

United States
Department of
Agriculture

National Agricultural Statistics Service

Agricultural Statistics Board

Washington D.C. 20250

May 2022



# 2022 CottonObjective Yield Survey

Interviewer's Manual

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# **Chapter 1 – Cotton Objective Yield Survey**

#### General

You are one of about 125 enumerators in 4 States employed to obtain information from farmers about their cotton fields and to make a series of observations on these fields. This Objective Yield Survey is a part of an overall program to provide estimates of crop yields and acreage. Objective Yield Surveys have been conducted for many years and have provided reliable indications of yield.

States participating in the Cotton Objective Yield program include AR, GA, MS, and TX. Interview and field work will be completed for all samples.

The importance of your work will become apparent as you read how these surveys operate. Briefly, your job consists of interviewing designated farm operators and making some monthly observations in one or more of their cotton fields. The operators were selected from the June Area Survey conducted in early June. Monthly visits to the fields start in late July or August, depending on the region, and continue through harvest. On the first contact, you will talk to the operator, identify the sample field(s), and complete an interview for each sample field. These observations are recorded on a Form A.

In the sample field you will mark two small areas called "units" in which you will make plant and fruit counts each month during the growing season. These field observations are recorded on a Form B.

As the crop matures, you will harvest cotton bolls from part of the sample units and ship a small sample of the crop to a lab where it will be weighed and dried to determine a boll weight.

Soon after the sample fields are harvested by the farmers, you will make post-harvest gleanings (Form E) in some of the fields.

The terms "Objective Yield Survey" and "Objective Yield Forecasts" are used frequently in this work. The term "objective" means that the basic information is based upon actual counts and measurements. Objective Yield Surveys are scientifically designed; and field observations and measurements must be made precisely according toprescribed procedures given in this manual. Objective yield forecasts are based on counts and measurements of acrop after it has emerged and before it is mature. The accuracy of each crop production forecast depends directly upon your performance and the performance of all other enumerators working on this survey.

#### **Purpose**

The purpose of the Cotton Objective Yield Survey is to provide:

- 1) Counts and measurements which can be used to forecast or estimate yields per acre.
- 2) Counts and the weight of cotton left in the field after harvest. These data will be used to estimate harvesting loss per acre.
- 3) Changes in acreage intended for harvest that result from fields being plowed up or destroyed after the June Area Survey, but before harvest.

Following procedures for this survey, you and other enumerators will obtain counts of plants growing in specified areas of sample fields throughout your State. Each month you will count the fruit on these sample plants. Mature cotton growing within the sample units will be harvested according to prescribed procedures. The various counts and measurements you obtain on the monthly surveys are combined and used with forecasting formulas to predict yields per acre. Objective Yield Survey results have shown that these various field counts and measurements provide reliable forecasts and estimates of yield for individual States and for the Nation. The sample units are too small, however, to provide reliable yield estimates for an individual field.

During the survey period, you and the other enumerators in the 4 States will enter cotton fields to mark off objective yield units. It is most important to locate these units properly and make all counts and measurements accurately.

# 

From the table above you can understand why careful, accurate field work is so vital to this survey.

#### **Farmer Benefit**

The purpose of the objective yield survey is to accurately predict the production of cotton at the State, Regional and National levels beginning with the September 1 forecast in the September Crop Production report.

As you know, the size of these crops and any change in the size are crucial information needed by many people involved in and out of agriculture. Therefore our reports make national news as these crops near harvest time.

The individual most needing this information is the farmer, for only with accurate statistical information about the size of these crops can the farmer make knowledgeable decisions about marketing strategies (i.e. to sell early using forward contracts, to hedge on the futures market, to sell on the cash market, or to use a combination of these).

#### **Development of Objective Yield Surveys**

The National Agricultural Statistics Service (NASS) has forecasted and estimated the yield of major crops for many years. Although crop acreage changes from year to year, some of the largest variations in crop production are caused by fluctuations in the yield per acre. For the better part of a century, NASS based its yield forecasts on voluntary producer appraisals of expected yield and removed bias by charting. Although these forecasts were

generally satisfactory, in seasons when the yield variability was unusually large, subjective grower appraisals did not fully reflect current conditions. This led to the development of techniques using objective methods to forecast and estimate yields of major crops in the United States.

Work using objective yield measurements on wheat, corn and cotton began in the late 50's. The increasingly important soybean crop was added in the early 60's.

Forecasts and estimates using objective yield procedures are based on actual counts and measurements made in sample fields by trained enumerators, and data obtained by technicians making laboratory analyses of bolls clipped from selected plants. Two components of yield--weight of the fruit and number of fruit (bolls) are combined to obtain a forecast of biological yield. Harvesting losses, estimated by gleaning fields after harvest, are subtracted to obtain a net yield.

#### **Reports from Cotton Objective Yield Surveys**

#### **September Crop Production**

Acreage, Yield and Production (forecast)

#### **October Crop Production**

Acreage, Yield and Production (forecast)

#### **November Crop Production**

Acreage, Yield and Production (forecast)

#### **December Crop Production**

Acreage, Yield and Production (forecast)

#### **Annual Summary**

Acreage, Yield and Production (final, all crops)

# September 12, 2022

October 12, 2022

November 9, 2022

# December 9, 2022

January 10, 2023

(Tentative Date)

#### The Sample

The cotton fields included in the Objective Yield Surveys are selected from upland cotton reported in the tracts enumerated during the annual June Area Survey. The sample is selected so the probability of any field being chosen is proportional to the size of that field. Within the same sample stratum, a 40-acre field is twice as likely to be chosen as a 20-acre field. The sample includes small fields as well as large ones. In some cases, a large field is chosen two or more times and this means it will have two or more objective yield samples assigned to it.

#### **How Rows and Paces are Determined for Objective Yield**

There is an upper limit on the field acres which are used to determine rows and paces. For corn, soybeans and cotton, the acres are set to 80 if there are more than 80 acres in the field. For all the wheat OY crops, the maximum field acres used are 128 acres. The field is assumed to be rectangular and the width is calculated as 5/8 of the length. These numbers are converted to paces and random numbers used to generate row and pace counts.

For corn, soybeans and cotton, when the number of rows and paces are generated, an adjustment is made so that

the sample falls within 1/4 of the field (using the maximum field size described above). For wheat, when the number of rows and paces are generated, an adjustment is made so that the unit 1 sample falls within 1/4 of the field if field acres are  $\leq 60$  acres, and within 1/9 of the field if field acres are > 60.

These adjustments limit how many rows and paces the enumerators need to walk into the fields. For corn, soybeans, and cotton, the maximum numbers of rows possible is 296 and the maximum number of paces is 473. For wheat, the maximum number of rows for unit 1 is 409 and the maximum number of paces for unit 1 is 256. (Unit 2 is then calculated as Unit 1 + 30 more paces).

#### Equipment

The items of equipment and supplies which will be used on the Cotton Objective Yield Survey are listed below. Your supervisor is responsible for furnishing all your necessary supplies and equipment; you are responsible for the proper use and care of all items furnished. If your supplies run low or equipment becomes unusable, notify your supervisor immediately.

# **List of Equipment and Supplies**

All equipment and unused supplies are to be returned to the State Office at the end of the season when instructed by your Survey Statistician.

$\checkmark$	ITEM	$\checkmark$	ITEM
	Interviewer's Manual		Pruning Shears
	Identification Card		Steel Tape, 50 Feet, in Tenths of Feet
	Form NAS-011 (Time and Mileage)		Four-foot Wooden Dowel Stick
	Motor Vehicle Accident Report Kit		Flagging Ribbon
	EPA Booklet Protect Yourself from Pesticides		White Forester Tapes
	First Aid Kit		Anchor Pin
	County Maps		Florist Stakes
	State Highway Map		Large Corner Stakes
	Canvas Satchel or Carpenter's Apron		Cotton Scale
	Clipboard		Paper Bags
	3-Ring Notebook		Poly Bags
	Sample. Field Kit Envelopes		Trash Bags
	Grid Maps		Rubber Bands
	Scratch Pad		Sample ID Tags
	Extra Copies of Forms		Shipping Labels or Address Tags
	Aerial Photos		Tyvek Envelopes
	Photo Mailing Boxes		Kraft Envelope 9-1/2" x 12"
	Ball Point Pen		White Envelopes, letter size
	Black Permanent Marker		Masking Tape
	Pencils-Red & Blue Lead		Four Foot, Thin Wooden Stakes (optional)
	Hand Counter		Hatchet (optional)
	Boll Gauge		Snake Bite Kit (optional)

#### **Quality Control and Supervision**

The Objective Yield Quality Control program is designed to aid in the supervision of enumerators, detect faulty equipment, and to assure that proper survey procedures are followed. A good quality control program will improve the results of the Objective Yield Survey.

The Survey Statistician is responsible for the overall objective yield program. The Survey Statistician provides most of the training at your State School and the necessary equipment and supplies needed for you to complete your assignments.

The Supervisory Enumerator is your immediate supervisor. Your supervisor will provide much of the "on site" field training you will need to complete your assignments. Your supervisor will also spend several hours with each enumerator during the first few days of each survey period. New enumerators will be visited first and if necessary, revisited after they have completed samples on their own.

Each Supervisory Enumerator will complete at least one (1) quality control form (Q-1) for each enumerator under their supervision. Upon receipt of Form B records, the Survey Statistician will inform the supervisory enumerator of the samples selected for quality control. Whenever possible, the supervisor and the enumerator should return to the sample field together while the supervisor completes the Q-1 check of the enumerator's counts. The supervisor and enumerator must discuss any differences in counts and the reason for these differences. These differences will be resolved with the enumerator and documented on the Form Q-1.

#### **Pesticide Safety**

A comprehensive pesticide safety program has been developed for all employees who may be exposed to pesticides while working on the Objective Yield Surveys. The program is designed to protect you from the possibility of overexposure to harmful pesticides.

Overexposure to pesticides, particularly insecticides, could result from home, garden and farm use, as well as unrestricted work in objective yield fields. Objective yield survey work will pose no danger to your health when the safety precautions listed in this instruction are followed. Consult your copy of the EPA booklet, "Protect Yourself from Pesticides - Guide for Agricultural Workers", for additional information.

The safety program monitors and restricts exposure to organophosphorus insecticides. These insecticides are highly toxic to humans for several hours after application. The toxicity drops over time, but the rate of decline depends on the product used, application rate, weather factors and other variables. Organophosphorus insecticides have been in common use for several years.

Organophosphorus insecticides are used on most crops. Use of organophosphorus insecticides for control of pests in cotton is quite intensive in most commercial producing areas throughout much of the growing season. Extreme caution must be taken to avoid exposure to these insecticides in all crops.

The signs of pesticide poisoning may resemble fatigue or other common symptoms of illness. However, you can protect yourself by knowing and being alert to the early warning signs of poisoning.

Look for any or all of these signs of sickness, but do not diagnose yourself – **GO TO YOUR DOCTOR**.

#### **Common Symptoms of Pesticide Poisoning**

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

#### **Medical Attention**

Go to the nearest qualified physician if poisoning symptoms appear. Explain your symptoms to your doctor and tell him you have been working in fields where insecticides may have been applied. Use your Form A's or B's or kit envelopes to determine the names of insecticides applied to fields where you have recently worked. Give this information to the doctor. Notify your Survey Statistician immediately. Do not return to work on Objective Yield Surveys unless you receive the doctor's permission and the Survey Statistician is notified.

IMPORTANT: Notify your Survey Statistician IMMEDIATELY whenever medical attention is required

#### **Determining Use of Organophosphorus Pesticides**

To provide maximum protection for your health, the pesticide safety program requires that you take the following precautionary measures.

Form A and B for all crops, ask if any pesticide with organophosphorus content has been applied in the past month. If yes, you will obtain the name of the pesticide and the latest application date. You should explain to the farmer that you work in many fields on many different farms during a short period of time and that the sole purpose of the question is to insure that you will not be unnecessarily exposed to harmful insecticides. Informative notes, such as:

"The operator will not apply a pesticide"; "He will apply some later"; \_\_\_\_\_\_ (name of pesticide) was applied on \_\_\_\_\_ (date)", should be entered on the kit envelope for future reference.

Be sure and ask the operator where the information on pesticide spraying will be posted, so you can check it every month before entering the sample field. Enter the location on the kit envelope.

A list of organophosphorus insecticides that are commonly applied to cotton is provided in this manual. The list includes the common names of recommended insecticides along with many trade names. If a trade name is not listed, you should determine the common name of the insecticide from the farm operator, insecticide dealer or County Extension Service. If an insecticide does not appear on the lists, the insecticide dealer or your County Extension Service should be able to tell you if it is an organophosphorus insecticide.

Before entering the field for Form B observations, you must contact the operator or other informed person and record the application of any insecticides applied since the previous field visit. Generally, operators should be contacted by phone a few days before the survey period to determine their spraying schedule. Check the insecticides being used against the following organophosphorus pesticide list and then check the appropriate box at the top of Form B and enter the latest application date and the name of the pesticide, if organophosphorus insecticides were applied.

#### **Unplanned Pesticide Application**

If the operator informs you on the initial Form A or Form B they will not apply any pesticide with organophosphorus content, you should put a note to that effect on the kit envelope. If you arrive at the sample field and it appears the operator has applied a pesticide (due to odor in the air, residue on leaves, spraying or dusting machinery or other evidence present), contact the operator before continuing your observations.

# **Organophosphorus Compounds**

Many of the known recommended insecticides for cotton which are applied as a spray, dust or granular formulation are on the following list.

Trade Name	Common Name			
Orthene				
Guthion, Sniper	•			
LOCK-ON, Lorsban	•			
Bidrin	• •			
Cygon, Dimethoate	•			
Di-Syston				
Ethion				
Cythion, Malathion				
Monitor				
Supracide	•			
Penncap-M, Methyl Parathion				
Dibrom, Legion	•			
Meta Systox				
Phorate, Thimet	•			
lmidan				
Curacron	Profenofos			
Organochlorine Compounds				
Kelthane	Diseful			
Phaser, Thiodan				
	Eliuosullali			
Pyrethroids				
Capture				
Baythroid	•			
Ammo, Cymbush	• •			
Decis	Deltamethrin			
Asana				
Danitol	• •			
Warrior	•			
Ambush, Pounce	Permethrin			
Scout X-TRA				
Fury, Mustang	Zeta-cypermethrin			
Carbamates				
Temik	<b>A</b> ldicarb			
Sevin	Carbaryl			
Furadan	Carbofuran			
Lannate	Methomyl			
Vydate	Oxamyl			
Larvin	Thiodicarb			

#### **Field Re-Entry Schedule Following Chemical Applications**

The field re-entry interval is the amount of time that must elapse between the time pesticides are applied and the time you may enter the field.

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

<sup>&</sup>lt;sup>1</sup> Field re-entry is permitted after 72 hours.

