

# Corn Objective Yield



Form B

# Agenda

- Form-B
  - Pesticide Use
  - Overview of plot layout
  - Unit Location Code
    - Row Space Measurements
  - Twin Rows
  - Maturity Codes & “Area Beyond Unit”
  - Kernel row Length and diameter measurements
    - Positioning and reading caliper
  - Dent Stage Harvest
  - Unit Stalk Counts & Volunteers

# Pesticide Use

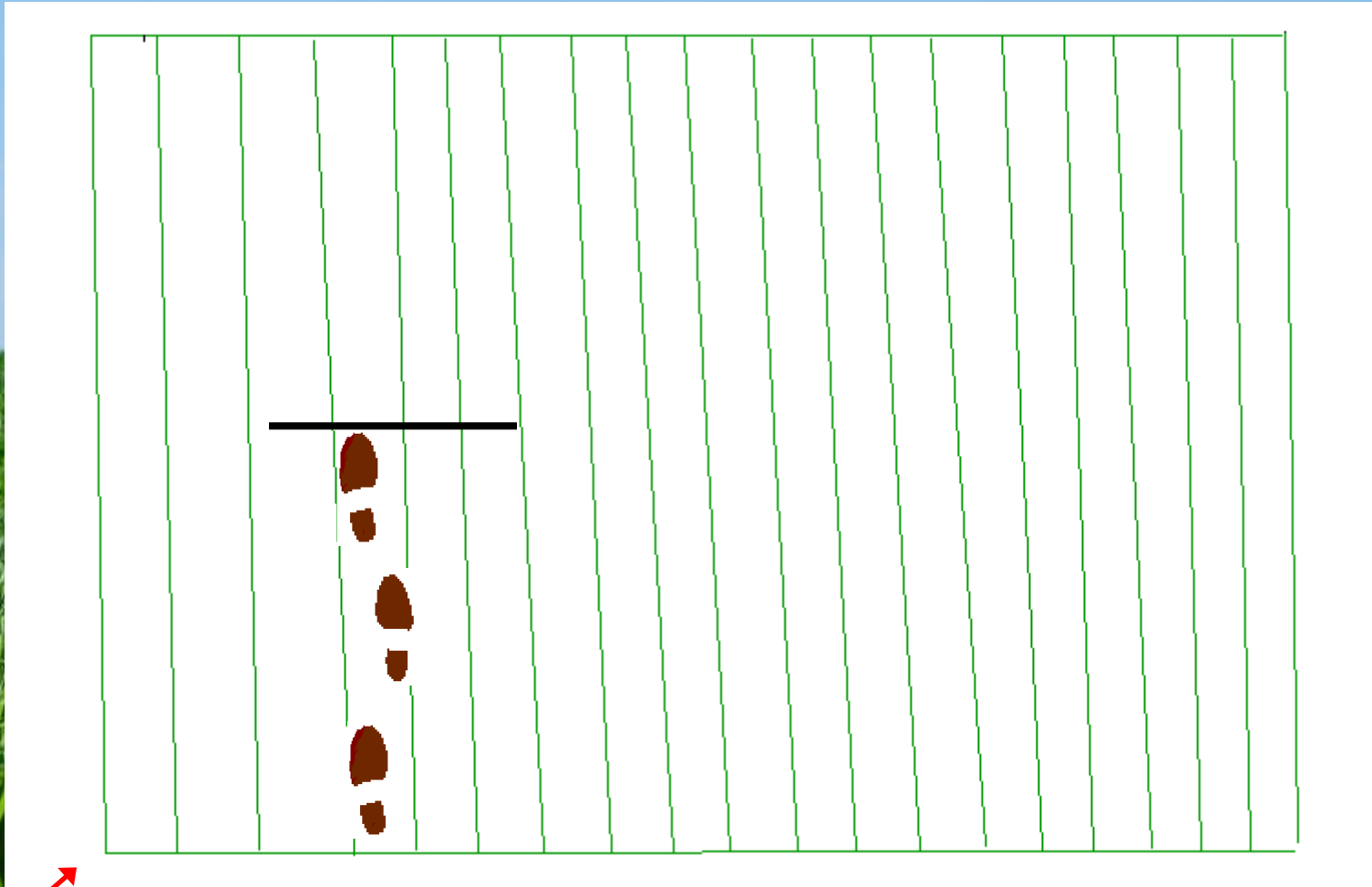
3. Has operator applied pesticides with organophosphorus content to the sample field?

 Yes No

If YES, enter latest application date \_\_\_\_\_ and name of pesticide \_\_\_\_\_

- Organophosphorous pesticides listed in the interviewer's manual
- Field re-entry interval is three days for organophosphorus pesticides
- See the Interviewer's manual for symptoms of pesticide poisoning.

After you have taken your last pace into the field you place your dowel rod or yard stick across the rows.



