM B COTTON YIELD COUNTS	602	0	101087340	Enum Started - INTRODUCTION	▶

CAPI: Data Entry

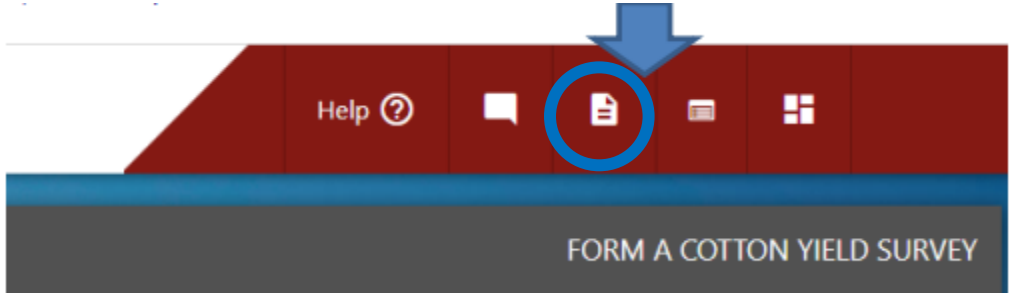
- Always use “NEXT” button to navigate.
- Do NOT use side menu for OY data entry

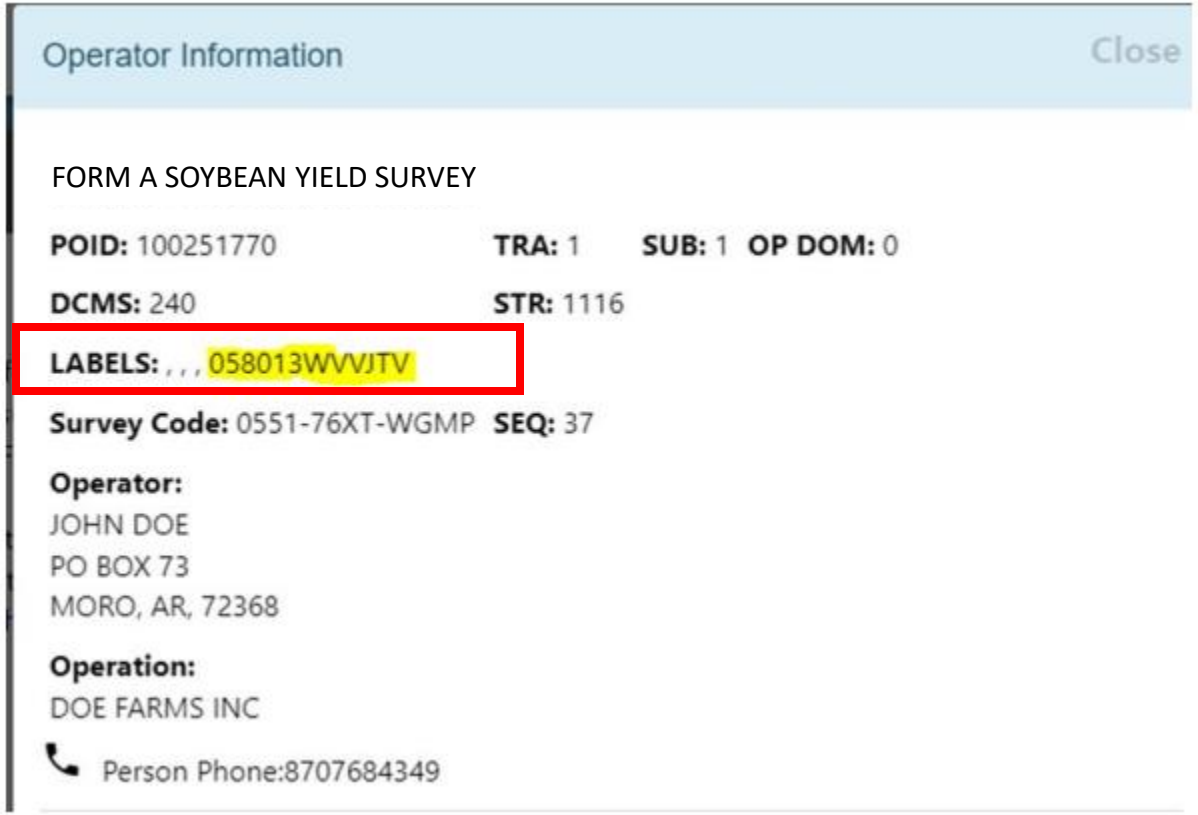


CAPI: Segment Map Code

- Segment map code can be accessed in CAPI for the respondent to view the map on agcounts.usda.gov