- a) Wear a long sleeve shirt, long trousers and head covering.
- b) Not 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.

In addition to organophosphorus compounds, cotton producers apply many other herbicides, fungicides, growth regulators, and defoliants. Re-entry intervals should be considered prior to entering a field in which any pesticide or harvest aid application is made. It is critical to contact the operator and obtain the name of any chemicals, their application date(s) and the advised re-entry interval associated with those products.

It may require a more thorough job of planning ahead to complete your assignments, but these intervals must be observed without exception to safeguard your health. The intervals provided are not expected to interfere with completing assignments unless some extremely unusual pest management practices are being followed.

#### **Protective Clothing**

You must wear a long sleeve shirt, long trousers and head covering when working in the fields that have had organophosphorus insecticides applied within the past 30 days. You should not wear clothing exposed to organophosphorus residues for more than one day. Take care in storing and laundering such clothing to avoid possible contamination of other clothing. If you have to enter fields which have had organophosphorus insecticide application, when plant foliage is wet, wear water resistant or waterproof protective gear to prevent absorption of insecticides.

#### Soap and Water for Decontamination

Each enumerator must carry water and regular bath soap when they work in fields that have had applications of organophosphorus insecticides. Upon completing work in such a field, thoroughly wash all exposed skin areas (hands, face) that may have contacted plant foliage.

<sup>&</sup>lt;sup>2</sup> Prior to entering fields treated with an organophosphorus chemical application within the last 30 days, you must:

#### **Sample Field Kits**

For each sample field you will be given a field kit -- a large envelope containing the forms for completing the work for all samples in that field. On the face of the envelope are listed the crop, sample number(s), county, segment number, tract and field code(s), POID, operator's name, address and phone number (if available), whether the farmstead is within the segment and sample unit location information.

Each form has identification information already entered. If there are 2 or more samples in a field, this information will be shown on the face of the kit envelope and there will be additional sets of forms inside.

On your first visit to each field, draw a sketch on the face of the kit envelope showing the sample field, starting corner and unit locations. Make the map as large and clear as possible. If for any reason you are unable to complete your work, another enumerator, with the aid of this envelope, should be able to return to the sample field and locate the units. Indicate highway or farm road numbers and approximate mileage to the sample field. A blank kit envelope is illustrated on the following page.

# Sample Field Kit Envelope

UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL AGRICULTURAL STATISTICS SERVICE Washington, D. C. 20250	Sample NoTo b	e laid out	
Official Business			
	Daniel Daniel daniel dan	Unit 1	Unit 2
STATECrop	Rows/Paces along edge		
Variety**Sample Field**	Paces into field Sample No.1/To be	laid out	
	Sample No.1/TO be	(M	onth)
County		Unit 1	Unit 2
Tract and Segment No Field Code	Rows/Paces along edge		
Lives in Segment? ( ) YES ( ) NO	Paces into field		
LSF POID	Sample No.1/To be	e laid out(M	onth)
Operator's Name		Unit 1	Unit 2
	Rows/Paces along edge		
Address	Paces into field		
Phone ( )	Sample No.1/To be	e laid out	(anth)
Expected Harvest Date		Unit 1	Unit 2
Sample Field Pesticide Use Name	Rows/Paces along edge	Oint 1	Oint E
	December Cold		
Schedule	1/ Additional sample in this sar	mple field	
FIELD SKETCH	North		
	<b>↑</b>		
	1		

#### **Guidelines for Completing the Questionnaire**

- 1) Entries must be legible and made in black lead pencil.
- 2) Put all entries in the boxes provided. Note the preprinted decimal. **Do not write in** any bold outlined office **use box unless** instructed to do so.
- 3) Write notes in the margins or blank spaces to clarify or explain entries.
- 4) Record all acreage entries to the nearest tenth acre. If whole acres are reported, enter a zero to the right of the decimal point.

#### **Locating the Sample Operators**

First, study your county highway map and locate the segments which have sample fields. The field kit envelopes indicate the segment numbers. Make sure you are able to find each segment on the county map for which you have a sample field kit envelope.

Next, look over each aerial photo and make sure you locate the designated tract.

After contacting the operator, introduce yourself and state that you are working with the National Association of State Departments of Agriculture (NASDA) for the U.S. Department of Agriculture (USDA). Explain that the USDA is conducting a yield survey and that this farm has been selected for the survey. Comment on the Objective Yield cover letter on the following page to the operator before the interview starts. Reference the segment image that was sent with the letter.

#### **Producer Letter Example**



United States Department of Agriculture
National Agricultural Statistics Service
[Your] Field Office



#### [Date]

Dear Producer:

For more than 50 years, the Objective Yield Survey has played an integral part in U.S. crop production forecasts. USDA's National Agricultural Statistics Service (NASS) combines field measurements with farmer-reported survey data to publish monthly crop production estimates.

Information from the Objective Yield Survey will help you and other American farmers make informed business decisions on your operations.

The Objective Yield Survey will begin in late April for wheat and late August for corn, cotton, and soybeans. During these timeframes, a NASS representative will contact you and other selected producers to verify crop acreage reported on previous NASS surveys. This visit will take 15 to 25 minutes of your time. With your permission, we will then enter your field(s) at the end of each month during the growing season to collect plant and fruit counts and measurements. Our monthly follow-up visits, if required, will not require your time.

Thank you in advance for your support of our programs and [State] agriculture. If you have any questions or concerns, please contact me at (800) xxx-xxxx.

Sincerely,

[Director's Name]
Director, [Regional] Field Office
U.S. Department of Agriculture
National Agricultural Statistics Service

**Enclosure** 

Mailing Address · City, State Zip (000) 111-1111 · (000) 111-1111 FAX · www.nass.usda.gov

USDA is an equal opportunity provider and employer.

The purpose of this survey is to forecast and estimate crop yields based on counts and measurement from small sample plots in selected fields. The operator's cooperation will be helpful. A number of the operators you will contact have had fields in the Objective Yield Survey in past years, so this will not be new to them. For the new operators, a further explanation of the purpose as outlined earlier in this chapter may be necessary. Remember that the operator is not required by law to participate in the survey.

Interview the farm operator using a conversational tone and answer any questions the operator may have. If the operator is not at home, arrange to call back. If the operator is not expected in time for you to make a call back before the survey period is concluded, you may obtain the information from some other informed person. In the event no informed person can be found to give the information, note this on the Form A. Do not enter a field to lay out a unit without permission **even if** you know the operator personally. When it is impossible to obtain an interview during the assigned month, continue to attempt to interview the operator through the next survey period.

#### **Turning in Completed Forms and Cotton Samples**

You will be working from your home, but in close contact with your supervisor. Much of your work will be entered into the CAPI system. It is important that you review your work for each sample before entering it in. Be sure that all required data are entered and that you make notes fully explaining problems and all unusual situations. Always enter the data into CAPI and submit it on the same day the work was done.

When you ship samples of cotton to the laboratory, verify that each sample is properly identified with a completed identification tag fastened to the outside of the bag and record the complete 18 digit tracking number on the Form B that corresponds with the shipment. When you ship the post-harvest sample (Gleaning) to the National Laboratory, send the completed E-form within the same Tyvek.

#### **Monthly Program**

The Cotton Objective Yield Survey will be conducted in 4 States: Arkansas, Georgia, Mississippi, and Texas. The survey will begin on July 25<sup>th</sup> in southeastern Texas and August 25<sup>th</sup> for everyone else. The following gives details on survey dates and forms to be completed by month.

Survey Date	Fieldwork Begins	Forms to be Completed
August 1	July 25	A <sup>1</sup> , B <sup>1</sup>
September 1	August 25	A, B <sup>2</sup>
October 1	September 24	В
November 1	October 25	В
December 1	November 25	В
January 1 <sup>3</sup>	December 23	В
Post-harvest	within 3 days after harvest	E <sup>4</sup>

<sup>&</sup>lt;sup>1</sup> Texas, District 1 (Southeastern Texas) will complete Form A and form B for all samples in this district

 $<sup>^2</sup>$  All samples will be laid out for the September 1 survey. Form A must be completed during the September 1 survey period.

<sup>&</sup>lt;sup>3</sup> Remaining samples will be reviewed following the December 1 survey.

<sup>&</sup>lt;sup>4</sup> Post-harvest gleanings (Form E) will be obtained for every fourth sample in all regions.

#### **August 1 Survey**

The initial interview (Form A) and field counts and measurements (Form B) should be completed by Texas OY district 1 (Southeastern Texas) during the August 1 survey period.

#### **September 1 Survey**

The initial interview (Form A) should be completed before or during the September 1 survey period for all samples in all Cotton OY States. Field counts and measurements (Form B) should be completed during the September 1 survey period for all samples in all Cotton OY States.

#### **October 1 Survey**

A Form B will be completed for all assigned samples. A field visit may be necessary earlier than the survey work week to assure field observations are made before final farmer harvest.

#### **November 1 Survey**

A field visit may be necessary earlier than the survey work week to assure field observations are made in the sample field before final farmer harvest. A Form B is expected for all cotton samples reported as standing for harvest during the previous survey period.

#### **December 1 Survey**

A Form B is completed for all samples still standing for harvest during the previous month's survey period. A field visit may be necessary earlier than the survey work week to assure field observations are made in the sample field before final farmer harvest.

#### **January 1 Survey**

Form B is to be conducted for all samples remaining to be harvested.

#### **Post-harvest Gleanings Survey**

Form E will be completed only for every fourth sample. It is extremely important that the Form E gleaning be completed within 3 days of final farmer harvest. Close contact must be maintained throughout the season with the farm operator to ensure that all possible post-harvest interviews and observations are obtained.

There may be a few instances where extremely bad weather immediately after harvest makes the field inaccessible for a period of time. Close contact should be maintained with the operator to determine when you can enter the field.

# **Chapter 2 – Terms & Definitions**

#### General

Enumerators working on the Cotton Objective Yield Survey should be familiar with the definitions of the terms listed below. To gain the most benefit from training, enumerators should review the definitions of these terms. Appendix A of the "Interviewer's Manual" should serve as a reference for definitions except for the ones detailed below.

#### **Common Objective Yield Survey Terms**

Enumerator Sample Field

Field Segment

List Sample Starting Corner

Lost Sample Supervisory Enumerator

June Area Survey Survey Statistician

New Field Tract
Objective Yield Sample Unit

Operator

**June Area Survey**— An acreage survey conducted by NASS in early June. The sample fields in the Objective Yield Survey are selected from the June Area Survey.

**New Field** – A cotton field planted in the tract which did not have a chance of being selected in this Cotton Objective Yield Survey.

**Objective Yield Sample** – Consists of two units which are always identified as Unit I and Unit 2. Each sample is identified by a unique number.

**Supervisory Enumerator** – A person who has responsibility for a survey field activity of assigned enumerators. They have authority to switch assignments, hire and evaluate enumerators, etc. in coordination with the Survey Statistician.

**Survey Statistician** – Statistician charged with responsibility of a survey - including enumerator training, office edit and processing of forms, and interpreting survey results.

Texas District 1 - Southeastern Texas

-NOTES-

# **Chapter 3 – Form A Interview**

#### General

The purpose of the Initial Interview (Form A) is to update tract acres planted to cotton since the JAS and obtain acres for harvest. The Form A is used to identify the sample field for the Objective Yield Sample, determine acres to be excluded when locating the sample units, obtain permission to locate sample units, obtain intentions to use pesticide(s) with organophosphorus content, determine if the sample field is irrigated, obtain the seeding rate per acre, and type of seed used in the sample field.

All Form A's in Texas District 1 will be completed during the August 1 survey period. All other Form A's will be completed during the September 1 survey period. Your State field office will provide you with the names and addresses of farm operators to interview, and photos which show the tracts operated by each of these farmers. Each tract is designated with a capital letter.

If all or a part of the original tract has had a change of operator, the Form A acreage still refers to the land area enumerated during the JAS. This allows us to update cotton acreage on exactly the same area of land. You may need to interview the new operator(s) also and obtain acreage changes and permission to enter the sample field. If the operator of the sample field has changed since the JAS, update all of the necessary data on the face of the sample field kit envelope.

#### **Multiple Samples in Same Tract**

Occasionally, more than one sample is assigned to a single tract. In some cases, a single field will contain more than one sample. Your kit envelope contains a complete set of forms for each sample. When two or more samples are selected in a tract, it is not necessary to complete all items on all initial interview forms during the interview.

To avoid asking duplicate questions during the initial interview, complete forms as follows:

Form A: Items 1,2, and 10- one for each tract.

Form A: Items 3 through 9 - one for each sample field.

Shortly after the interview is over, copy the tract data to Form A for additional samples as required.

When you start on a sample, be sure the correct State, POID and sample number are on each form. If not, copy this information from the sample field kit envelope. The date of the interview must be recorded at the top of each sample form.

All acreage recorded on the Form A questionnaire must be recorded to the nearest tenth of an acre. For example:

	<u>ENTER</u>	REPORTED
	25.0	25
(When rounding a 5, always round up.)	25.3	25.25
	25.1	25.12
(When rounding a 5, always round up.)	25.8	25.75
	25.7	25.68
	(–)	None

#### FORM A-1

#### **All States:**

You will use Form A for the initial interview of all Cotton growers selected. Item 1 pertains to Cotton acreage planted in the Area Tract. Question 2 pertains to the expected total cotton acres harvested in the Area Tract. Items 3-9 pertain to the sample field.

The name and address of the selected operation you are to contact has been entered on the field kit envelope and Form A. It is very important that you verify this information. Any changes in name and address such as spelling, box or route number, ZIP code, etc., should be corrected on the field kit envelope and on the Form A.

If the operation is known by a farm, ranch or business name, this should also be noted. Listed below are examples of common corrections which should be made:

Mayes Hayes, Arthur Cody, John

Rt. 1 Rt. 1, Box 608

Red Oakes, YS 46725 Pinetown, YS 54670

Bear Poplar, YS 54690

Sanders, Tom and Rob Bob Flying J. Ranch

No. 2 Cove Road MGR-Merle King **Bob Gray** 

Jamesville, YS 46652 Rt. 1 Box 608

Edenton, YS 46647

Ridgeview Farms, Inc.

SOLDTwin RanchPaul GumMGR Tony MillsR.R. 5

Evergreen, YS 46104 Elkin, YS 46520

Farm name - Hill High Ranch Farm

The operator may have changed the acreage of Cotton planted since intentions were reported during the June Area Survey. This will mean that Item 1 will differ from the value in the bold box above it. Never change the first, bold box, but write notes so that the office staff understands the situation.

**Example 1:** The operator does not currently operate the entire acreage reported as Cotton in June. For example, part or all of the land was sold, leased, or rented to someone else.

#### Procedures:

- Include the land that has changed hands in with the original operator's acreage.
- 2. Select the sample field(s) based on the total acres reported in June. If the sample field(s) is controlled by the original operator, obtain permission to enter the field. If the sample field is now operated by a different person, you will need to contact this new operator for permission.