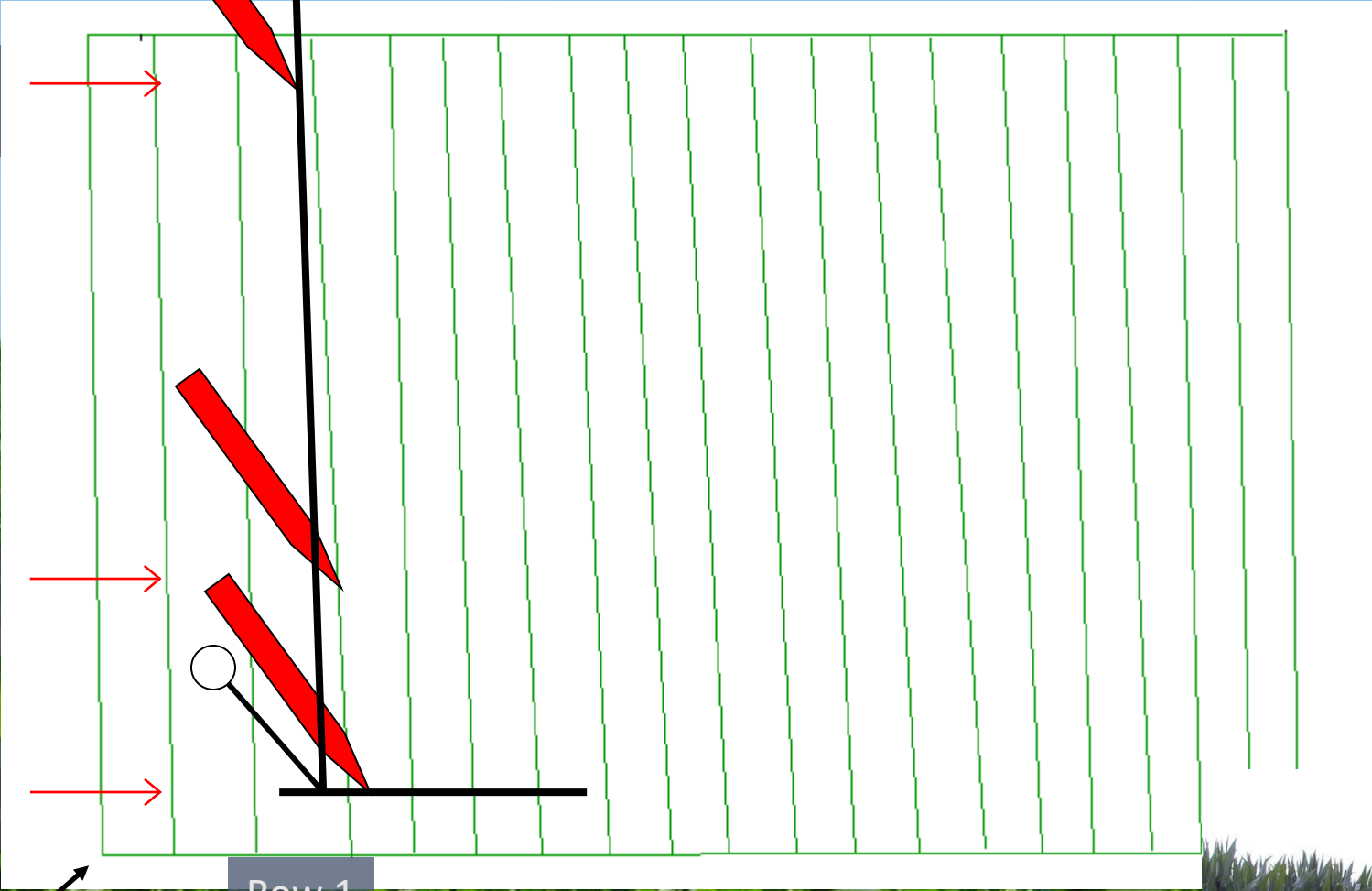
Starting corner

- Insert your red stake at the start of the buffer zone.
- Use your anchor pin and 50 ft. tape to measure 5 ft. and place your next stake.
- Measure another 15 ft. (so 20 ft. total) and place your last stake.