Operator Information Icon





CAPI: Form A

- Form A available for data entry on CAPI

- Form A interview should be conducted on paper then the data keyed into CAPI after the interview has been completed
- CAPI Form A is extremely trimmed down to only capture the data with item codes
  - Field selection table (Table A) is <u>not</u> available in CAPI

CAPI: Edits

- CAPI uses the Survey Designer to apply edits to prevent submission without key required items being completed

  - Missing Field Work Date / Status Code hard stop
  - Missing Sample Field Acres hard stop
  - Missing Planting Date hard stop
  - Enumerator ID/ Supervisor ID hard stop
  - Unit Location Code / Row Space Measurement locks
  - Maturity Code based calculations or data entry limitations

CAPI: Form A

- Status Code – Hard Stop (required)
- Questionnaire routing is based on status code selected
- Form A Status Codes

  1 = Complete

  7 = Refusal

  11 = Sample Field Planted to Soybeans but Not For Harvest as Beans

  13 = No soybeans Planted For ANY Purpose in the Tract

CAPI: Form B

- Form B available for data entry on CAPI

- **Never take iPad into fields**

  - Complete fieldwork on paper, then key on iPad and submit to office same day data is entered

  - Enter data into CAPI while at field to review work and save a trip in case of data errors **(OR)**
  - Enter data into CAPI when safely at home, organized and cooler

CAPI: Form B

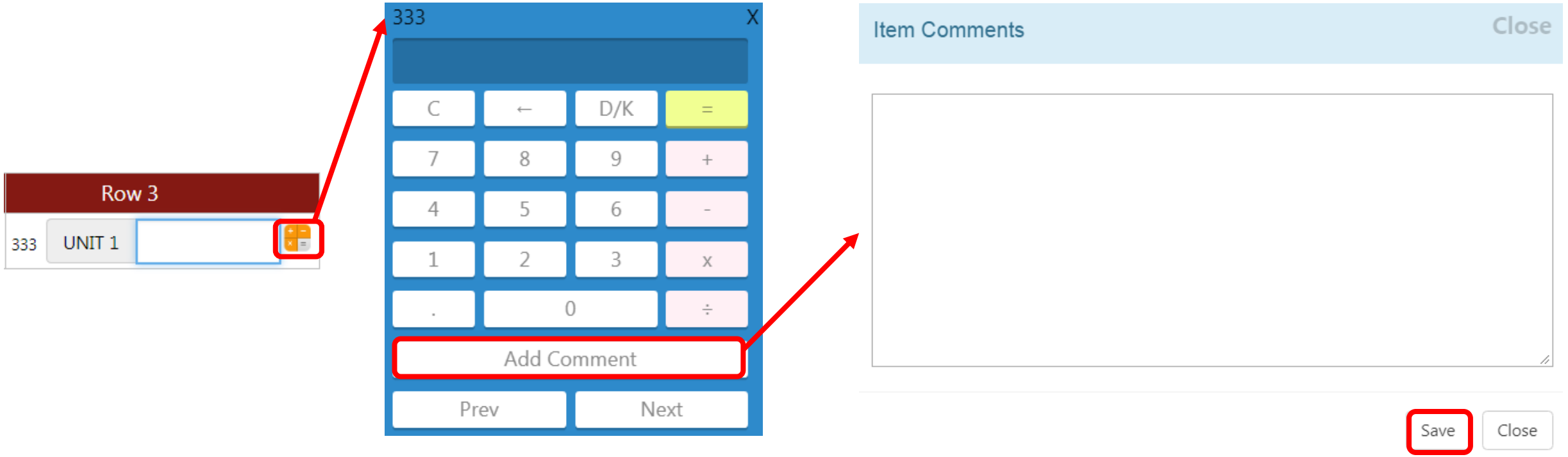
- CAPI for Form B will be available from the first day of data collection through the second day of the following the month
  - Form B must be completed in CAPI during the official survey period
  - Final Pre-Harvest Form B that is completed outside the official survey period must be held until the survey period opens, then submitted in CAPI.