- 3. Obtain the name, address and phone number of the new operator regardless of whether you need to make contact on this survey.
- **Example 2:** The operator currently operates more land than reported in June. The additional land, bought or leased, may have Cotton planted on it already.

#### Procedures:

- 1. Exclude this new acreage.
- 2. Select the sample field(s), and proceed with interview.
- **Example 3:** The operator still operates the land reported in June and has not acquired additional acreage. The difference between the first, bold box and Item 1 is due to:
  - 1) A respondent or enumerator error on the June Agricultural survey
  - 2) The actual planted acres changed from the intentions reported in June.

#### **All States:**

#### Procedures:

- 1. Record the date on the front page of the Form A.
- 2. Do not change the first, bold box, even if you determine that the figure is in error. Write notes.

The total acres planted in the grower's tract as identified on the face page has been pre-printed in the bold box. Do not change this entry for any reason.

- 1. Now I want to update this upland cotton acreage information. What is the current number of upland cotton acres you planted for all purposes on all the land you operate in the tract?
- What are the total acres of upland cotton for harvest on all the land you operate in the tract? (If total equals zero, end interview.)

114 .\_\_\_\_\_
102
ACRES .\_\_\_\_

To Verify, what are the total tract acres of Cotton planted on the land you operate?

Now, I need to identify one (or more) of your upland cotton field(s) and get their acreage.

#### Notes:

 For the Sample Field(s) in the tract, complete Table A for the cotton field(s) based off the cardinal directions indicated on the label (e.g., northern most field)

This statement will serve as an introduction to Table A. Complete the table based on lowest sample number to largest sample number.

#### Draw the Cotton field on a grid map.

The purpose of the grid is to help locate the Cotton sample. You will want to start by drawing the tract in the grid. Next, identify the Cotton field in the tract. Have the operator describe any roads, landmarks, and natural boundaries that will help you identify and keep track of the fields. Use the grid to sketch the roads, landmarks, etc.. Use of a county highway map in conjunction with the grid map may also help you as you and the operator identify the sampled field. Scale is not important; however, the relative location is critical.

If you have problems drawing the grid map, call your Survey Statistician for instructions.

#### **Sample Number and Direction**

The samples will be labeled with a direction. If a sample is marked with the direction "N" or North, have the operator identify the northern most field in the tract. If two fields are the same distance in the labeled direction, select the field furthest clockwise. So, if there are two field that are the same distance North, select the field furthest to the East for the sample. Similarly, if the selected direction is West, select the field that is furthest North.

Select one Field per sample until there are no more fields, then go back to the first field and continue the same process until there are no more samples.

#### Required entries in Table A, Columns 2-5.

For each field, record the data required in Table A:

- 1. Total Acres in Field (Column 2): Record all acreage in the field. Be sure to match the sample number assigned on the grid to the sample number in Table A.
- 2. Acres in Other Uses: Columns 3 and 4 are used to indicate any areas in the field from which Cotton will not be harvested. If the field was completely tilled up and not replanted to Cotton, the acreage would be recorded in Columns 3 and 4.
- 3. LOCATION DESCRIPITION/INTERSECTION OF FIELD (Column 5): Now record landmarks, features, and street or road intersections to help identify where the field is located.

The direction variable will determine in which field the sample will be laid out. One sample is selected for one field. There will only be one sample per field listed in Table A, unless there are fewer fields in the operation then the number of samples selected for the operation. After selecting the sample field, you will complete the interview by asking Items 3-9 for each sample field using Form A-1.

The remaining questions on Form A refer specifically to this field assigned to the sample number identified on the front page of the Form A.

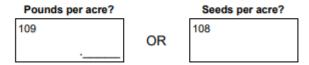
If the sample field is already harvested, do not select an alternate field.

All questions below apply to this SAMPLE.

3.	For the Sample Field, subtract Column 4 from Column 2 for the total acres of upland cotton for	103
	harvest. Report these acres here	

Copy the sample field number and its acres for harvest in the appropriate places in Item 3. Make sure the farmer understands which field is the sample field. It may be necessary to point out the field on the ground or describe its location in terms of other physical features. In all cases, the number of acres entered in Item 3 should agree with the acreage for that same field as entered in Table A.

What was the seeding rate used PER ACRE in planting this field? (Include seed used for replanting this field)



Record the actual pounds of seed per acre or the actual number of seeds per acre used in planting the field. If the field was planted more than once, include the seed used in replanting. If the operator reports in bushels, record this information on the form and the State office will convert it to pounds per acre.

There are two methods of delinting cotton seed-acid and mechanical. The acid process removes almost all lint but the mechanical process leaves a short nap on the seed. Fuzzy seed has not been processed after ginning. If the operator used seed of more than one type, record the code for the type that represents the largest quantity used. A code 4, don't know, should only be used if the farmer is unavailable for an interview.

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

Determine if the operator has irrigated, or plans to irrigate, any portion of the sample field. A code 1 or 3 must be entered in the 105 box. A code 2, don't know, should only be used if the farmer is unavailable for an interview.

7. With your permission I will go out to the field and mark off two small plots to be used in making plant and fruit counts. I will return to the plots each month until harvest to make counts and measurements, and harvest and weigh a few bolls. Would that be all right?

Yes - Continue (Inform respondent what day/approximate time you intend mark off two small plots to be used in making plant and fruit counts)

No - Conclude interview and return all Forms.

The purpose of this statement is to obtain and record the farmer's willingness to let you make the pre-harvest objective yield counts and the post-harvest gleanings. Use a conversational tone in explaining your monthly visits to the field and answer any questions which the farmer may have about the field work.

Yes Don't Know		
If YES, enter latest application date and name of	of pesticide	
The purpose of this question is to check if the operator has applied organophosphorus content to the sample field. If yes, be certain to copy the and the Form B. Check back with the operator during future visits regard operator may need to spray if an infestation should occur.	ne information to the sample	kit envelop
9. May the cotton I pick be removed from the field and not returned?		
Yes		
No - where should I leave the cotton picked from the plots?		
NOTE: If this is a gleanings sample, tell the operator, "After harvest, I will also lay out two small plots to determine harvest loss"		
is asked so you can weigh the cotton at home in a more controlled settin accurate results plus extend the life of the scales.  If the operator wants the cotton weighed and left on the operation, this of	g. Weighing at home will giv	e you more
10. Respondent Name:		
PLEASE CHECK THE FOLLOWING:  Review for completeness Sign name.	Enumerator Number	
On kit envelope, record operator's     Telephone number	Supervisor Number	
Expected harvest date. Pesticide intentions (Item 8), and	Evaluation	
Location to leave cotton (Item 9) on your kit envelope.	R.Unit	
11. Enumerator Name:	STATUS CODE	
<b>Survey Results:</b> To receive the complete results of this survey on the release date, go to: www.nass.usda.gov/results		
To have a brief summary emailed to you, please enter your	r email address:	
1095		
accurate results plus extend the life of the scales.  If the operator wants the cotton weighed and left on the operation, this coperator wants you to leave the cotton.  10. Respondent Name:  PLEASE CHECK THE FOLLOWING:  Review for completeness Sign name. On kit envelope, record operator's Telephone number Expected harvest date. Pesticide intentions (Item 8), and Location to leave cotton (Item 9) on your kit envelope.  11. Enumerator Name:  Survey Results: To receive the complete results of this survey on the release date, go to: www.nass.usda.gov/results	g. Weighing at home will give question is asked to determine the supervisor Number Supervisor Number 193 Evaluation 921 R.Unit 180	e you m

It is important that you maintain contact with the operator so you will know when the sample field will be harvested. This knowledge on harvest will enable you to obtain the final pre-harvest observations as near harvest as possible, and to obtain post-harvest gleanings and interview within three days after harvest.

Answer all questions the farm operator has about the role of the State Agricultural Statistics Service. If the operator is interested in obtaining cotton production estimates, Enter the e-mail address in the space provided. The State office will see that the information is sent. The operator can access the full report at <a href="https://www.nass.usda.gov/results">www.nass.usda.gov/results</a>.

You should leave the farm operator with all questions answered and in a cooperative mood. Remember, the operator may be contacted again for another survey and your actions will greatly influence a willingness to cooperate.

#### Form A Completion Checklist:

Follow the checklist below after you have interviewed the farmer but before you make the field counts:

- 1. If more than one field is sampled in the tract, copy the tract data, Items 1-2 including Table A, to all Form A's. Items 3-10 refer to the sample field only.
- 2. Copy the information in Items 9 and 10 to the kit envelope; also copy Item 9 to Form B.
- 3. Check any notes you have made on the forms to make sure they are clear. If it was impossible to obtain Form A, note this on the face of the form and on the front of the kit envelope. Plan to interview the operator during the next survey period to obtain permission to lay out the sample units and obtain the cropping practices data.
- 4. Review Form A for completeness. Enter the Data into the iPad. Follow your Regional Field office instructions on disposition of the form.
- 5. If the operator will not cooperate and provide an interview, you should still record the date and times that you attempted the interview. Enter the results into the iPad. Follow your Regional Field office instructions on disposition of the form.

Project Code 108

OMB No. 0535-0088: Approval Expires 3/31/2023



#### FORM A COTTON YIELD SURVEY Initial Interview 2021



Date:		

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

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 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.

2

			JUNE PLA ACRE	
	lier this season, the number of upland cotton acres you planted or intended to plant for all purpos he land you operate in the tract was:	ses on		
			DO NOT C	HANGE
1.	Now I want to update this upland cotton acreage information. What is the current number of upland cotton acres you planted for all purposes on all the land you operate in the tract?	ACRES	114	
2.	What are the total acres of upland cotton for harvest on all the land you operate in the tract? (If total equals zero, end interview.)	ACRES	102	

Now, I need to identify one (or more) of your upland cotton field(s) and get their acreage.

#### Notes:

 For the Sample Field(s) in the tract, complete Table A for the cotton field(s) based off the cardinal directions indicated on the label (e.g., northern most field)

#### Table A

SAMPLE NUMBER and	TOTAL ACRES	Acres in USE or CROPS OTHER THAN UPLAND COTTON.  (For example: skip rows, ditches, roads, abandonment, etc.)		LOCATION DESCRIPTION/ INTERSECTION OF FIELD		
DIRECTION	in FIELD	USE	ACRES	(E.g., landmarks, features, street intersections)		
1	2	3	4	5		

3

EORM A:	LIDI AN	D COTTON	I - Continued

All	questions below apply to this SAMPLE.				
3.	For the Sample Field, subtract Column 4 from Column 2 for the total acres of upland cotton for harvest. Report these acres here				
4.	What was the seeding rate used PER ACRE in planting this field? (Include seed used for replanting this field)				
	Pounds per acre?  109  OR  OR				
5.	What type of seed was planted?				
6.	Has this field been (or will it be) irrigated? 1 ☐ Yes 3 ☐ No 2 ☐ Don't Know CODE				
7.	With your permission I will go out to the field and mark off two small plots to be used in making plant and fruit counts. I will return to the plots each month until harvest to make counts and measurements, and harvest and weigh a few bolls. Would that be all right?  Yes - Continue (Inform respondent what day/approximate time you intend mark off two small plots to be used in making plant and fruit counts)				
	No - Conclude interview and return all Forms.				
8.	Have you or will you apply pesticides with organophosphorus content to the sample field?				
	Yes No Don't Know				
	If YES, enter latest application date and name of pesticide				
9.	May the cotton I pick be removed from the field and not returned?				
	Yes				
	No - where should I leave the cotton picked from the plots?				
	TE: If this is a gleanings sample, tell the operator, ter harvest, I will also lay out two small plots to determine harvest loss"				

NOTES:						
PLEASE CHECK THE FOLLOWING:  Review for completeness Sign name. On kit envelope, record operator's Telephone number Expected harvest date. Pesticide intentions (Item 8), and Location to leave cotton (Item 9) on your kit en	nvelope.		erator Number visor Number Evaluation R.Uni	191 193 921		
11. Enumerator Name:  Survey Results: To receive the complete results of this survey of the complete results of the complete res		S	STATUS COL	180 DE		
www.nass.usda.gov/results	on the release date, go to.					
To have a brief summary emaile	d to you, please enter your	email address	8:			
Operation Email: (if different from above)		Operation	Phone:			heck if
		( )			cel	II phone
Respondent Name:	Respondent Phone (if differ	rent from above)				
9912	9911	cell	phone 9910		DD	YY

This completes the survey. Thank you for your help.

# **Chapter 4 – Unit Location**

#### General

Two units are laid out for each sample at the time of the initial interview. These units will be used each month during the growing season to make plant and fruit counts. The units are located and laid out according to specific procedures to assure randomness. First locate the selected sample field using the grid map and County and State maps.

For cotton samples, immediately after completing the Form A-1 interview and before going to the sample field, determine the paces to be used for locating the units. To do this, find the appropriate field size on the labels on the back of your field kit envelope. The acres of cotton for harvest in Item 3, Form A-1 determines which column is to be used. Circle the unit location numbers under the appropriate field size on the labels. The rows line corresponds to the rows along the edge of the field and the paces line corresponds to the paces into the field. Copy these unit location numbers to all Form B's and — if applicable — the Form E for the sample.

For subsequent sample locations, use the next set of unused labels. Circle the numbers as they are used. There is one set of labels for every sample selected for an operation. Record unit locations on kit envelopes.

# **Location, Layout and Markings**

The principle of unit location is to allow the units to fall anywhere within the field boundaries (excluding deducted acreage from Form A-1) with equal probability. See examples in Special Problems (Chapter 5). The point of entry into the field or starting corner will be the first corner of the field which is reached when approaching the field and which can qualify as a starting corner. If the field has been selected for more than one sample, the second (or third) closest corner to the starting corner will be used as the starting corner for the second (or third) sample number. If and only if the field has no definite corners, enter the field from the point which is most accessible by car. If the field has been selected for more than one sample and the field has no definite corners, the next most accessible point will be used as the starting corner for the second sample, and so on.

# **Locating Unit 1**

The following steps outline procedures for locating and laying out sample units.

- Step 1 Mark the starting corner so it will be clearly visible on later visits. Tie a piece of plastic flagging ribbon to a fence or some nearby object or drive a large stake in the ground and attach the ribbon. Make a note of the location and the way you marked it on the kit envelope field sketch.
- Step 2 Walk along the end of the crop rows until you have counted off the number of cotton rows indicated for Unit 1. This will be Row 1 of Unit 1. The next row in the direction of your travel will be Row 2 of Unit 1. Tie a piece of flagging ribbon on the first plant in Row 1 or on a fence opposite this row. This will help you find the same row on subsequent visits to the sample field.
- Step 3 Walk the required number of paces into the field between Row 1 and Row 2. Start your first pace about one and one half feet outside the plowed end of Row 1. Use this starting point even if no plants are growing to the plowed end.