20

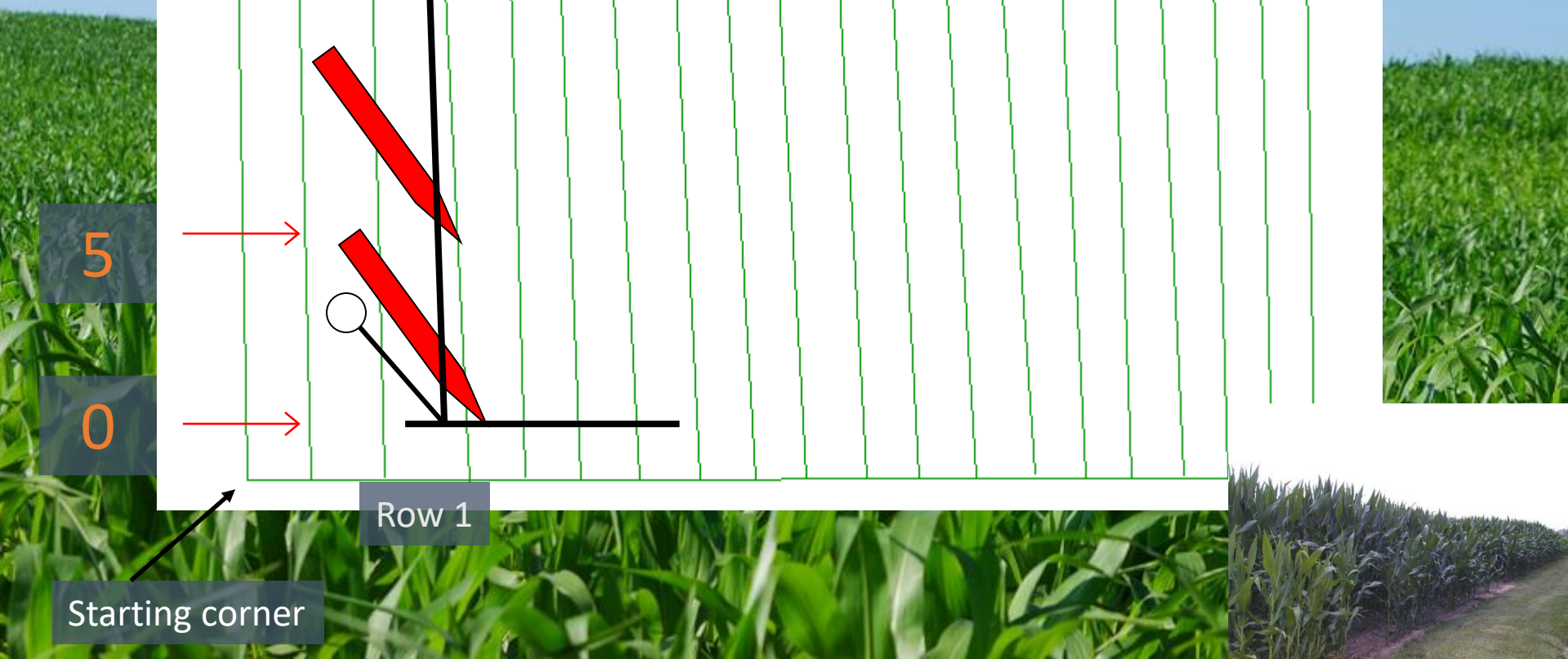
5

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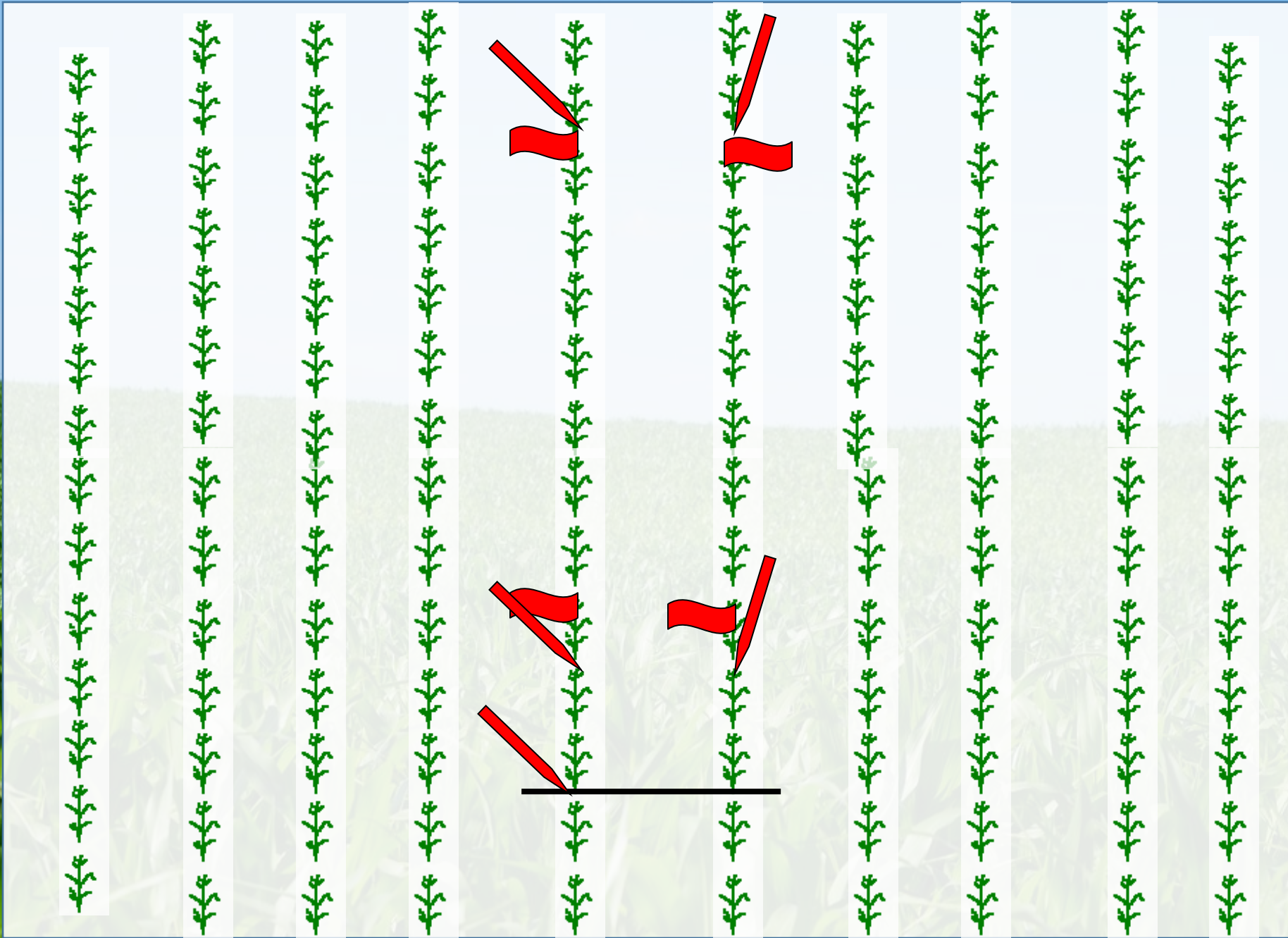


Row 1

Starting corner



Tie flagging ribbon on the first and last stalks in the 15 ft. count area of each row.