SOY Form B Status Codes

1. Complete
2. Farmer Harvested for Beans Before Units Laid Out
3. Farmer Harvested for Beans After Units Laid Out
4. Enumerator Harvested Sample Unit
6. Lost Sample – Field **NOT** Harvested for Beans
7. Refusal
8. Inaccessible
10. Unit Harvested Earlier
11. Sample Field Planted to Soybeans but Not For Harvest as Beans
13. No Soybeans Planted for Harvest as Beans in the Tract

CAPI: Comments

- Item Code Level Comments



CAPI: UPS Tracking Number

13. Did a supervisor assist you in working this sample? ☐ YES ☐ NO

ENUMERATOR: _____

UPS Tracking Number: 1Z0721AW8495698434

(For samples sent to National Laboratory)

Enumerator Number	390
Supervisor Number	391
Evaluation	393

ENUMERATOR

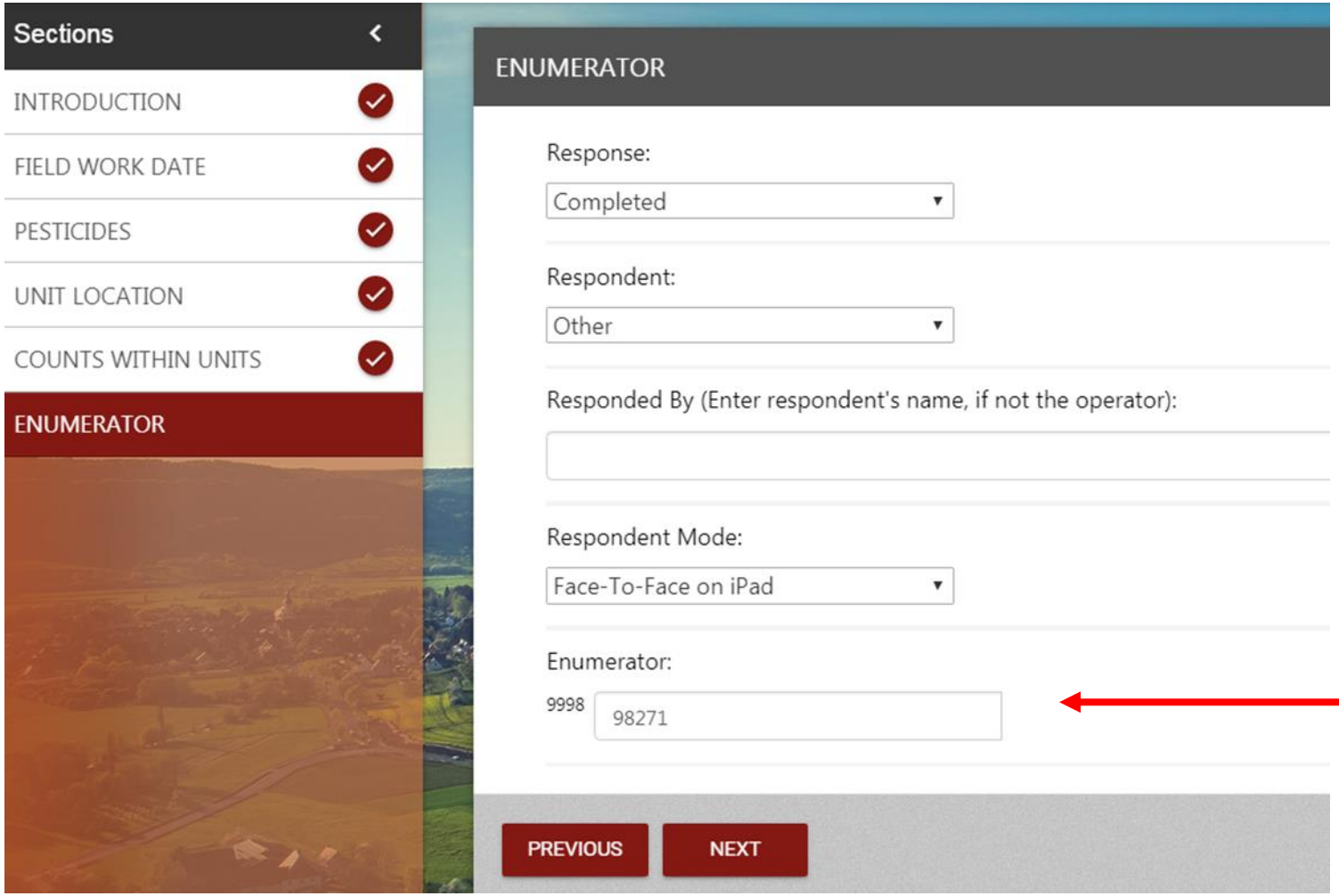
Did a supervisor assist you in working this sample?