If you cross any area deducted as "Other Uses" on the Form A, stop counting rows or paces at the start of the area and resume counting at the other side. However, a blank or unplanted area in the field not deducted on Form A should be included in the row and pace count.

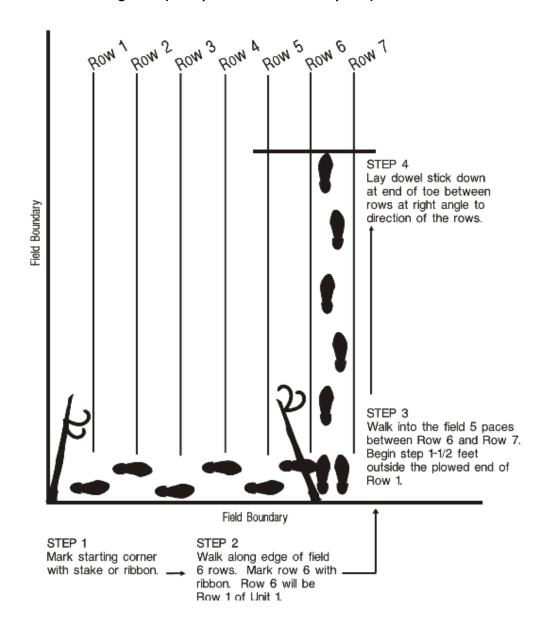
- Step 4 After you count the last pace, lay the dowel stick down across Row 1 and Row 2 so that it touches the toe of your shoe and lies at a right angle to the direction of the rows. Lay out Unit 1 in the direction of your travel down the row.
- Step 5 Working from outside of the unit, anchor the zero end of the 50 ft. steel tape just beyond the dowel stick on the outside of, and directly alongside, the plants in Row 1. The zero end of the tape must be anchored firmly and close to the ground so it will not move when you make measurements. Mark the sample number on a florist stake and insert it at the anchor point.
- **Steps 6, 7 & 8** For Row 1, place a starting florist stake identified "U1 R1" exactly 5 feet from the anchor point. Place an ending florist stake 15 feet from the anchor and another florist stake at the 18-foot mark.
- Step 9 Place a red plastic tag around the base of the first and last plants in the 3-foot section on Row 1, between the 15-ft. mark and the 18-ft. mark. Use Rule 1 and Rule 2 in defining the first and last plants.
  - **Rule 1:** If a plant has emerged exactly at the starting stake, **include** the plant in the unit.
  - **Rule 2:** If a plant has emerged exactly at the ending stake, **exclude** the plant from the unit.
- Step 10 Determine the first plant included in the 10 foot count unit for Row 1. The unit begins at the florist stake inserted at the 5-ft. mark. Do not move the florist stakes for any reason. Use Rule 1 at the starting stake to determine which plants are included.

Determine the last plant included in the 10-ft. count unit for Row 1. The unit ends at the florist stake inserted at the 15-ft. mark. Use Rule 2 at the ending stake of the 10-foot unit to determine which plants are included or excluded.

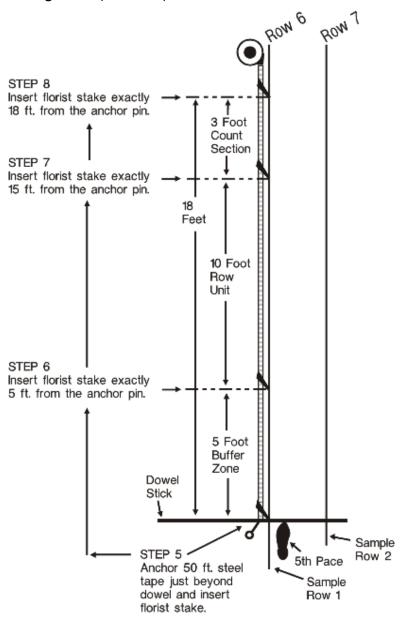
Tie a 4-foot piece of flagging ribbon near the top of the first and last plants inside the 10-foot unit in Row 1, also attach a red plastic tag to the base of the first and last plants in Row 1.

- Step 11 Anchor the 50-foot tape just beyond the dowel stick on the outside of, and directly alongside, the plants in Row 2. Do not place a florist stake at the Row 2 anchor point.
- **Steps 12 & 13** For Row 2, place florist stakes 5 feet from the anchor point and 15 feet from the anchor. Mark the starting (5-foot) stake as follows: "U1 R2". Do not move florist stakes for any reason!
- **Step 14** Same as step 10 except in Row 2.

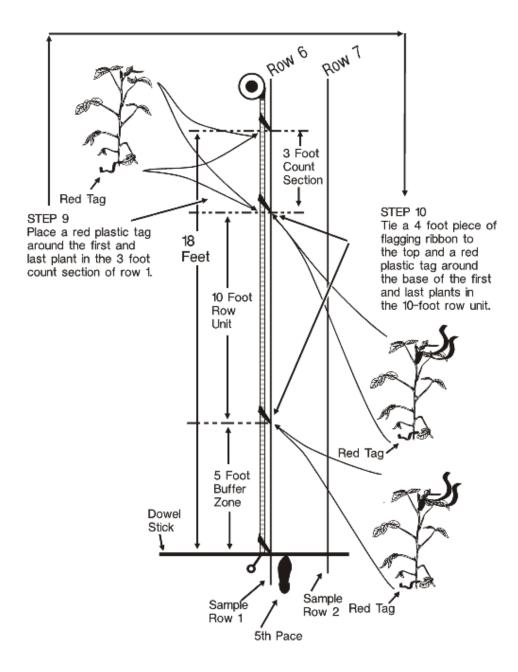
# General Instruction for Locating Units (example uses 6 rows and 5 paces)



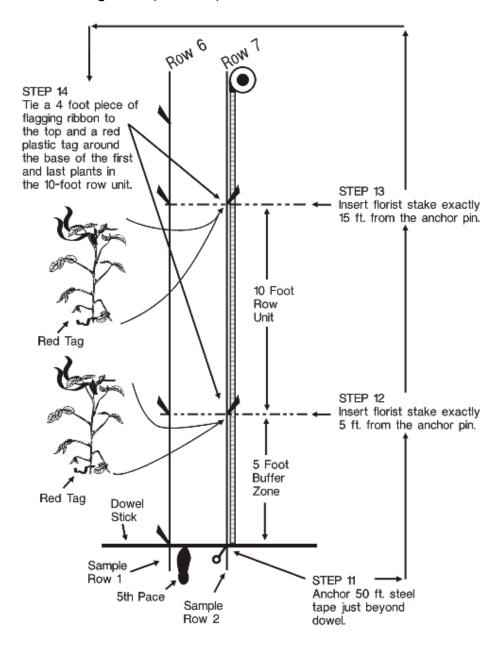
# **General Instruction for Locating Units** (continued)



# **General Instruction for Locating Units** (continued)



# **General Instruction for Locating Units** (continued)



# **Locating Unit 2**

After completing the Form B observations in Unit 1, go back to the edge of the field. Start from the row for Unit 1 and walk 30 more rows in the same direction that you were traveling when you located Unit 1. Then turn and walk into the field for the number of paces from Unit 1 PLUS 30 more paces. At that spot, locate, lay out and mark Unit 2. For example, if Unit 1 was 50 paces into the field, Unit 2 should be 80 paces into the field (50+30). Remember to stop counting paces when walking through a deducted area (refer to Table A, Form A-1) The same steps apply in laying out Unit 2 as were used in laying out Unit 1, except florist stakes will be marked U2-R1 and U2-R2.

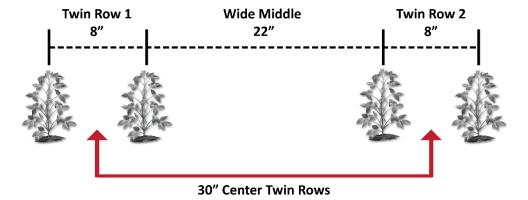
#### **Twin Row Procedures**

In a twin row planting configuration, Cotton is planted in paired rows, usually 7 or 8 inches apart, on 30-inch centers (narrow/wide/narrow arrangement). In cases where flood irrigation practices are in use they will be planted in a formed seedbed, elevated above the wider irrigation furrows. The twin row configuration presents challenges for counting rows, determining row space measurements, and recording plant & fruit counts for the purposes of the Objective Yield Surveys.

#### **Twin Rows Sample Unit Location**

Each twin row sample unit is comprised of 2 pairs of twin rows. When counting rows along the field's edge to locate the first row of a sample unit, count the pairs of twin rows as individual sample unit rows.

When counting twin rows planted on formed beds, be sure to count only the pairs of twin planted rows and not count the formed beds. This is the best practice to prevent miscounting in cases where more than one pair of twin rows are planted on the same formed bed or when bed widths are non-uniform.



# **Twin Row Space Measurements**

In the direction of travel, measure from the center of the first pair of twin rows in the selected row to the center of the second pair of twin rows (*across 1 wide middle rows*). Continue the measurement from the center of the first pair of twin rows further on to the center of the fifth pair of twin rows (*across 4 wide middle rows*).

# **Laying Out Twin Row Units**

Twin row units will be laid out using the same practices used when measuring fields planted in a uniform, single row configuration. The only difference between the single and twin row units is the twin row unit uses the plants

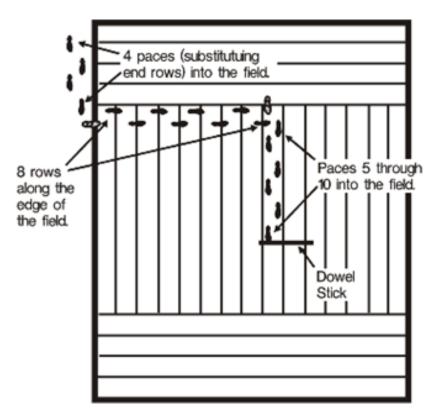
in the two twin rows for each unit row (4 individual rows of plants per sample unit = 8 individual rows per sample). Mark and flag all twin row sample units with the inclusion of the twin row.

# **Preparing Sketch of Sample Units**

When you complete the work for Unit 2, draw the location of the units on your sketch of the field on the sample field kit envelope. For samples where the bounce-back technique has been used, indicate the direction of the units, so you won't walk through them on subsequent visits.

# **Special Problems**

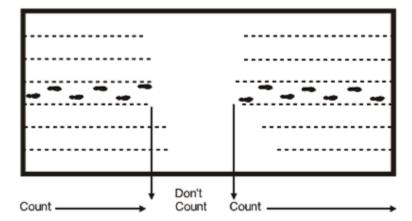
# **Locating Unit in Fields with End Rows**



If a field has end rows, make note of how many there are, but do not include them in the count of rows. To begin counting "rows along the edge of field", walk along the ends of the regular rows inside the field, counting them to find Row 1 of Unit 1.

After finding Row 1 of the unit, start your pacing into the field from the end of Row 1, but count the end rows as paces. For example, if there are 4 end rows, you will start your pace count with 5 and continue into the field the required number of paces. If the pace count is something less than 4, the unit will be laid out in the end rows. If, in this example, the number of paces is exactly 4, then Row 1 of the unit would be end row 4 and Row 2 of the unit would be end row 3. When the unit falls in end rows, always lay out the unit away from the starting corner.

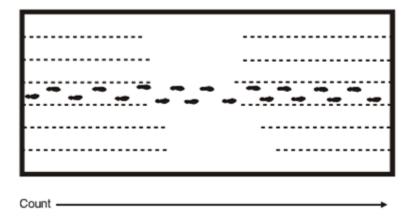
#### Blank Area Deducted on Form A



Never locate units in excluded areas or in areas reported in "Other Uses" in Table A of Form A.

If, when counting rows or paces into the field, you cross an area which was deducted from the acreage to be harvested (not planted, abandoned, skipped rows, planted to another crop, etc.) during the interview, you will stop counting rows or paces at the start of the area and resume counting on the other side.

# Blank Area or Other Crop Not Deducted on Form A



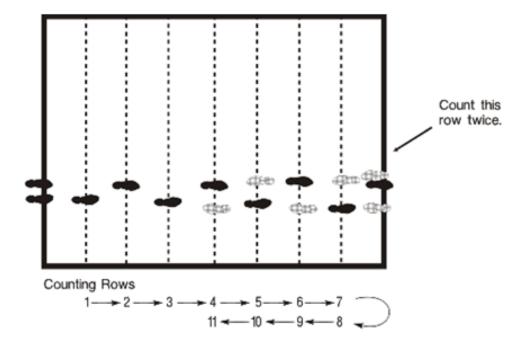
If you should cross an area that is blank or planted to another crop that was not deducted from the acreage to be harvested on Form A, you should continue to count paces through this area. Usually such areas are small, drowned-out spots or skips due to poor seed germination and plant survival. One or both units may fall in the blank area.

If only one unit falls in a blank area, continue to make monthly counts on the other unit. Enter zeros in the appropriate box for the unit located in the blank area.

If both units fall in a blank area (no plants standing in either of the sample rows) which was not deducted from the net acreage standing for harvest (Table A), lay out the units and enter zeros in the appropriate boxes for both units on all the Form B's. Return these to the State office. Note on all Form B's and also on the outside of the kit envelope

that the units fell in a blank area. No further pre-harvest visits will be made to the sample. However, you must still make a post-harvest gleaning visit (using Form E) if it is a gleaning sample.

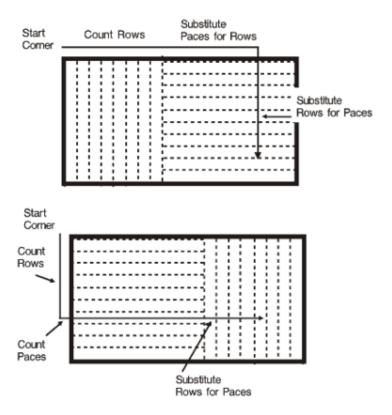
# **Bounce Back Technique**



When counting rows, if you reach the opposite edge of the field and still have not counted the designated number of rows, turn around and walk back in the direction from which you came until the required number is counted. Count the last row twice--once as you go out of the field and again as you start back into the field. Always take the next row in direction of travel for Row 2. If Row 1 of the unit falls on the last row in the field, then Row 2 of the unit becomes the next row in the direction of travel after bounce back.

When counting paces, if you reach the end of the field and still have not counted the designated number of paces, turn around and walk back in the direction from which you came until the required number of paces is counted off. Lay down the dowel stick and lay out the unit in the same direction that you were traveling when you counted the last pace.