# Unit Location Code

1 = first visit

2 = relocated

3 = laid out previously

Aug 25 – Sep 1 code 1

Sep 24 – Oct 1 code 2 or 3

Oct 25 – Nov 1 code 2 or 3

Unit 1	Unit 2
1	1

1 First visit to lay out unit

2 Unit relocated THIS month

3 Sample unit laid out previously

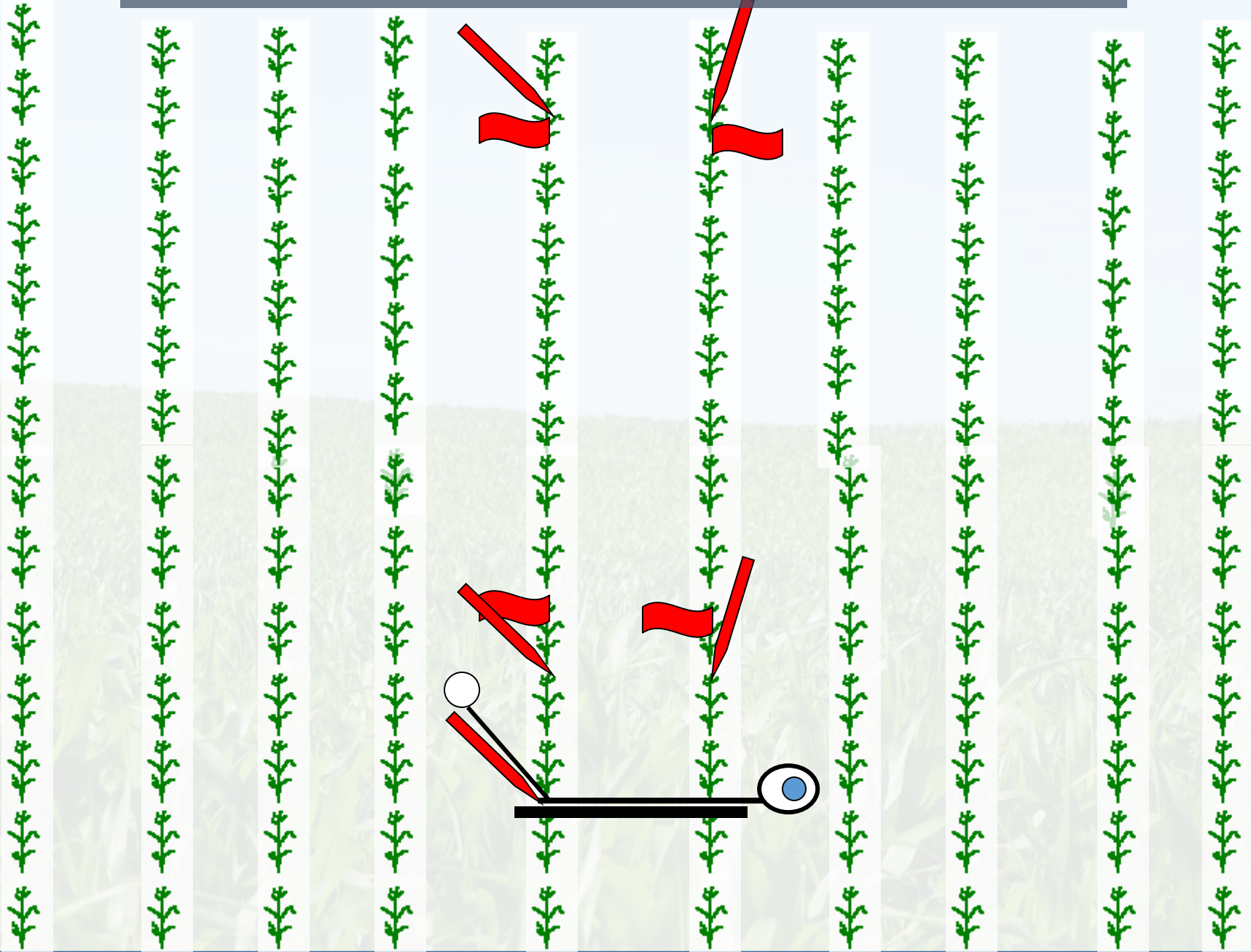


# Row Space Measurements

- Only measure row spaces when laying out a unit
  - For the first time OR relocating
    - First time: Unit Location Code 1
    - Relocating (original unit not found): Unit Location Code 2
- Return visits:
  - Unit is found: do not re-measure
    - Unit Location Code 3
  - Unit can't be found: re-measure
    - Unit Location Code 2



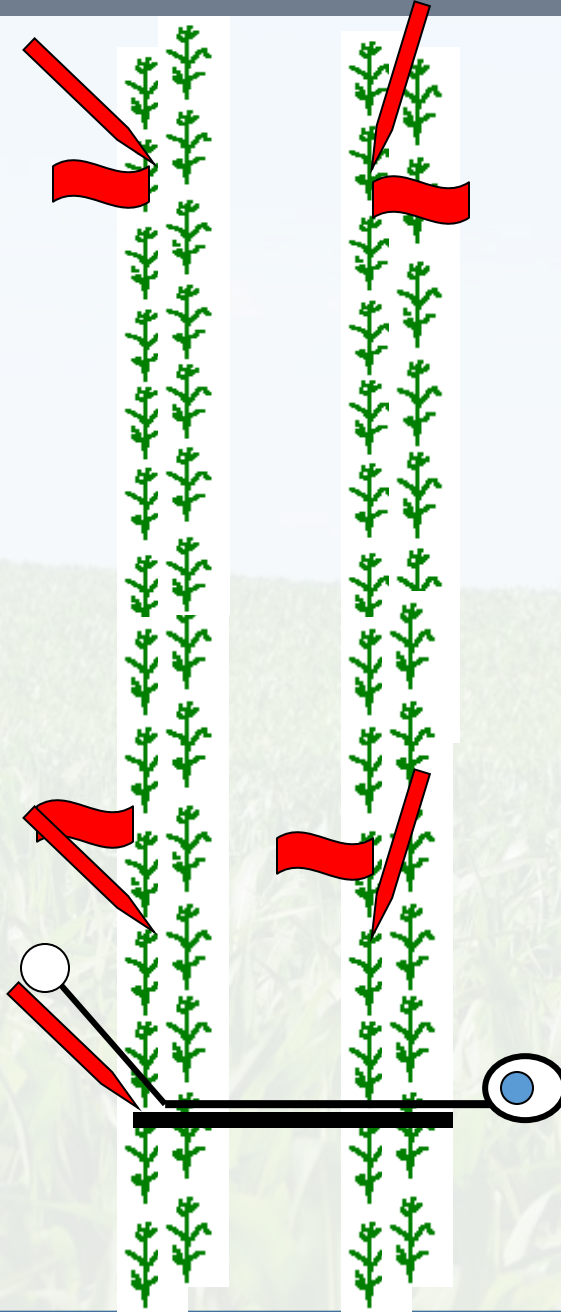
Use the anchor pin and 50 ft. tape to measure the distance from the middle of the plants in row 1 to the middle of plants in row 2.