○ Yes ○ No

Enumerator Number	Supervisor Number	Evalutation

UPS Tracking Number:	

CAPI: Response Coding



Coding:
Response: **Completed**
Respondent: **Other**
Mode: **Face-To-Face on iPad**

Enumerator ID is autocoded

FORM E - Gleaning

Soybean Objective Yield

United States Department of Agriculture
National Agricultural Statistics Service

Form E - Gleaning

- What?
  - Form E needs to be turned in regardless, even if gleaning opportunity was lost
- Why?
  - Used to collect information to determine harvest loss so net yield can be determined
- When?
  - Must be completed within 3 days after harvest
- Where?
  - 5 rows and paces from original unit (use row/pace label)
  - If the sample field has been tilled or grazed, rain or snow, an alternative field must be used
- Who?
  - Every 4th sample has been selected
  - Gleanings specified on paper Form A and CAPI Assignment Listing
  - Complete this form even if the final Form B could not be completed

Soybean Gleanings

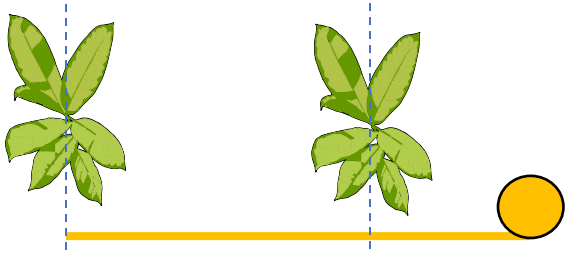
- Find the rows and paces from the chart on the kit envelope. They will be based on the size of the sample field.
- All units are located 5 rows and paces past the original unit. This is accounted for in questions 1-2.

UNIT LOCATION	UNIT 1	UNIT 2
1. Number of rows along edge of field.....	+ 5	+ 5
2. Number of paces into field.....	+ 5	+ 5