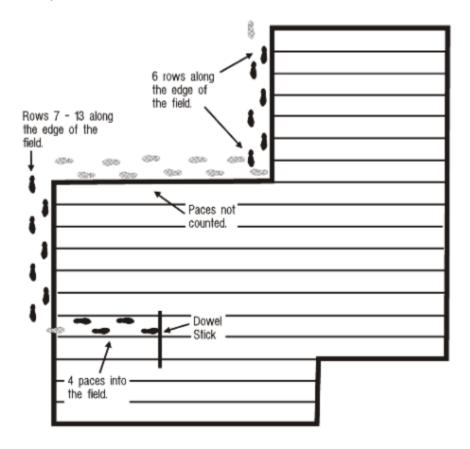
#### **Rows Change Directions**



When counting rows, if the direction of the rows changes at right angles or if there is no definite direction to the rows, or if it is otherwise impossible to count rows, continue in the same direction along the edge of the field and substitute an equal number of paces for rows. Make a note of the change on the form and on the sample field kit envelope opposite the sample number so that this fact is recorded for later visits.

When counting paces, if the direction of rows changes at a right angle, substitute an equal number of rows for paces. If rows change direction when laying out units, always lay out the unit away from the starting corner.

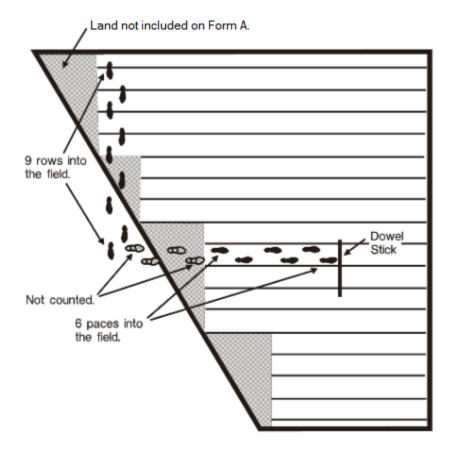
# **Locating Units in Odd Shaped Fields**



When locating units in odd shaped fields the same rules apply that we have discussed previously. In the illustration above, you would not count while walking to the beginning of row 7. You would resume the row count at that point and continue until you reach Row 1 of that unit. Then count paces into the field in the usual way.

The main things to remember are: (1) starting corner, (2) direction of travel, and (3) deducted and non-deducted areas from the Form A.

# Fields with Blocking and Blank Area Deducted

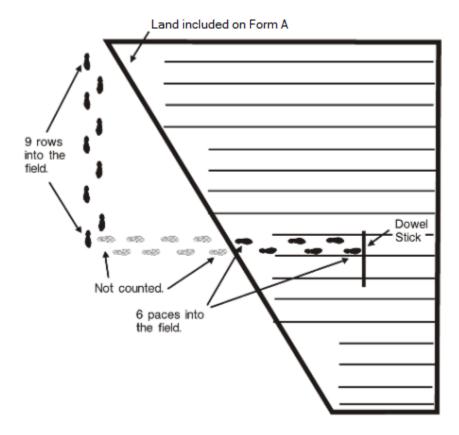


With today's larger equipment there is sometimes a blocking pattern along a slanting field boundary. In the case illustrated above, the distance from the actual start of plants in row 9 might be 50 feet or so from the starting point of row 8.

In this example, Row 1 of the unit falls on row 9, 6 paces into the field.

If the blank area from rows 8 to 13 was deducted from the acreage for harvest on the Form A, locate the unit 6 paces into the field from the beginning of row 9. Field row 9 will still be Row 1 and field row 10 would be Row 2 of the unit.

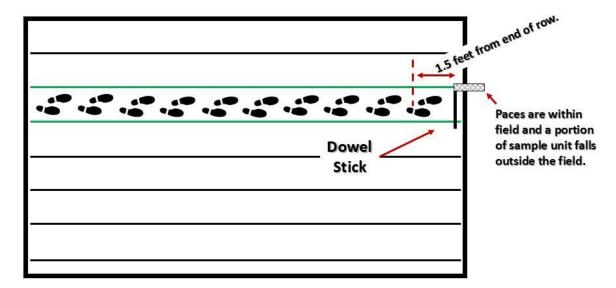
# Fields with Blocking and Blank Area Not Deducted



If the blank area was not deducted from the acreage for harvest on the Form A, locate the unit 6 paces into the field from the beginning of the field.

Remember, the key to any blank area is whether or not it was deducted as "other uses" on the Form A.

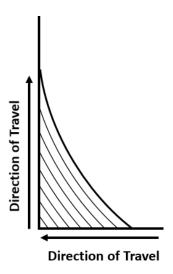
#### **Units Fall beyond End of Field**



If a unit falls partially outside the field after you have taken your last pace, pick up the dowel stick and move back until the end of the unit is totally within the field, 1.5 feet from the plowed edge of the field and lay the unit out. This also applies when a unit falls partially within an area which was deducted from the acreage for harvest on the Form A.

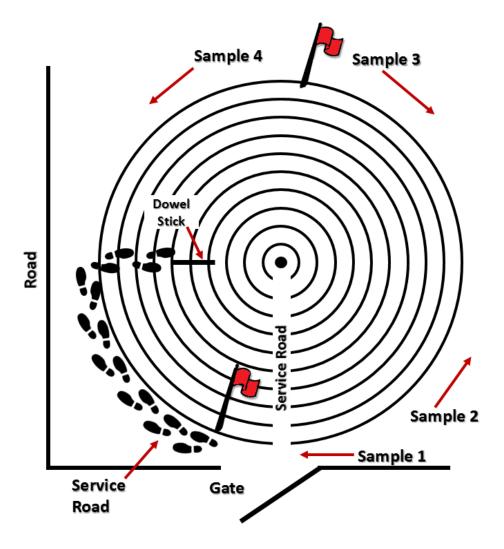
If the unit falls partially in end rows after you have taken your last pace, pick up the dowel stick and back up until you are 1.5 feet from the center of the plants in the first end row you come to. (Do not lay out a unit across rows.)

# Sample Falls in Field with Curved Corners



Handle the same as you would a circular field. (See next page.) Count down the side of the field while straight and when the corner curves, continue in a straight line to a point equal to the edge of the field. Turn towards the field at a 90 degree angle and count in that direction. If the corner of the field outside the curve was included as crop on the Form A, include it in your counts. If the area was excluded on the Form A, exclude it in your counts.

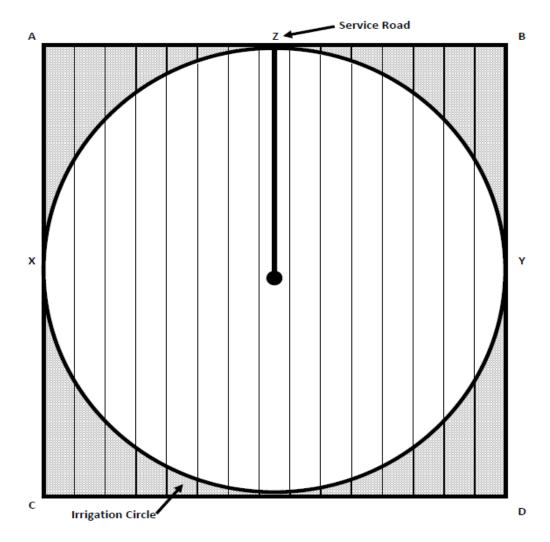
#### **Circular Fields**



The starting point is the point you reach first when you arrive at the field. To locate sample units in a circular field count paces walking clockwise along the edge. Count the number of rows into the field using bounce back if necessary. Be sure your diagram on the sample kit envelope is complete and is easy to follow in locating the sample units in the circular field.

A second sample in a circular field would be located in a counterclockwise direction from the original starting point. If a third sample was selected, go to the opposite side of the field from the original starting point and locate a third sample in a clockwise direction. If a fourth sample, locate in a counterclockwise direction.

# **Center Pivot Fields - Starting Corners**



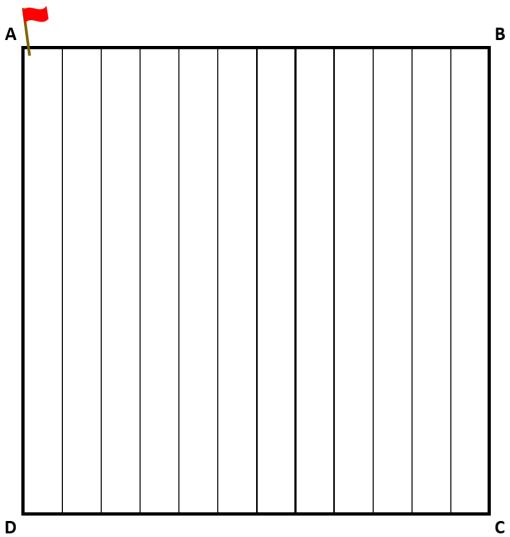
# Scenario 1

The entire field including corners, is planted to cotton. Since there is no differentiation between irrigated and non-irrigated plantings for cotton in any state, the correct choices for starting corners are A, B, C, and D even though the access road is at point Z. In most cases, the most accessible starting corners will be A and B since the service road can be accessed from the same side of the field. Paces along the edge of the field and into the field will be counted in the usual manner.

#### Scenario 2

The circle only, not including the shaded corners is planted to cotton. Since the service road (point Z) is the most accessible corner in most cases that is considered the starting point. While standing at point Z, unit 1 will be laid out to the right (towards point X). After unit 1 has been laid out, go back to point Z and lay out unit 2 to the left (towards point Y). Paces will be counted in the usual manner.

# **Locating Units in Fields with More Than 4 Samples**



The following starting corner/sample number pairings are used in these situations:

- Corner A: Sample(s) 1, 5, etc.
- Corner B: Sample(s) 2, 6, etc.
- Corner C: Sample(s) 3, 7, etc.
- Corner D: Sample(s) 4, 8, etc.

When a field has more samples than starting corners some corners will need to be used more than once. After each corner has been used as a starting corner, start over with the first used starting corner (*corner A in the example above*) on the next sample number in sequence. The same logic is applied to irregularly shaped fields.

#### **High Density Cotton**

High density cotton is planted in rows **10** inches or less apart on the same plant bed. The entire field must be planted as High Density cotton to qualify. If the above conditions exist, count each row separately when locating and laying out the unit, the same as regular planted cotton.

Write "High Density Cotton" on margin of B-Form.

# **Row Measurements:**

- 1) Stalks in Row 1 to stalks in Row 2 (B-Form, Item 3a) include wide middle if unit Rows 1 and 2 are on separate plant beds. Use narrow middle if rows on same plant bed.
- 2) Stalks in Row 1 to stalks in Row 5 (B-Form, Item 3b) Example: if cotton is planted in plant beds of two rows 8 inches apart and then a 36 inch space, include two 8 inch spaces and two 36 inch spaces to give you the four row measurement.

Chapter 4							
Unit Location							

-NOTES-

# **Chapter 5 – Form B**

#### General

The Form B counts and measurements are used to set the monthly cotton production forecasts and end of season production estimates. Each item you count, tag, and measure is a very important part of this production estimate. Reliable forecasts are possible only if you are careful when completing each question.

#### Forms to Be Used

A Form B has been provided in the sample field kit envelope for each month that you are to make field counts. The same version of the Form B will be used each month counts are made.

#### **General Procedures**

Texas District 1 will lay out samples during the August 1 survey. All other samples will be laid out samples during the September 1 survey.

You will lay out two units for each assigned sample on the first visit to the field. Since you will use the same units each month, you may proceed directly to the units by the most accessible route on successive monthly visits.

If for some reason the field counts cannot be made on the first visit, send in a blank Form B with a note at the top explaining the reason you could not lay out the sample. In such a case, you would lay out the sample the following month if the field is still standing. Every effort should be made to complete the Form B each month.

# **Special Problems**

When returning to the field for the second, third, fourth or fifth monthly visits, you will generally have no problems finding the units and completing the form. However, you may have occasional problems. Use the following procedures to handle problems when they occur.

#### Problem 1: The crop is still standing, but you cannot find the unit(s).

Procedure:

Lay out a new sample unit(s) locating it 5 more rows and the same number of paces as shown on the Form B and on your kit envelope. This procedure is to ensure you are in a different location than the old unit where you have been picking cotton. Start from the same corner of the field as you did originally. On Form B, enter a Code 2 in Item 4 to indicate that you relocated the unit(s). Make a note on the kit envelope and other Form B's that the unit was relocated 5 rows farther into the field. Place flagging ribbon at the beginning of the new Row 1 to help you locate the unit on subsequent trips.

# Problem 2: Part of field has been destroyed before harvest, including the area where one or both sample units were located.

Procedure: Record dashes for each unit that was destroyed. Write "Unit(s)

Destroyed" on margin of Form B. If only one unit was destroyed, complete all items for the remaining unit as usual. When laying out the sample units on the post-

harvest visit, you would not count any paces when crossing the part of the field that was destroyed.

Problem 3: The entire field has been final farmer harvested, plowed, disked, etc.

Procedure: Write "Field (harvested, plowed, etc.)" on Form B. Complete a Form E if field was

harvested and not yet plowed under or if an alternate field in the same tract is

available (gleaning samples only).

Problem 4: Part of field containing one unit has been final farmer harvested and the other unit is in the portion of the field still standing for harvest.

Procedure: Complete Form B for the unit still standing for harvest and answer Items 20 and 21.

Problem 5: The farm operator will final harvest the sample field before the next survey period.

Procedure: If harvesting will occur ten or more days after your regular monthly field counts,

you will make another visit to this field to obtain final counts just prior to harvest. Complete a Form B just like you would normally complete it during the next regular

survey period.

If harvesting will occur within nine days, this will be your final pre-harvest visit.

Check "YES" on Item 21.

Problem 6: The farm operator will harvest the sample field but is uncertain whether this will be the final

harvest.

Procedure: If the farmer is even slightly uncertain whether this will be the final harvest of the

sample field, you should treat the sample as if it will be the final harvest. Use the procedures outlined under Problem 5 to determine if you should make an extra pre-harvest visit. Obtain post-harvest gleanings Form E on gleaning samples.

7. Problem: Field was final farmer harvested before you made the final pre-harvest visit.

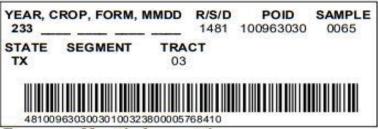
Procedure: No counts are to be made, but complete Item 21 on the Form B, write a note to say

that the field was final harvested, and send the form to the State office. If field has not been plowed, disked, etc., complete Form E for gleaning samples. If the field

has been plowed or disked, select an alternate field for gleaning samples.

# **Sample Identification**

A label has been preprinted on your Form B's for identification purposes. If the label is missing or illegible, copy the POID and sample numbers from the field kit envelope to the space provided.



Forecast Month August 1

If you selected an alternative sample field -- the pre-selected field was not planted to cotton — write the words "ALTERNATIVE FIELD" across the top of each Form B. See Form A instructions (Chapter 3) for procedures for alternative field selection.