Use the anchor pin and 50 ft. tape to measure the distance from the middle of the plants in row 1 to the middle of the plants in row 5 (across 4 row middles).



Twin Rows - Pages 407, 408, 508 of the Interviewer's Manual. Treat the twin rows as a single row. Measure from the center of twin row 1 to the center of twin row 2.

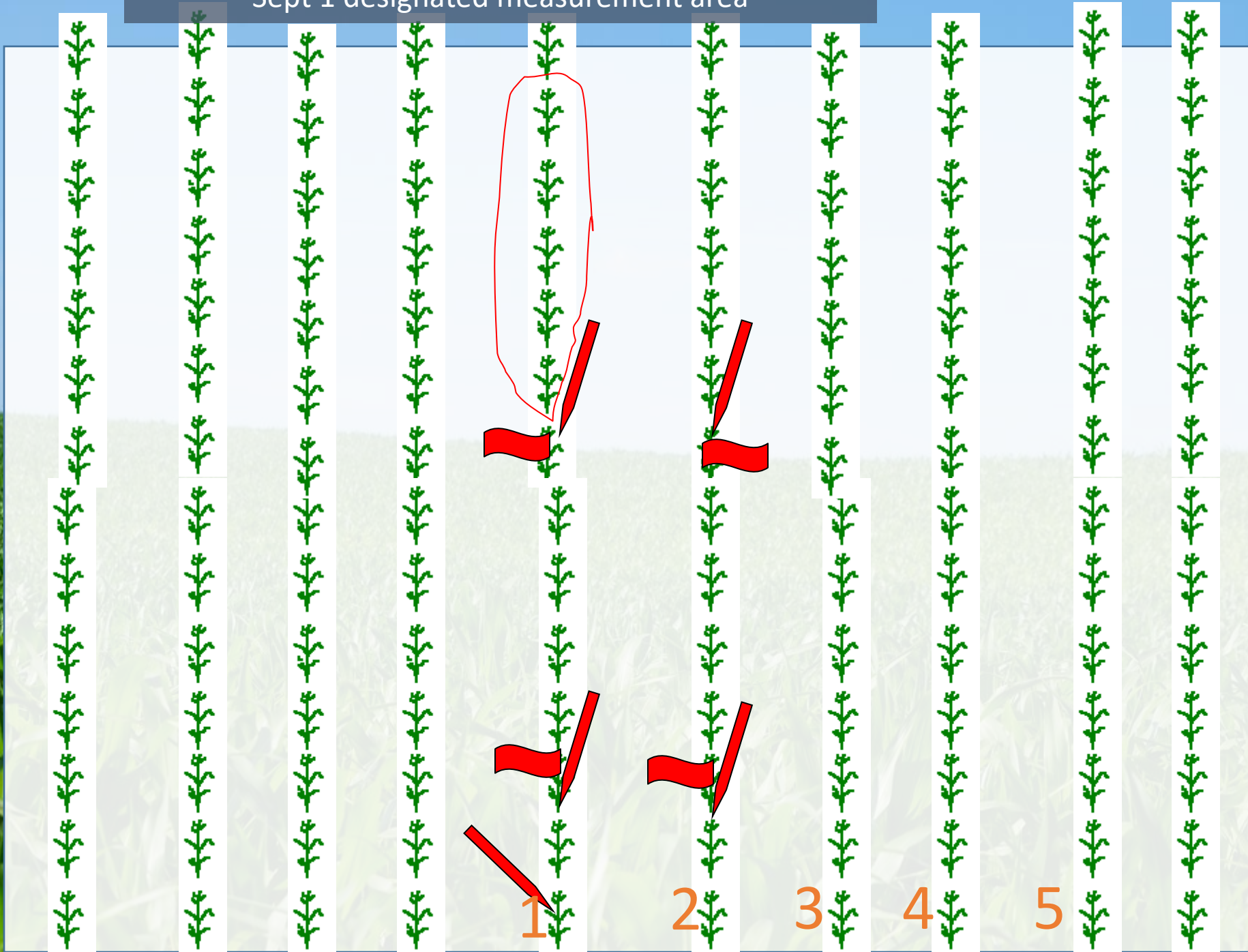


# Maturity Codes

- The rest of the form depends on accurate maturity code designation.
- Husk the first 5 ears or silked ear shoots in the designated are (using TO BE) and examine for maturity.
  - TO BE for stalks with multiple ears.
    - TO BE = **T**op **O**dd, **B**ottom **E**ven

MATURITY CODES FOR ITEM 6			
For Month	Use Area Beyond	Maturity Code	
Sept. 1	Unit 1, Row 1	2 = Pre-Blister	5 = Dough
Oct. 1	Unit 1, Row 2	3 = Blister	6 = Dent
Nov. 1	Unit 2, Row 1	4 = Milk	7 = Mature

# Sept 1 designated measurement area





# Follow Proper Sequence

EAR NUMBER					TOTAL OF 5 EARS
1	2	3	4	5	
3	3	2	3	3	301 14

6. MATURITY CODE of first 5 ears or silked ear shoots

a. Will harvest occur within 3 days?

No - Go to Item 6b

Yes - Complete Items 11, 14, 15, 16 & 17

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c. Does Item 301 equal 23 or more?

No - Go to Item 6d

Yes - Complete Items 7, 8, 9, 10, 11 & 14

b. Are three or more ears in maturity code 7?