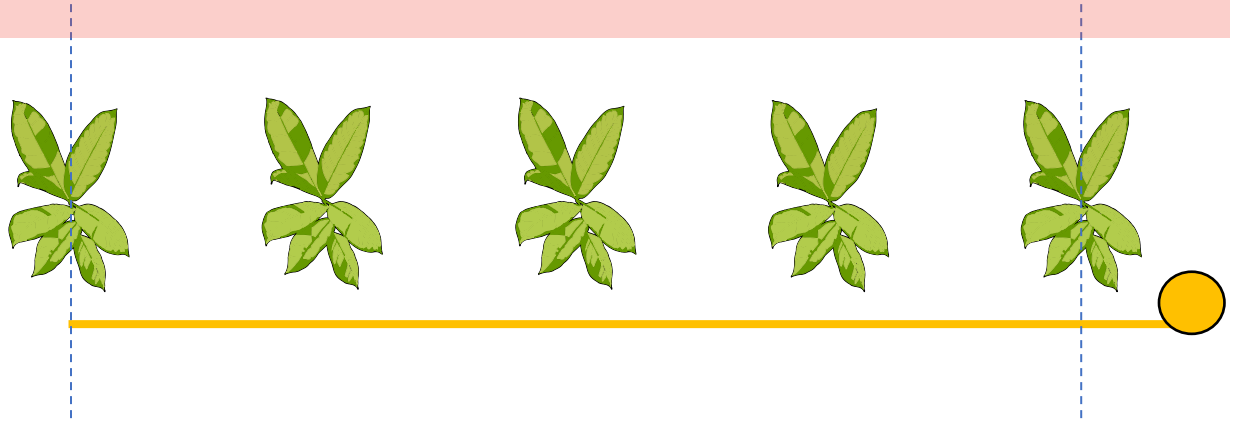
Row Space Measurements

FIELD OBSERVATIONS

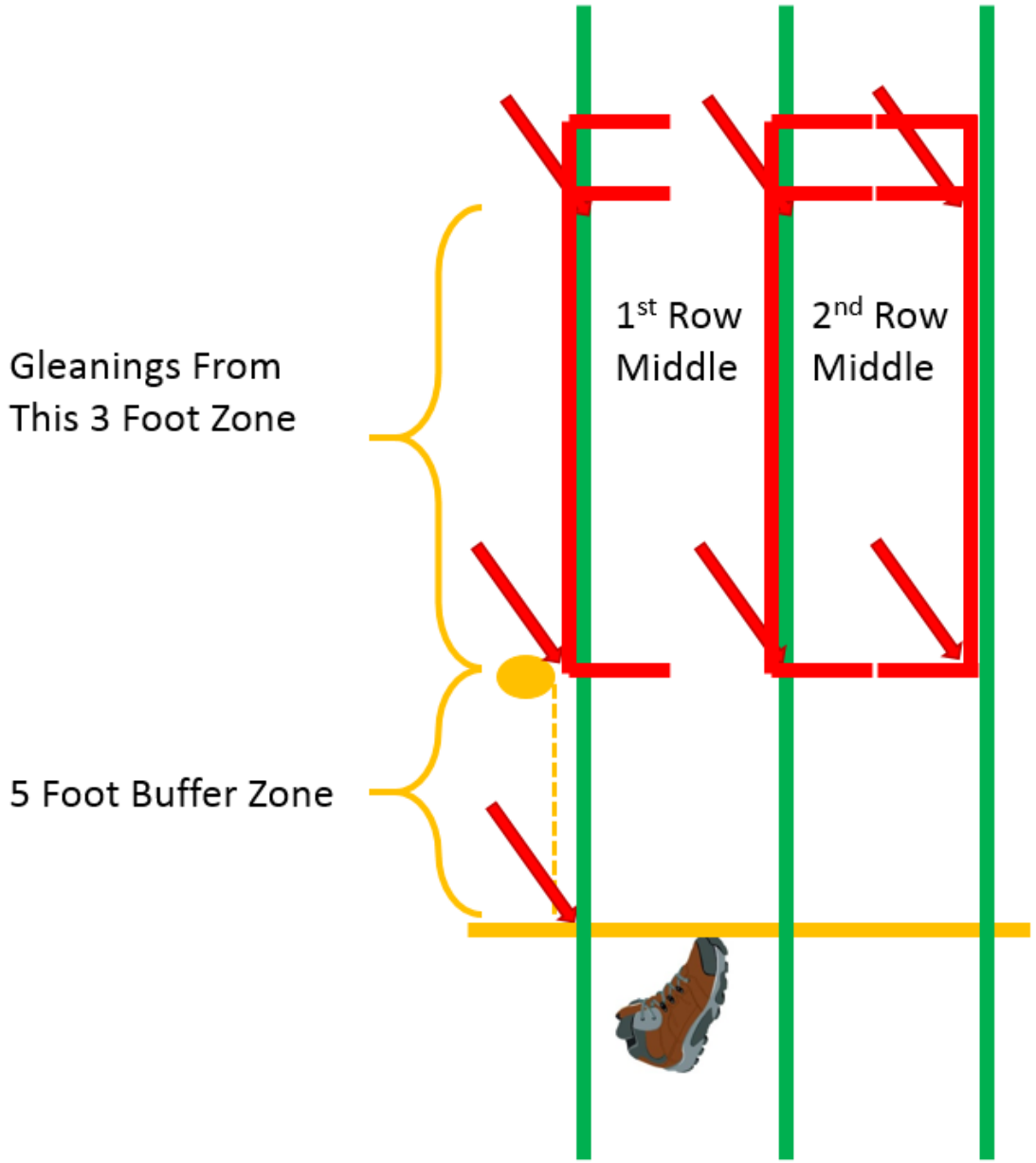
		UNIT 1	UNIT 2
3. Measure distance from plants in Row 1 to plants in Row 2.....	Feet and Tenths	701 2.5	702 2.6
4. Measure distance from plants in Row 1 to plants in Row 5.....	Feet and Tenths	703 10.0	704 10.2