# **Pesticide Safety**

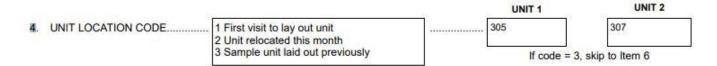
3.	Has operator applied pestion	ganophosphorus content to the sample field?	
	☐ YES	□ NO	
	If YES, enter latest application date		and name of pesticide

Form B has a question just beneath the identification box asking if the operator has applied pesticides with organophosphorus content to the sample field. You must contact the farm operator or another knowledgeable person and check YES or NO each month. Check back with the operator on each visit before entering the field regardless of any previous answer to this question. The operator may spray if an infestation occurs. If YES is checked, enter the date of the latest application and the name of pesticide in the space provided.

Exercise extreme caution to avoid exposure to dangerous pesticides. Never enter a field if a pesticide has been applied earlier in the day.

#### **Unit Location**

Locate the two units according to the instructions in Chapter 5. Each unit consists of two 10-foot rows plus an additional 3-foot section extending beyond Row 1. Each sample has an independent set of rows and paces to determine the unit location for each unit. These are recorded on Form B.



Enter a Unit Location code in Item 4 for each unit. Enter 3 when you return to make counts in the same unit used in earlier visits.

Enter Unit Location Code 2 if you need to relocate the unit on this visit. When relocating a unit you will lay it out 5 rows further from the starting corner than the original unit was located. See Chapter 4 Special Problems, for more complete instructions.

Enter Unit Location Code 1 if you were unable to lay out the unit during the initial survey period, and are locating it for the first time on this visit. Make notes on the Form B when you enter Code 1.

#### **Row Space Measurement**

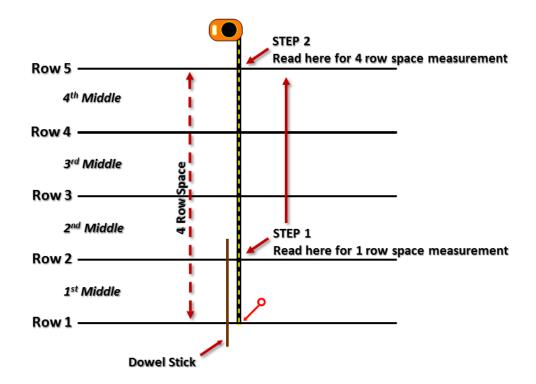
Row space measurements are used along with the plant counts to estimate plants per acre.

5. ROW SPACE MEASUREMENTS	UNIT 1	UNIT 2	
a. Measure distance from stalks in Row 1 to stalks in Row 2 (Exclude rows skipped and other crop)	Feet & Tenths	301	302
b. Measure distance from stalks in Row 1 to stalks in Row 5 (Exclude rows skipped and other crop)	Feet & Tenths	303	304

Row space measurements are needed whenever you lay out a new unit. This includes the first time you lay out the unit and any time you have to relocate it. You will record these measurements on Form B. On subsequent months you will make the measurements if you enter either Code 1 or Code 2 for that unit in Item 4. If you enter Code 3, no measurements are made on that unit.

To make these measurements in a unit that is solid planted to cotton, anchor the tape at the center of the stalks in Row 1 of the unit and measure to the center of the stalks in Row 2 of the unit. This is the width of "one row space." Record this distance in Item 5a in feet and tenths of feet. Next measure the distance from the center of the stalks in Row 1 to the center of the stalks in Row 5 (in the direction of Row 2). This is the width of "four row spaces." Record this distance in Item 5b in feet and tenths.

If there are not enough rows remaining in the field to get a 4-row space measurement, measure from the middle of Row 2 in the direction of Row 1.



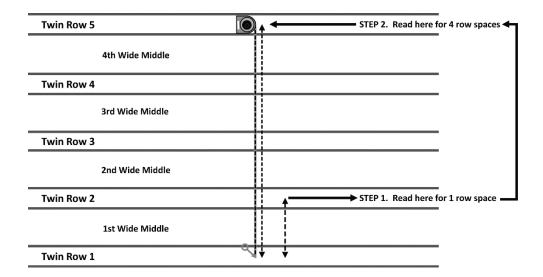
To make these measurements in a unit with a skip-row planting pattern, do not measure across any area of skip rows or rows planted to another crop that was deducted from acres planted on Form A. If there is a skip between

Row 1 and Row 2, anchor the tape so that you can measure across the first two "consecutive" rows of cotton (in the direction of Row 2) to obtain the width of one row space (Item 5a). To obtain the width of four row spaces (Item 5b), you may have to make several different measurements and add them together. For example, if the planting pattern has two rows of cotton, followed by a strip area, make four measurements of "one row space" each. Make these measurements across four different row spaces and add them together to get the width of "four row spaces."

Row space measurements for high density cotton are explained in the end of Chapter 4.

# **Twin Row Planted Row Space Measurement**

If a field is planted in twin rows, i.e., two pairs of narrow rows separated by a wide middle, (Example: a 7-inch middle followed by a 30-inch middle), the one-row space measurement recorded in Item 5a is the distance between the center of twin row 1 and center of twin row 2. The entry in Item 3b is the measurement from the center of twin row 1 to the center of twin row 5.

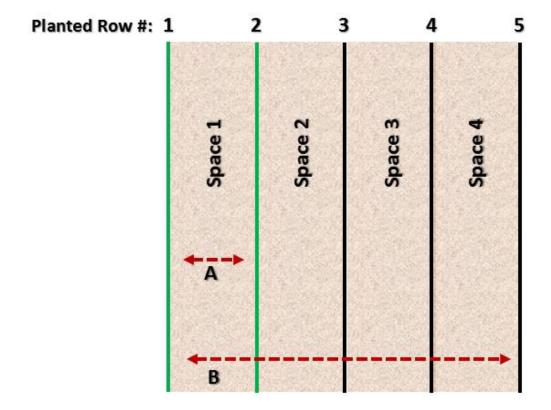


In all cases of unusual row spacing (very narrow, very wide, or non-uniform row space arrangement), or when the unit falls in a blank area of the field and no row space measurement can be made, write an explanatory note in the margin of the form.

# Measuring Distance of Cotton Row Spaces and Skips

Solid lines represent cotton rows. Dashed lines represent skip rows (idle or other crop). Three planting patterns are shown. All plants counted are in rows 1 and 2 of each unit.

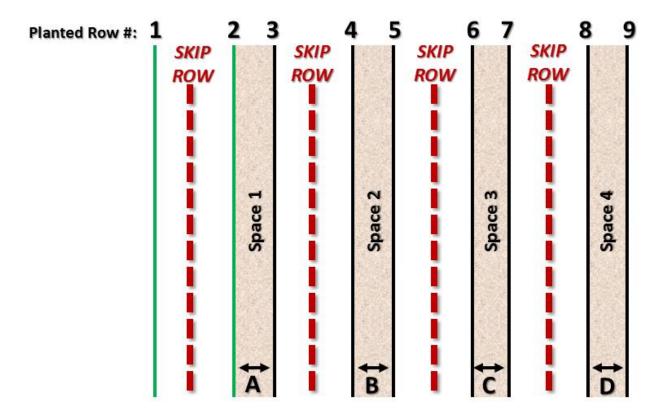
# Solid Cotton - All Rows Planted



A = Distance from stalks in Row 1 to stalks in Row 2 is measured here. (Form B, Item 5a.)

B = Distance from stalks in Row 1 to stalks in Row 5 is measured here. (Form B, Item 5b.)

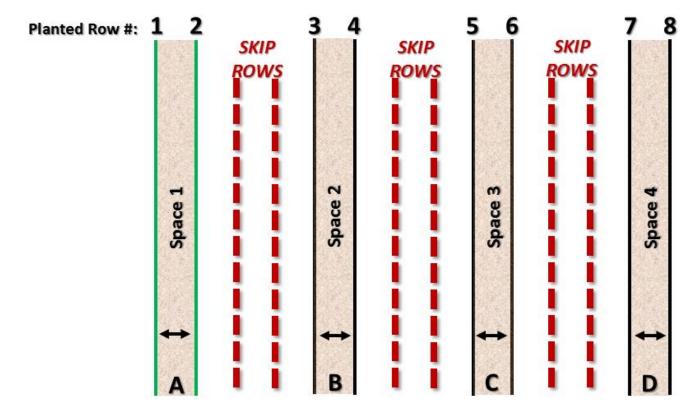
2 Rows Cotton Planted, 1 Row Skipped



A = Distance across 1 row space is measured here. (Form B, 5a.)

A+B+C+D = Distance across 4 row spaces is the sum of the 4 spaces shown. (Form B, 5b.)

# 2 Rows Cotton Planted, 2 Rows Skipped



A = Distance across 1 row space is measured here. (Form B, 5a.)

A+B+C+D = Distance across 4 row spaces is the sum of the 4 spaces shown. (Form B, 5b.)

**NOTE:** Distance between rows must be 64 inches or greater to be considered skip rows.

#### **Counts Within Ten-Foot Units**

The counts made in the ten-foot unit are used to establish gross yield. The components of gross yield obtained from the ten foot count units are bolls per 10 foot section and average weight per boll.

You will complete Items 6-14 for each 10-foot row section in each unit. A 10-foot row section consists of the row of plants between the florist stakes placed at the 5-ft. and 15-ft. marks, and its associated row middle -- the ground beside that row which extends up to but does not include plants in the next "higher numbered" row.

For example, the row middle for Row 1 will always be in the direction of Row 2, extend up to Row 2 but not include any plants in Row 2. Similarly, the row middle associated with Row 2 will begin with the plants in Row 2 and extend up to but not include the plants in Row 3. In units with skip row planting pattern, the "row middle" will include the skip if one falls between Row 1 and Row 2, or between Row 2 and Row 3.

Make all counts from the outside of a unit rather than standing or squatting between Row 1 and Row 2. This will help avoid damage to the plants within the unit.

Be systematic in making these counts. Make your count from the ground upward on each plant and use a hand counter. As an extra precaution, you may mark your progress periodically when counting open bolls or large unopened bolls. This may be done by hanging a large tag on every 50th boll. Then, if you lose your place, you can pick up the count at the last tag instead of starting over again at the beginning of the unit. Check your final count against the number of tags; for example, if you have used four tags, the count should be between 200 and 250. Remove the tags when you have finished and reviewed all counts.

Many enumerators count all the fruit on one plant before accumulating the plant total on the hand counter. Using this procedure, you need only begin recounting a stalk if you lose your place.

#### Item 6

COUNTS WITHIN 10-FOOT UNITS	UNIT 1			UNIT 2			
	ROW 1	ROW 2		ROW 1	ROW 2		
	311	321		331	341		
6. Number of plants in row							

Count the number of plants in each 10-foot row section by actually touching the base of each plant as you count. Include all cotton plants inside the unit, regardless of their size, condition or number of fruit. If a plant has no bolls or blooms of any kind or even if the plant is dead, it still must be included in the count if it falls inside the unit. Include cotton plants in the counts even if their tops have been chopped or hoed off.

Late in the growing season, after the cotton has opened, seed cotton may fall to the ground and germinate. Any plants resulting from germination of the current year's seed crop should be excluded from the plant count.

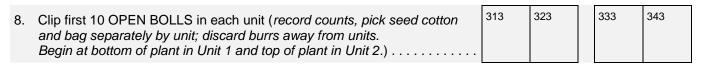
#### Item 7

7.	Number of BURRS (including burrs and open bolls on ground),	312	322	332	342	
	clip burrs from plants as you count; discard away from units					

Count the number of burrs in each row section, and record in Item 7. Include burrs found on plants and on the ground in the associated "row middles."

A burr is an open boll from which cotton (any amount) has been removed by farmer harvest or weather. An open boll with lock(s) missing because of insect or disease damage is not a "burr" and is included in the boll count. An open boll normally has 3 to 5 separate locks with cotton. A boll still attached to the plant may have a lock missing as a result of wind or rain and that lock may be on the ground. Do not try to reconstruct the open boll but classify it as a burr. If one or more locks are missing because of farmer harvest or weather and one or more locks are also missing from the same boll because of insects or disease damage, it is considered a burr.

#### Item 8



Clip the first 10 open bolls from the unit. (Clip 10 total from the unit, not 10 from each row in that unit.) These bolls are picked separately from the rest of the unit so that they can be weighed and sent to the laboratory. Begin counting and clipping the open bolls beginning with the plant nearest the starting stake (5-ft. mark) in Row 1, and proceed down the row. If you reach the ending stake (15-ft mark) before clipping 10 open bolls, move to the starting stake (5-ft. mark) of Row 2 and continue counting and clipping. If you reach the ending stake (15-ft mark) of Row 2 before clipping ten bolls you will stop clipping, and use only those bolls already clipped.

For unit 1, you will begin counting and clipping at the bottom of each plant. For unit 2, begin at the top of each plant.

Record the number of bolls clipped from Row 1 and the number of bolls clipped from Row 2 in their respective places in Item 8. The total for the two rows should equal ten unless there were fewer than ten open bolls inside the two-row unit for you to clip. Record the number of bolls on the Unit ID Tag. If an opened boll has seed sprouting due to wet and warm weather, the cotton boll is still considered an open boll and the remaining locks must be picked and weighed as part of the first 10 open bolls

Open bolls are mature bolls with at least one lock opened sufficiently to be harvested either by hand or machine (picked or stripped). Refer to the explanation of burrs and partially opened bolls. If an opened boll has a missing lock(s) as a result of insect or disease damage, it is still considered an open boll and the remaining locks must be picked and weighed as part of the first 10 open bolls.

A small but mature cracked boll from which only a portion of the seed cotton is pickable and which will not reasonably open further with time should be counted as an open boll. The wall of the boll should not have a green tint. A green tint would indicate the possibility of further opening and this boll would then be classified as a partially opened boll.

Damaged open bolls should be included in the open boll count if any portion of a lock(s) could be harvested. As a test, examine the questionable lock; if you would include that lock as part of harvest loss, then it must be included as an open boll. Damaged bolls from which no seed cotton will be harvested are included in Item 10.

After you have clipped the first 10 (or fewer) open bolls from a unit, pick the seed cotton and place that cotton in a poly bag for weighing. Portions of locks which are completely damaged should be picked off and not weighed with seed cotton which will produce lint. We treat these damaged locks as motes which during the ginning process would be blown out with the trash. When you weigh this cotton in Item 13, it should represent the weight of seed cotton which will produce lint. Scales should be left at home and the cotton carried out of the field for weighing (Item 13). However, you must identify the bags by sample number and unit number and that they are the "first 10 open bolls" (Item 8). Dispose of all burrs away from the unit. Be sure to identify these bags before you leave the field.

# Two important things to remember:

- 1. Keep this cotton separated by unit and separated from the cotton picked for Item 9;
- 2. Use the same type of poly bag to hold this cotton for weighing that you will use to hold the cotton picked for Item 9.

#### Item 9

9.	Clip other OPEN BOLLS (if any) (Record counts, pick seed cotton and	314	324	334	344
	bag separately by unit; discard burrs away from units.)				