No - Go to Item 6c

Yes - Complete Items 11, 14, 15, 16 & 17

d. Does Item 301 equal 13 to 22?

No - Complete Items 11, 12, 13 & 14

Yes - Complete Items 7, 8, 9, 10, 11, 12, 13 & 14

- Circle the items you need to complete on the back of the form.

# Maturity code of first 5 ears code 3 or higher

		EAR NUMBER				
		1	2	3	4	5
7. Maturity code of each of the first 5 ears Code 3 or higher (copy maturity from Item 6. Replace Code 2 ears with next code 3 or higher.).....	Code	320 3	321 3	322 3	323 3	324 3
8. Average length of kernel rows (Item 7 ears).....	Inches & Tenths	326 -__	327 -__	328 -__	329 -__	330 -__
9. Diameter of the ear one inch from the butt of the cob (Item 7 ears).....	Millimeters & Tenths	336 -__	337 -__	338 -__	339 -__	340 -__

- Replace Code 2 ears with next code 3 or higher ear!



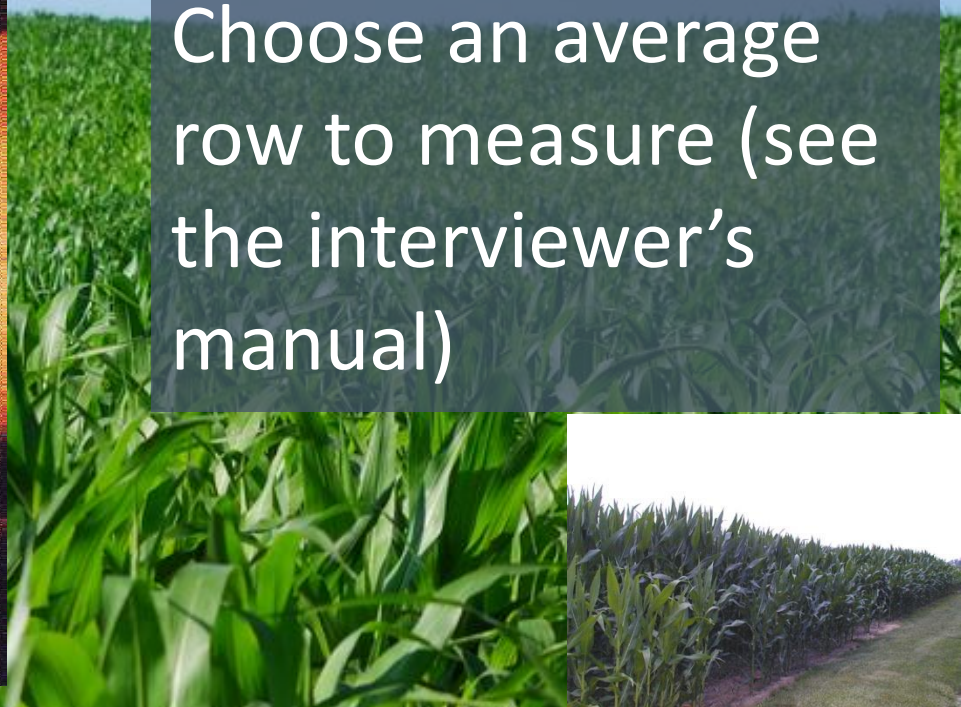
# Taking Measurements

		EAR NUMBER				
		1	2	3	4	5
5.	<b>Maturity code</b> of each of the first 5 ears Code 3 or higher ( <i>copy maturity from Item 4. Replace Code 2 ears with next code 3 or higher.</i> ) ..... <b>Code</b>	320 3	321 3	322 3	323 3	324 3
6.	<b>Average length of kernel rows</b> ( <i>Item 5 ears</i> ) ..... <b>Inches &amp; Tenths</b>	326 5.1	327 5.3	328 5.4	329 5.4	330 5.6
7.	<b>Diameter of the ear</b> one inch from the butt of the cob. ( <i>Item 5 ears</i> ) ..... <b>Millimeters &amp; Tenths</b>	336 47.1	337 45.3	338 55.4	339 51.4	340 53.6

- Kernel row length
  - Inches & Tenths
- Diameter of the ear
  - Millimeters & Tenths