Measure the distance from the center of Row 1 to the center of Row 2

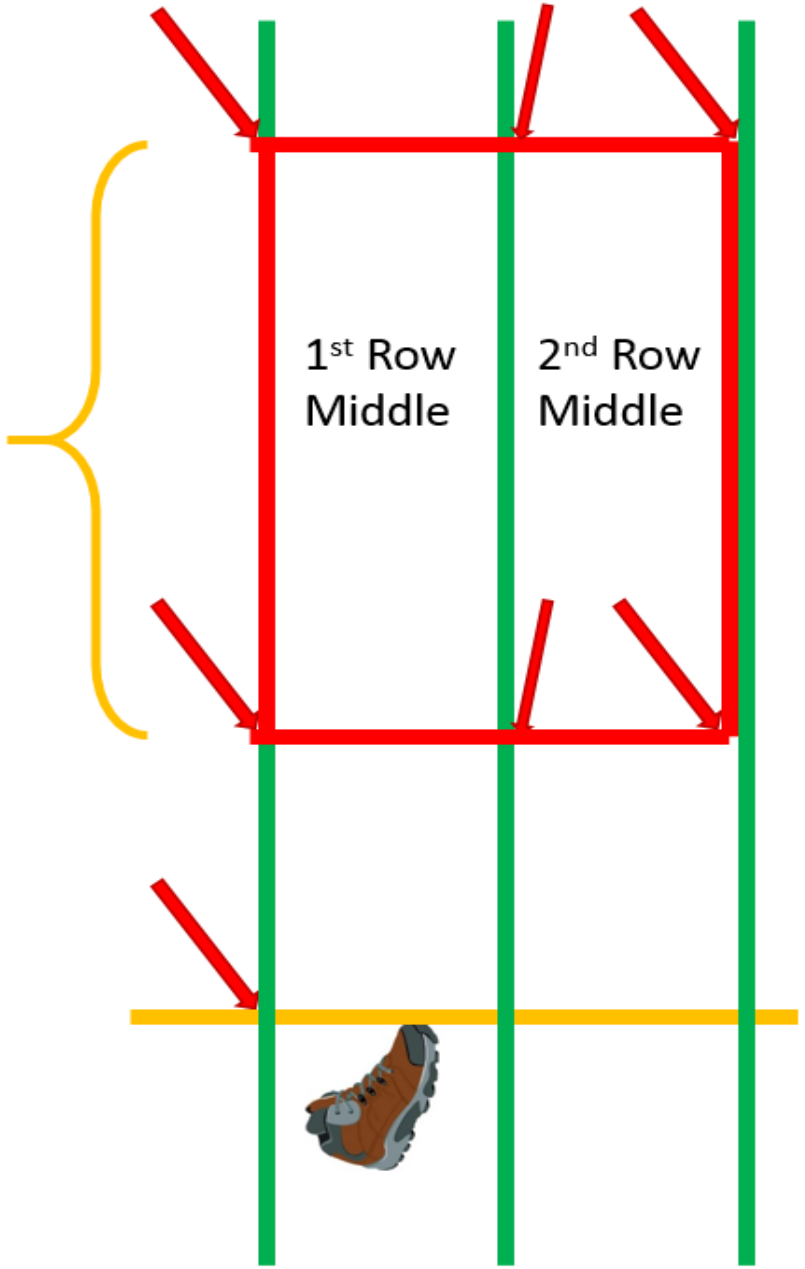


Measure the distance from the center of Row 1 to the center of Row 5


Gleanings From
This 3 Foot Zone
5 Foot Buffer Zone
1st Row
Middle
2nd Row
Middle

"Hug" The Unit

Gleanings From This 3 Foot Zone



Pick up all Pods and Parts
Of pods and loose Beans
And parts of Beans
from Both Row Middles
Put in same paper bag.

GLEANINGS IN 3-FOOT UNITS

Put all pods from both units and all whole beans and pieces from both units in the same paper bag

5. Pick all pods with beans attached to plants, and loose pods with beans in each row middle and deposit in a paper bag .....