After you clip, pick and bag the first 10 open bolls in the unit and record the count in Item 8, count and clip the remaining open bolls in each row and record the number clipped in Item 9. Use the same definition of an open boll as described under Item 8.

Pick the seed cotton from these bolls and place in a bag for weighing. Use the same type of bag you used for cotton picked in Item 8. Because the cotton will be weighed out of the field it is important that the cotton picked in Item 9 is bagged in the same manner that you used to bag the "first 10 bolls" picked in Item 8. These bags must be identified as sample XX, "Unit 1 -first 10 open bolls", Unit 2 - first 10 open bolls", "Unit 1 - other open bolls", Unit 2 - other open bolls. The picked cotton does not need to be kept separated by rows within each unit, but you must record the number of open bolls picked from each row in Item 9.

#### Item 10



Clip damaged bolls from which no seed cotton will be harvested and discard away from the units. This includes all damaged bolls (open, partially opened and large unopened) within each 10-ft. row section.

These bolls must be damaged to such an extent that it is not possible to pick any lock of seed cotton. The boxes are provided for you to record a check mark for each row after you have clipped the damaged bolls. If there is doubt as to whether partially opened bolls will produce "pickable" cotton, they should be left on the plant and counted in Item 11.

#### Item 11

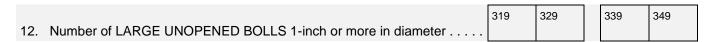
	318	328	338	348
11. Number of PARTIALLY OPENED BOLLS with cotton visible				

Count the number of partially opened bolls in each row and record in Item 11. Exclude the damaged or dried-up bolls clipped in Item 10.

Include undamaged bolls which have just cracked open enough that some seed cotton can be seen inside the boll. Also, include all bolls which are open but are not mature enough to be harvested by hand or machine.

If the walls of the boll have any green tint, this could indicate the possibility of further maturing and such bolls should be considered partially opened and counted under Item 11. Any partially opened boll which drops during the count should be included. Count as burrs any partially opened bolls accidently knocked from the plants by the enumerator while working in the unit. These must be included in the count of burrs. Do not count bolls which were already on the ground before you arrived at the unit.

# Item 12



Count the number of large unopened bolls in each row. Record in Item 12. These bolls must be one-inch or more in diameter. Exclude the damaged or dried-up large unopened bolls clipped in Item 10.

A boll gauge must be used to determine whether an unopened boll meets the size classification. Boll gauges must be precisely 1-inch inside diameter. A large boll will not pass through the boll gauge. There should be no cotton visible in these bolls.

Large bolls accidently knocked from the cotton plants to the ground by the enumerator while working in the unit must be counted as burrs.

#### **Bolls on Ground**

Pick up all large unopened and partially opened bolls which are on the ground (not attached to plants) Between Row 1 and Row 3 for each unit; discard away from units. Do not include in items 11 and 12.

Pick up and discard away from units all large unopened and partially opened bolls which are on the ground within the unit. After harvest, you will count the number of large bolls that were not harvested, and we don't want to include any bolls currently on the ground in that count. When you discard bolls away from the unit, be careful not to throw them in the area where you will lay out a post-harvest unit. It is best to throw them in the direction of the buffer area of the unit.

The units or row middles include the area from the center of the plants in Row 1 up to, but not including, the center of the plants in Row 3. Also, include skipped rows if these skips fall between Row 1 and Row 2 or between Row 2 and Row 3.

# **Making Counts in Twin Row Units**

All Form B plant & fruit counts and maturity code classifications made for sample units planted in twin planted rows will include all plants in the twin planted rows of each unit row.

# **Weighing Cotton at Home**

All cotton should be weighed at home (only when the operator refuses to let you remove the cotton from the field should you weigh the cotton in the field. This will probably require a return trip to the operation the first month, as you will not have the scales with you.)

You should select a location at home where the scales can be placed and left until the survey is complete. A separate room in the house, an outbuilding, or a garage is a good location. The location should be level with space around the scales to work. The area should be free of drafts since the scales are very sensitive and susceptible to drafts and winds.

Cotton should be weighed the same day as removed from the field. Avoid leaving cotton samples in vehicle for any long period of time to avoid moisture loss or gain before weighing. Be sure to identify each bag before you remove it from the field so weights can be entered on the correct Form when sample is weighed.

Make the necessary scale adjustment for weight of the bags. A true net weight of seed cotton must be obtained. Each reading should be checked twice before recording the weight on the Form B.

Some dietary scales are graduated in 2 gram increments but the weight of the seed cotton needs to be recorded to the nearest one gram. The newer scales are graduated in one gram increments. BE CERTAIN OF THE GRADUATION of the SCALE you are using.

It is extremely important to use identical procedures to weigh cotton in Item 11 and Item 12. The National Lab determines the moisture content of the seed cotton shipped in (first 10 open bolls) and uses this figure to adjust the "field" weight of cotton not shipped in (other open bolls) to its ginning weight (five percent moisture content).

If the "field" weights are not made using the same procedures, the adjustment we make for moisture content will not be valid.

#### Item 13

١	WEIGHTS			UNIT 2
1		Weight of item 6 seed cotton from first 10 open bolls (or less) in each unit	325	345
		After weighing, combine seed cotton from both units in 1 poly bag for the National Lab and check box		

Weigh the seed cotton from the first 10 open bolls in each unit (Item 8) and record the weight in Item 13.

After the seed cotton from each unit is individually weighed and recorded in Item 13, the seed cotton from both units should be placed into one poly bag for shipping to the National Lab as soon as possible. Only the seed cotton from the first 10 or less open bolls from each unit (Item 13) are sent to the National Lab. Press the air out of the bag and twist the top of the bag several times before folding over the neck and securing it with a rubber band.

Complete an ID tag and attach it to the poly bag for each sample sent to the National Lab. Copy the identification from the Form B questionnaire onto the ID tag. Record on the tag the total number of open bolls picked in Item 8 and the weight of the seed cotton from Item 13.

#### Item 14

	316	326	336	346	
14. WEIGHT of item 7 seed cotton in each unit					
If more than 4 weighings are needed, combine weighings to include all weights in the 4 unit cells.	317	327	337	347	

Record in Item 14 the weight of the "other open bolls" picked in Item 7 for each unit. Space is provided for recording four separate weighings for each unit. Most scales have a 1000 gram capacity while the newer one gram increment scales have an 800 gram capacity. If more than four separate weighings are needed to weigh all of the seed cotton picked, make the additional weighings as needed and combine the weights to include all of the weighings in the 4 unit cells. Show the addition of these combined weights on the margin of the Form B. Use the same precautions and procedures in making these weighings as outlined for Item 13.

Remember, when taking the cotton from the field to the house for weighing, you should handle the seed cotton from the first 10 open bolls and the other open bolls exactly the same.

#### **Counts in Three-Foot Sections**

The 3-foot section beyond each unit provides counts to measure fruit survival which is used to predict the proportion of squares, blooms, small bolls, and large bolls that will survive until harvest. Count items and procedures are the same for the 3-foot sections for both units.

Completely damaged small bolls, large unopened bolls, partially opened bolls and open bolls which will not produce any seed cotton should be clipped from plants. You must be certain that no seed cotton will be produced from these bolls. These completely damaged bolls are not to be included in the total. If there is any doubt whether a boll will produce seed cotton, do not clip the boll but include it in the counts.

Damage to blooms is difficult to evaluate. Therefore, blooms are counted regardless of condition.

Experience has shown that accurate counts in the 3-foot count section are difficult. Usually, the first month's counts are made when the crop is still fairly small. These counts are usually made accurately and with a minimum amount of difficulty. However, by the September 1 Survey most fields will have added a large amount of vegetative growth. You must take the necessary time to examine each stalk from bottom to top for obtaining accurate counts.

Burrs are never clipped from the plants but are counted every month. Open bolls are not picked and clipped but are only counted.

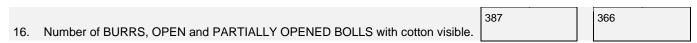
Count very carefully each month to avoid damage to the plants or fruit. Take care not to knock fruit from the plant. Count fruit accidently knocked off while counting. Do not count fruit already on the ground.

#### Item 15

# 3-FOOT COUNT SECTION BEYOND ROW 1 in UNIT 1 and UNIT 2 Count all the plants. Count all the fruit on the plants in the 3-foot row section beyond Row 1. If no plants, enter zero. UNIT 1, ROW 1 UNIT 2, ROW 1 350 365

Count the number of plants in the 3-foot count section, physically touching the base of each plant as you count. Include all cotton plants (including dead plants) inside the row section regardless of their size, condition, or number of fruit. It there are no plants in the 3-foot count section at the time of the first visit, record zeros in Items 15-19 on all Form B's.

#### Item 16



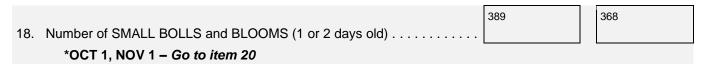
Count all burrs, open and partially opened bolls. Include all bolls with visible cotton, regardless of size. A burr is an open boll which has at least one lock missing as a result of farmer harvest or weather. Damaged bolls from which no seed cotton will be produced are not included.

#### Item 17



Count all unopened bolls which are an inch or more in diameter. Use your boll gauge to make sure you include all bolls which are too large to pass through the boll gauge. Count all green bolls 1-inch plus, even though they may be diseased or partially damaged. Completely damaged bolls from which no seed cotton will be produced are not counted and can be clipped and discarded.

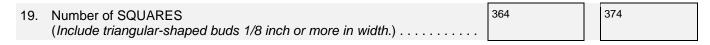
#### Item 18



Count all small bolls and blooms. The count of small bolls and blooms should include blooms that are open to any degree and bolls up to one inch in diameter. Only include bolls that will pass through the boll gauge. This count is not made for the December 1 or January 1 surveys.

Small bolls or blooms which drop during counting should be included in the counts; do not include small bolls or blooms already on the ground. Small bolls which are completely damaged so that they will never produce seed cotton are excluded from this count. Clip them and discard away from the unit.

## Item 19



Count all distinctly formed squares which are visible and large enough to be identified. In general, squares with bract widths of about 1/8 inch should be visible. All small squares having separate and distinct triangular bract formation will be counted. The bract is the small leaf like structure that surrounds the square. When you are in doubt about a small bud, count it as a square. Be careful not to count small leaf buds. Remember, it will take a careful examination along each branch to determine the number of squares because some are difficult to see. Be sure to count all squares in the growing tip of the main stem and the branches.

Squares are counted during August 1 and September 1 surveys only.

Ite	m	2	n
110		_	u

20.	Has any cotton been harvested by the open	rator in either of the sample units?		
	☐ YES = 1	□ NO = 3	Enter Code	376

Determine if the operator has picked any cotton from either of the sample units and enter the appropriate code. This will help office staff reconcile a large number of burrs and/or small number of open bolls that occur after harvest.

## Item 21

Do you expect the farmer to final harvest w (i.e., this is the last time you expect to work		
☐ YES = 1	□ NO = 3	377

This question is used by the office staff to monitor the progress of the objective yield surveys, and predict the number of samples that will be worked during the next survey period.

You will need to follow the operator's harvesting intentions closely in order to make a final visit within ten days of final harvest. Check "YES" on Item 21 when you think you are making your final pre-harvest visit to the field.

If the farmer does not harvest as expected, make additional visits as necessary regardless of whether you checked "YES" or "NO" on this form.

## **Review of Procedures at First Harvest**

Remember to remove all plastic ribbon from the sample after the last Form B is completed so the plastic will not get in the harvested cotton.

Do not complete a Form E unless this is the final harvest or the operator is uncertain (see following paragraphs).

# **Final Harvest Procedure**

**Form B:** Complete a Form B just prior to harvest if the farmer will harvest the sample field 10 or more days after the previous Form B was completed. If less than 10 days have elapsed since the previous visit, another pre-harvest visit will not be needed. Check "YES" to Item 21 on the Form B.

Complete the gleanings (Form E) within 3 days of harvest.

## **Farmer Uncertain if Final Harvest**

Complete a Form B as explained in "Final Harvest Procedure". Take your "best guess" in answering Item 21 on Form B.

Complete the Form E as explained in "Final Harvest Procedures". If farmer harvests the field again, follow procedures outlined next.

# Farm Operator Changes Mind and Harvests Again

The farm operator indicated that he/she was done harvesting, but changed mind and harvested the field again.

Complete a Form B just prior to the new "final harvest". Check "YES" to Item 21 on Form B. If the field was harvested before your visit, write "Final Farmer Harvest before Visit".

Complete another gleanings (Form E -- gleaning samples only) within 3 days after harvest.

In locating the second post-harvest units for gleanings (gleaning samples only), add 10 rows and paces to the "original Form B unit location counts," rather than the 5 used previously. Counts for Item 4, Form E, should be made on the "original Form B units".

# **Twin Row Sample Final Pre-Harvest**

The final pre-harvest procedures used for twin row planted fields are conducted using the same procedures used for the single row planted samples with the inclusion of the twin row.

## **Review Form**

After completing the observations for the Form B, check the entire questionnaire for completeness. Enter your own and your supervisor's number, and sign your name.

# **Preparing Lab Samples for Shipping**

Sealing the Bags - The seed cotton from the 20 or less bolls (Item 10) from Unit 1 and Unit 2 is combined into one poly bag immediately after weighing. This insures that the cotton maintains the same moisture as it had when it was weighed at home. Seal the poly bag by twisting the neck of the bag, folding the neck double and wrapping tightly with a rubber band.

ID Tags - A supply of tags will be given to each enumerator. These tags are printed cards approximately 3 X 5 inches. The tag is used for both pre-harvest and post-harvest lab samples.

Each poly bag must be identified by attaching a completed ID tag to the outside of the bag with a rubber band. An example of a cotton ID tag is shown on the next page.

The poly bags are placed in a Tyvek envelope.

Ship cotton samples to the lab on the same day you work the field. This is extremely important. The lab must process many samples in a short period of time. Each sample will be dried to zero percent moisture -- a process that takes several hours. If you ship your samples quickly, this will help the lab complete their work on time.

An example of the ID tag to be used is shown below. These ID tags are used as follows:

### **Pre-harvest**

1 sample ID tag with Unit 1 and Unit 2 Cotton

## **Post-Harvest Gleanings**

- 1 sample ID tag for loose cotton gleaned from the plants.
- 1 sample ID tag for cotton from the ground.

# **Example of the Cotton Sample ID Tag**

COTTON OBJECTIVE YIELD SAMPLE I.D
STATE:
POID
SAMPLE NO
FORM B DATE
FORM E DATE
If Pre-harvest sample, enter number and weight of open bolls in poly bag  Number Weight  Should be the same as shown on Form B: Item 6 total number & Item 11 total weight.
( ) POST-HARVEST GLEANINGS
(Check here)  ☐ From Plants ☐ From Ground
Bag of
SHIP SAMPLE TO NATIONAL OPERATIONS DIVISION LAB

Use form B (or Form E) to complete the identification data. The data should always match the date on the corresponding B or E Form.