Use small tape measure to measure and record to nearest tenth of an inch

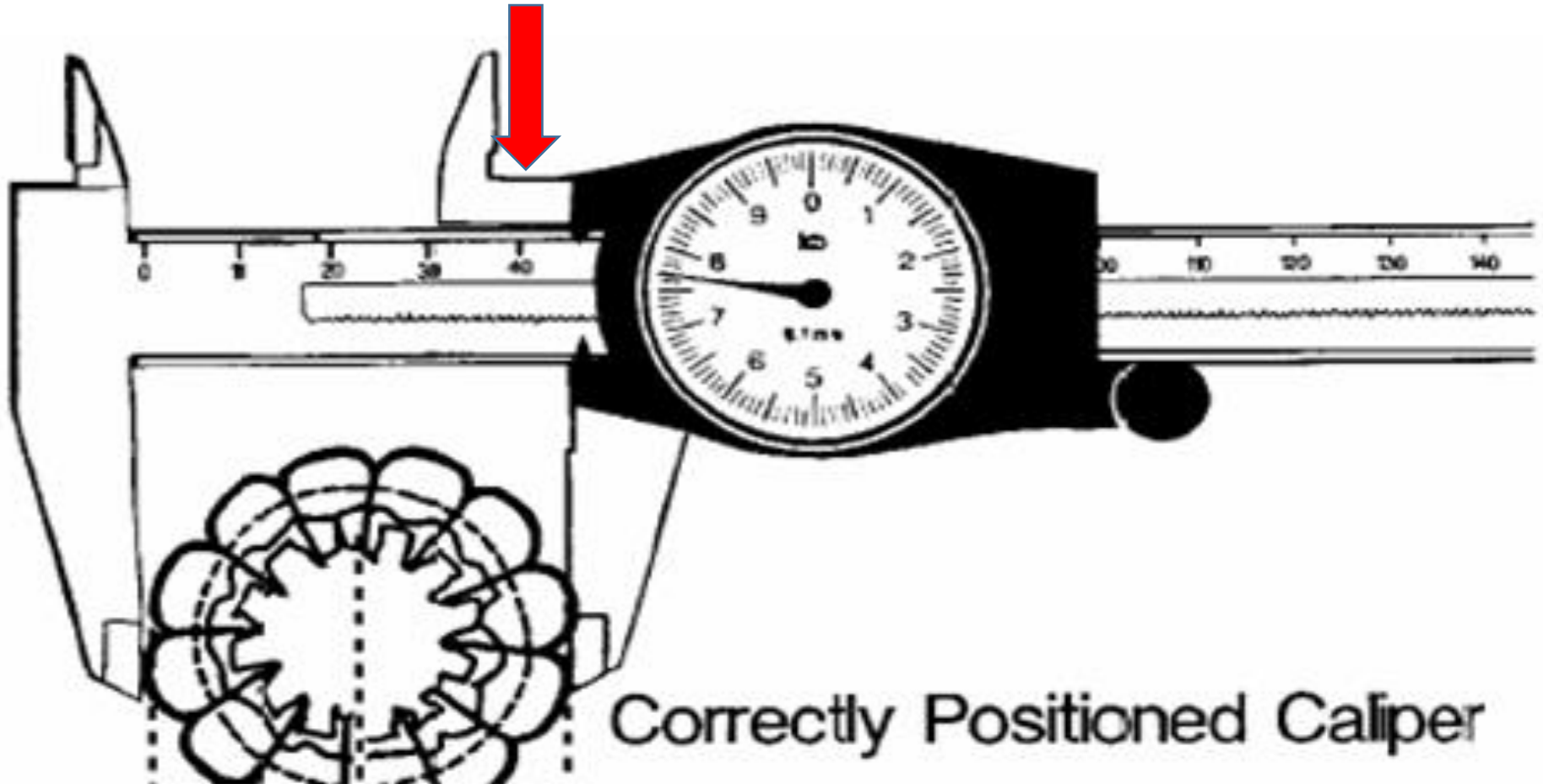
Choose an average row to measure (see the interviewer's manual)





Place caliper one inch up from bottom of ear

Reading is 47.7

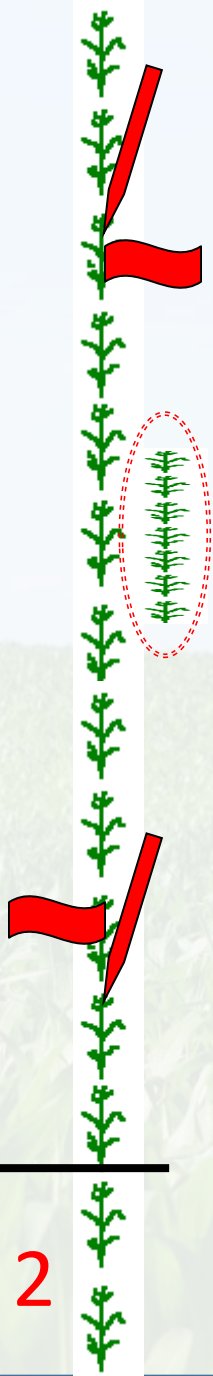
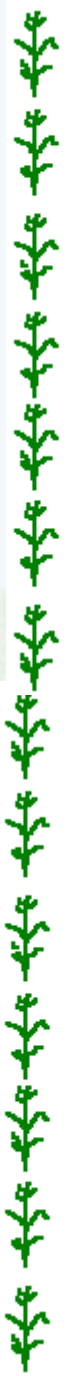


# Item 10 – dent harvest?

- If item 10 is 'NO', skip the dent harvest procedures and go to item 11.
- If item 10 is 'YES', complete the dent harvest procedures, AND check the box (step 6) on the form.
- Please see the dent harvest instructions in the interviewer's manual and on the Form-B.