6. Pick up all whole beans and pieces of beans in each row middle and deposit in the same paper bag used for above item..

CHECK EACH BOX AS COMPLETED

	UNIT 1		UNIT 2	
	ROW 1	ROW 2	ROW 1	ROW 2
Check	☒	☒	☒	☒
Check	☒	☐	☒	☐

7. Was an alternate field used for making post-harvest observations?

☐ Yes - (Indicate in Field Notes) ☒ No

FIELD NOTES: If post-harvest observations cannot be made, given reasons here.

_____

_____

8. Did a supervisor assist you in working this sample? ☐ Yes ☒ No

ENUMERATOR:_____

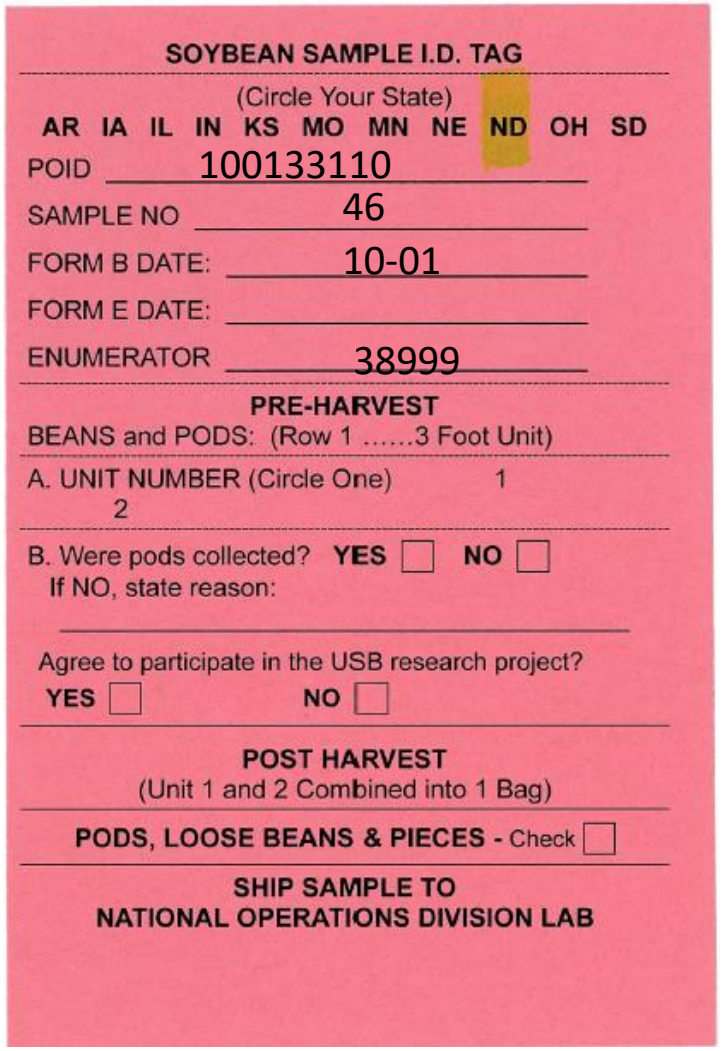
Enumerator Number	790	31999
Supervisor Number	791	31888

SHIPPING INSTRUCTIONS:

- Attach completed ID tag to the paper bag(s) containing gleanings.
- Place bag(s) and this Form E in a Tyvek envelope.
- Ship Tyvek envelope to the National Lab.