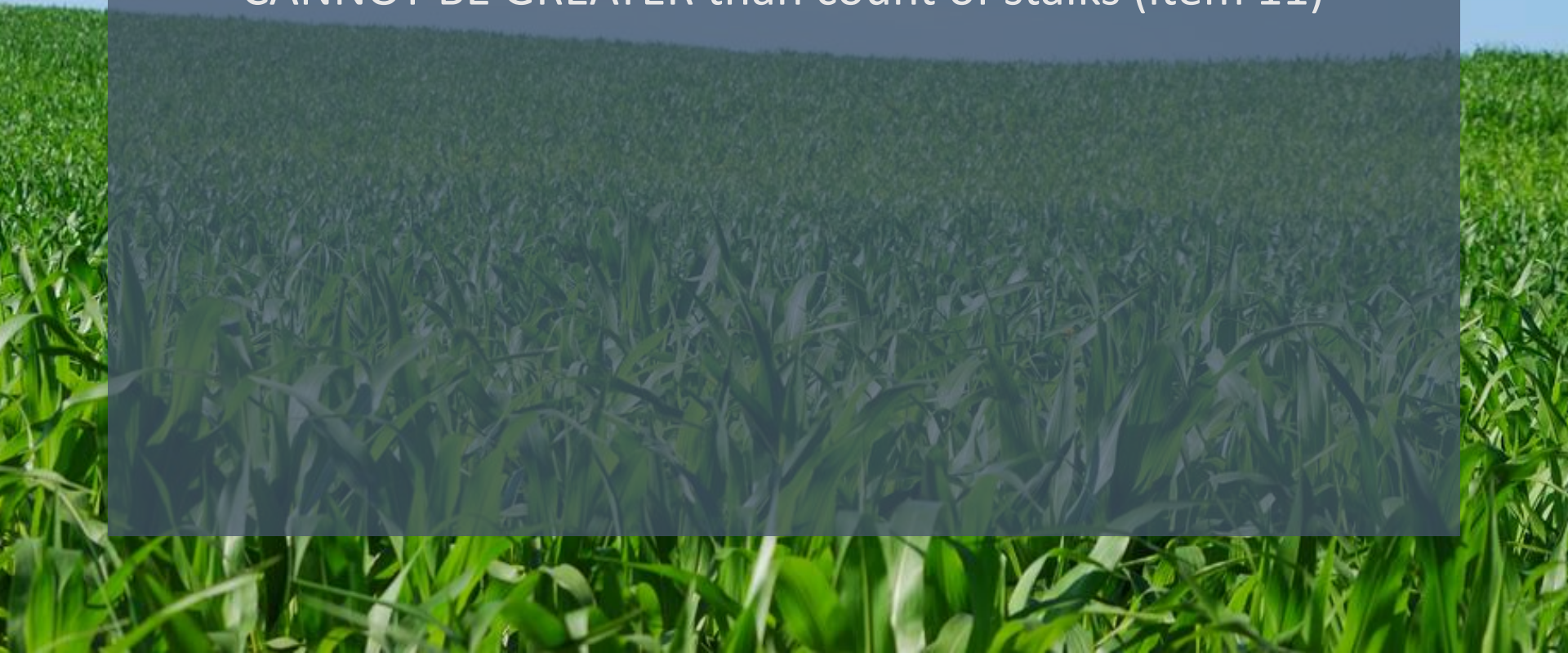
# Counts in the 15 ft count area (Item 11)

- Count all stalks, regardless of size or condition
  - Don't count the tillers! (Look for brace roots)
- Volunteer stalks between Rows 1 and 2 are counted in Row 1 Total
- Volunteer stalks between Rows 2 and 3 are counted in the Row 2 total
- You can tie clumps together



# Counts in the 15 foot count area (item 12)

- Number of stalks with ears or silked ear shoots
  - CANNOT BE GREATER than count of stalks (item 11)





# Counts in the 15 foot count area (Item 13)

- Number of ears and silked ear shoots
  - Must equal or exceed item 12 (stalks with ears)
  - Count multiple ears/silked ear shoots
  - Count ears/silked ear shoots on tillers
    - Don't count the tillers as stalks, just their ears

# Counts in the 15 foot count area (Item 14)

- Number of ears with evidence of kernel formation
  - Code 3 (Blister) or greater
  - At least one kernel
  - Ears on the ground? Count 'em!
  - Must not exceed count of ears and ear shoots (Item 13)

# Harvesting the Sample Units

**HARVESTING SAMPLE UNITS**

15. HUSK and TAG the 3rd and the 4th ears in Row 1 of both units. Husk remaining ears and weigh ALL ears with grain in Row 1 of each unit regardless of maturity stage.  
**Number of ears husked with grain (include 3rd and 4th ears).....** Number

UNIT 1, ROW 1	UNIT 2, ROW 1
312	313

**Verify:** Cell 312 equals Item 14 cell 361 and cell 313 equals Item 14 cell 363

16. Weight of ears with grain and any accidentally shelled kernels from Row 1 of each unit (include 3rd and 4th ears, exclude weight of containers)..... Pound & Hundredths

UNIT 1, ROW 1	UNIT 2, ROW 1
314 14.75	315 15.20

17. Place 3rd and 4th ears of Row 1 in separate plastic bags for each unit. After completing Items 15 and 16, send 3rd and 4th ears to the National Lab.

- A few highlights:
  - Verify counts are the same ( $361 = 312$  &  $363 = 313$ )
  - Weight is of ALL the ears in Row 1
    - Weight is in pounds AND hundredths (two decimals).

# A few additional notes

UPS Shipping Tracking Number  
for samples sent to the NOD: \_\_\_\_\_

- Record the UPS Tracking Number when sending samples to the Lab in St. Louis.

ENUMERATOR COMMENTS: \_\_\_\_\_

- Comments! Leave notes for any unusual circumstances (submit them in CAPI)
- Enumerator Number!
- Evaluation - leave blank
- Status Code – See list

Enumerator Number	390
Supervisor Number	391
Evaluation	393
UNIT 1	
STATUS CODE	380

# A few additional notes

- Enter all notes written on the Form-B in CAPI
- Write the date on each Form-B completed as well as the date it was entered in CAPI. These dates should be the same most of the time.
- Return each completed Form-B to the kit envelope. DO NOT send the Form-B anywhere.
- Be prepared to promptly answer any questions we may have.

# Unusual/Valid Data

- Feel free to take a picture of unusual circumstances and e-mail them to your Supervisor, NC, & the OY Survey Stat.
- Data that is valid but generates a critical error may be eligible for a 'critical override'. However, HQ will not override an error unless good documentation is provided.

# Unusual/Valid Data

- Example – A critical error is generated if a caliper measurement is  $< 20.0$  mm. This is possible if the ear is very small and there is only 1 or 2 kernels on it. If this measurement is valid and you enter a note in CAPI and/or send a picture, HQ will likely override the error.
- For most corn samples, item 11 is in the 20's. Please enter a note in CAPI if the stalk count is  $< 20$  or  $> 30$ .
- If item 11 is  $> 30$ , did you accidentally count the stalks in the buffer zone?

# Questions?!?

- Do you have any questions?
- Please make sure all your questions are answered before you start your field work.