Sample ID Tag & UPS Shipping to National Lab

Sample ID Tags – Soybean OY



SOYBEAN SAMPLE I.D. TAG

(Circle Your State)

AR IA IL IN KS MO MN NE ND OH SD

POID 100133110

SAMPLE NO 46

FORM B DATE: 10-01

FORM E DATE:

ENUMERATOR 38999

PRE-HARVEST

BEANS and PODS: (Row 1 ……3 Foot Unit)

A. UNIT NUMBER (Circle One) 1

2

B. Were pods collected? YES ☐ NO ☐

If NO, state reason:

Agree to participate in the USB research project?

YES ☐ NO ☐

POST HARVEST

(Unit 1 and 2 Combined into 1 Bag)

PODS, LOOSE BEANS & PIECES - Check ☐

SHIP SAMPLE TO

NATIONAL OPERATIONS DIVISION LAB

- Soybean Sample ID Tags are pink
- State will be pre-marked
- Remember to fill out
  - POID
  - Sample Number
  - Form B Date
  - Form E Date
  - Enumerator

UPS Shipping to National Lab

- Blue stripe UPS labels will be used to ship grain to National Lab in St. Louis, MO
- Blue stripe UPS labels are not crop specific
  - Any blue stripe label can be used to UPS to National Lab
- Please do not ship grain to Lincoln!
- See workshop booklet “UPS Shipping Procedures”

Soybean OY – Harvest Sample

Soybean OY – Gleaning Sample

- Remove as much debris as possible
- Check Gleanings box on ID Card
- Paper Form E must go to St. Louis
  - No CAPI Form E
  - Do not send to Lincoln

Preferred Packaging - Soybean OY

- Use green Tyvek envelope for soybeans
- Attach blue UPS label to send to National Lab

Preferred Packaging - Soybean OY

- **NO** Staples
- **NO** Duct Tape
- **NO** Wrapping of any sort

- One strip of packing tape is sufficient over seal if needed.

Data Collection Procedures & Due Dates

Forms Management

- No forms will be shipped to NASS regional offices
- Enter all Form A and Form B data in CAPI
  - Completes
  - Inaccessibles (Form B only)
  - Refusals
  - See IM for complete listing Form B Status Codes
- Hold Form A and Form B copies until the end of the survey
- Forms may be destroyed after December 13

Forms Management

- Form A
  - Can start after workshop, set up units before data collection
- Form B
  - Remember to take row space measurements if units set up early
  - Enumerator harvest can occur outside field work dates
  - If enumerator harvest occurs outside field work dates, save forms to enter when CAPI opens
- Form E
  - Within three days after farmer harvest
  - Alternate field from same tract may be selected if disked, grazed, etc.

Shipping to the Lab

- Shipping to St. Louis
  - Bean samples
  - Gleaning samples and Form E
- UPS Shipping
  - (3) UPS 2-Day Labels per sample
    - Use when shipping Beans BEFORE the 1st
  - (2) UPS Next-Day Labels per sample
    - Use when Shipping Beans ON or AFTER the 1st
- Please contact your coach if more supplies are needed

2025 Survey Dates

SURVEY DATE	FIELD WORK BEGINS	FIELD WORK ENDS	FORMS TO BE COMPLETED	LAST DAY TO UPS AND ENTER FORM B IN CAPI
September 1	August 25	September 1	All Form A & B	September 2
October 1	September 24	October 1	All Form B	October 2
November 1	October 25	November 1	All Form B	November 2
After November 1	Just Prior to Final Harvest	December 10	All Form B	
Post-Harvest Gleaning	Within 3 Days After Harvest		Form E (Every 4th Sample)	