The number of bolls will be 20 or less.

Check for post-harvest gleanings. Cotton from plants and from the ground must be put in separate plastic bags. Check the box to identify cotton from plants and from the ground. Record number of bags sent to National Lab. **Example:** Bag 1 of 2

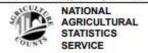
Be sure the sample ID tag is attached to the **OUTSIDE** of the poly bag.

Project Code 108

OMB No. 0535-0088: Approval Expires 3/31/2023



# FORM B COTTON YIELD COUNTS 2022



	r	Date:			
UN	IT LOCATION	UNIT	1	U	NIT 2
1.	Number of paces along edge of field	0	+ 30		
2.	Number of paces into field		+ 30	ř.	
ls t	his the SECOND Form B completed for this sample in this survey period?	'es		No	
3.	Has operator applied pesticides with organophosphorus content or a defoliate to the sample	field?			
	☐ Yes ☐ No				
	If YES, enter latest application date and name of pesticide				
		UNIT	1	U	NIT 2
4.	2 Unit relocated this month	305	2	307	
	3 Sample unit laid out previously			skip to Item	6
5.	ROW SPACE MEASURMENT		IT 1	200	NIT 2
	Measure distance from stalks in Row 1 to stalks in Row 2     (EXCLUDE rows skipped and other crop)	301	400 SC	302	
	Measure distance from stalks in Row 1 to stalks in Row 5     (EXCLUDE rows skipped and other crop)	303		304	8
CO	UNTS WITHIN 10- FOOT UNITS	UN	IT 1	UI	NIT 2
		ROW 1	ROW 2	ROW 1	ROW 2
6.	Number of Plants in row.	311	321	331	341
7.	Number of BURRS (including burrs and open bolls on ground), clip burrs from plants as you count, discard away from units.	312	322	332	342
8.	Clip first 10 OPEN BOLLS in each unit (record counts, pick seed cotton and bag separately by unit; discard burrs way from units. Begin at bottom of plant in Unit 1 and top of Plant in Unit 2.)	313	323	333	343
9.	Clip other OPEN BOLLS (if any) (Record counts, pick seed cotton and bag separately by unit; discard burrs way from units.)	314	324	334	344
10.	Clip from Plants all damaged or dried up, open or partially opened or large unopened bolls from which no seed cotton will be harvested Discard away from units				
11.	Number of PARTIALLY OPENED BOLLS with cotton visible	318	328	338	348
12.	Number of LARGE UNOPENED BOLLS 1- inch or more in diameter	319	329	339	349
	A	V.	4	V	1

Pick up all large unopened and partially opened bolls which are on the ground (not attached to plants) Between Row 1 and Row 3 for each unit; discard away from units. Do not include in items 11 and 12

		2				
FORM B COTTTON - continued						
WEIGHTS			2	JNIT 1		JNIT 2
13. Weight of item 8 seed cotton from first 1	10 open bolls (or less)	in each unitGran	325 ms		345	
After weighing, combine seed cotton fro National Lab.			ox			
14. WEIGHT of item 9 seed cotton in each	unit		316	326	336	346
If more than 4 weighings are needed, c		-	nit 317	327	337	347
3–FOOT COUNT SECTION BEYOND ROV Count all the plants. Count all the fruit or Row 1. If no plants, enter zero.			U	NIT 1, ROW	1 UNIT	2, ROW 1
15. Number of PLANTS in 3-foot row section	n		350		365	
16. Number of BURRS, OPEN and PARTIA	LLY OPENED BOLLS	S with cotton visible	387		366	
17. Number of LARGE UNOPENED BOLLS	3 (1-inch plus) (Use B	oll Gauge)	388	į.	367	
DEC 1, JAN 1 - Go to item 20						
18. Number of SMALL BOLLS and BLOOM	IS (1 or 2 days old)		389		368	
OCT 1, NOV 1 - Go to item 20			(S)		W1	
19. Number of SQUARES (Include triangular - shaped buds 1/8 in	ch or more in width.)		364		374	
GENERAL			1		- 10	
20. Has any cotton been harvested by the	perator in either of th	e sample units?				
1 Yes 3	No			· Enter C	376 Code	
21. Do you expect the farmer to final harves (i.e., this is the last time you expect to		ays				
1 Yes 3	No			. Enter C	377 Code	
ENUMERATOR COMMENTS:						
					0.0	
ENUMERATOR		<u>s</u>	Enu	merator Num	(c)	
22. Did a supervisor assist you in working t	his sample?	Yes N	o Su	pervisor Num	391 nber	
				Evalua	393 ation	
UPS Tracking Number:	(5	Net end I should and				
	(For samples sent to	National Laboratory)			· ·	
				STATUS CO	380 DDE	

# **Shipping to the Objective Yield National Lab**

# **Good Shipping Procedures:**

- Reduce transit time
- Reduce loss of samples whenever a shipping tag is destroyed in transit
- Preserve sample quality to ensure samples are 100% intact when received at the lab

# **Shipping Samples in the Tyvek Envelopes:**

If available, include both units in a poly bag and place into a Tyvek envelope, size permitting. Include an ID tag with each unit.

**Note:** If only one unit is being shipped, include a second loose ID tag for the missing unit showing the reason for its absence (lost to harvest, not planted, drowned out, blank area, etc.)

Tyvek envelopes will be used for the 2014 Cotton Objective Yield Survey. Regional field offices will be using the white 12"x 15.5" or 18"x 23" for the cotton gleaning samples.

Since the regional field offices will be using both Tyvek envelope sizes, the enumerators can choose which size works best.

Regional field offices should place a shipping label on the Tyvek envelope and seal it for shipping to the NOD.

Representatives from UPS recommend placing a strip of tape over the seal as an extra precaution.

# **Shipping Options**

There are two procedures for shipping samples to the National Lab. Field enumerators should utilize UPS shipping when available.

# UPS 2<sup>nd</sup> Day Air or UPS Next Day Air Option



• The samples should be taken to a UPS drop off location or a UPS store. If approved, you may also request a pickup by UPS.

# **USPS Option**



The samples should be taken to the front desk of a post office or sub-station that is still open, unless you have made previous arrangements with the post office where you drop the samples off. The post office may be apprehensive if they find the Tyvek envelope in an outside drop box without their prior knowledge.

# The Do's & Don'ts of Packaging and Shipping Cotton Samples

- Do: Make special notes such as "Unit 1 harvested by farmer before sample could be taken" are helpful. Review your work for each sample before shipping the sample. Make notes fully explaining problems or unusual situations.
- **Do:** Ship the cotton to the lab the same day that you work the field.
- Do: Place the seed cotton from the first 10 bolls (or less) from both Unit 1 and Unit 2 in one poly bag immediately after weighing. This ensures that the cotton maintains the same moisture as it had when it was weighed initially.
- Do: Place cotton from both units in one bag. Do not ship them separately. After placing the cotton into the poly bag, press all of the air out of the bag. Seal the poly bag by twisting the neck of the bag, folding the neck double and wrapping tightly with a rubber band. Do not use excessive rubber bands. Secure the poly bags tightly so air cannot get in the bag. Do not just fold them over.
- **Do:** Completely fill out the ID tag, making sure that the date and POID on the ID tag matches the date and POID on the Form B or Form E. The lab will use the date on the ID tags for the lab forms.
- **Do:** Each poly bag must be identified by attaching a completed ID tag to the outside of the bag with a rubber band.
- **Do:** The poly bag is then placed in a Tyvek envelope. Ship only one sample per Tyvek envelope. If the sample is lost in shipping, we will only lose one sample.
- **Do:** When a sample requires more than one poly bag, enclose an ID tag with each poly bag. Remember to write on the Crop ID tag 1 of 2 and 2 of 2, etc.
- **Do:** When shipping the Post-Harvest Gleanings, put the Form E inside the Tyvek envelope, rather than ship it separately.

Don't: Use red pencil or pen on ID tags.

Don't: Staple ID tags to paper or plastic bags.

# Chapter 6 - Form E

## General

The gleaning unit provides data to calculate harvest loss. Net yield is computed by subtracting harvest loss from gross yield. You should make gleaning observations for every fourth sample after all harvesting in the sample field has been completed. The information that is collected from the gleaning is made from a post-harvest unit, one that is separate from what you used during the season. Using a new unit will give an accurate observation of how much cotton is left behind by the harvesting equipment.

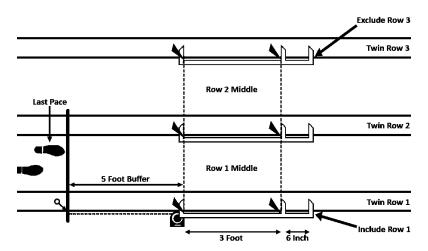
Do not glean a field which has been shredded, disked or plowed since harvest. In such cases, select another field in the tract where harvest is complete and which has not been shredded, disked or plowed since harvest. Indicate "alternate" by checking YES in Item 3 of Form E.

## **Unit Location**

You will make the post-harvest observations in two sample units, each consisting of two 10-foot long row sections. The 10-foot row sections should be measured as shown in the instructions for laying out the original (pre-harvest) units. The additional 3-foot row sections are not used.

To locate your post-harvest units, you must add an additional 5 rows and 5 paces to your original (pre-harvest) row and pace counts, except in the case where you have to collect post-harvest gleanings a second time. In this instance, you must add an additional 10 rows and 10 paces to the original (pre-harvest) row and pace count.

# **Post-Harvest Gleaning Unit in Twin Row Planted Fields**



## **Twin Row Gleaning Samples**

Post-harvest gleaning samples in twin row planted fields will be laid out using the same procedures used for laying out single row planted field gleaning sample units with some minor exceptions:

• The twin row gleaning unit will include the first twin planted row and the following wide row middle, the second twin planted row and the following wide row middle up to the leading edge of the third row. Exclude plants third twin row plants from the gleanings unit. See the single row example in Chapter 6.

- Row space measurements are recorded from the center to center of twin planted rows
- Place gleaning unit boundary stakes on the leading edge of the first row of the first set of twin rows and
  on the leading edge of the first row of the third set of twin rows then tie ribbon around the perimeter of
  the stakes to establish the gleaning unit boundary lines

## **Scenarios**

## Field has Been Shredded, Disked, or Plowed

Do not glean a field which has been shredded, disked, or plowed since harvest. Instead, select another field by the same farmer in the tract where harvest is complete and has not been shredded, disked, or plowed since harvest. On Form E, check YES in Item 3. Add 5 rows and 5 paces to the original (pre-harvest) row and pace counts.

## **Harvest is Not Complete in One or Both Units**

If a farmer's harvest is not complete in the portion of the sample field containing one or both original (pre-harvest) units, is not going to be completed on the day you are there, or is delayed beyond cut-off date, post-harvest observations can be made in the harvested portion of the sample field. If you use another part of the sample field, start your row and pace count in the harvested area nearest to the starting corner, and add an additional 5 rows and 5 paces to the original (pre-harvest) row and pace count from Form B. The harvested portion will become a new field. Use the bounce-back technique if necessary.

# Field was Harvested Again after Post-Harvest Gleanings

If the operator harvests the field again after you have made post-harvest gleanings, complete a new Form E. Be sure to include all sample identification information and make notes for the statistician. When locating the post-harvest unit, instead of adding 5 rows and 5 paces to the original (pre-harvest) row and pace count, add 10 rows and 10 paces.

## **Completing Form E**

Record the date in the space provided on the form in **MMDD** format (ex. 1109 for November 9). The sample identification data should have been entered in the upper-right hand boxes. Remember, counts are only made in the 10-foot row sections.

If the operator picks the field again after you have made post-harvest gleanings, complete a new Form E.

## Item 3

3.	Is an alternate field being used for post-harvest observa	tions?	
	YES – If YES, lay out post-harvest units in alternate field. The item 4 counts will be made in the post-harvest units.		NO – If NO, go to the ORIGINAL UNITS and continue with item 4. If the original unit(s) cannot be located, lay out post-harvest units and make the item 4 counts from the post-harvest units.

If an alternate field is used in the tract for post-harvest observations, check "YES". Lay out the post-harvest units by adding 5 rows and 5 paces to the original (pre-harvest) row and pace count and complete Item 4 from the post-harvest units.

If you did not use an alternate field, check "NO". If you check "NO", go to the original (pre-harvest) units visited each month and complete Item 4. If the original (pre-harvest) unit(s) cannot be located, lay out the post-harvest units by adding 5 rows and 5 paces to the original (pre-harvest) row and pace count and complete Item 4 from the post-harvest units.

#### Item 4

Make this count in the 10-foot row section of the original (pre-harvest) units, if possible. If the original (pre-harvest) unit(s) cannot be located or if an alternate field is used, make this count in the post-harvest unit(s). To locate the post-harvest unit(s), add 5 rows and 5 paces to the original (pre-harvest) row and pace count.

If the operator harvests the field more than once, make the counts in the 10-foot row section of the original (pre-harvest) unit(s). If you cannot locate the original (pre-harvest) units, make the count in the post-harvest unit. In this case, the post-harvest unit is 10 rows and 10 paces farther into the field than the original (pre-harvest) row and pace counts.

Count and record the number of large, unopened bolls and partially opened bolls. Use the boll gauge to determine if unopened bolls are 1-inch or more in diameter. Bolls that are rotten or dried up and which cannot produce any seed cotton should be excluded from this count. Do not include open bolls or burrs in this count.

Make separate counts in each unit for bolls that are still on the plants and bolls that are on the ground. These bolls would be expected to produce some seed cotton if the season had been longer.

**NOTE:** Items 5 - 8 are done in the post-harvest units.

## Items 5 & 8 - Row Width Measurements

IN POST HARVEST UNITS	UNIT 1	UNIT 2
5. Measure distance from stalks in Row 1 to stalks in Row 2 (Exclude rows skipped and other crop) Feet and Tenths	708	709
6. Measure distance from stalks in Row 1 to stalks in Row 5 (Exclude rows skipped and other crop) Feet and Tenths	713	714

Chapt	er	6
Form	Ε	

Use the same procedures and criteria to measure the row widths of the post-harvest units as you used in measuring the widths of the original (pre-harvest) units. Be sure to record measurements to the nearest 1/10 of a foot.

## Item 7

7.	Pic	ck all cotton on the <b>PLANTS</b> , and place the cotton from both units in one poly bag	Check	
		If there is <b>NO</b> cotton attached to plants		

# Cotton picked from the plants must be kept separate from cotton picked on the ground.

Be sure to include all cotton picked from open bolls and any locks or parts of locks that are still attached to the plant. Place the cotton picked from the plants in both units in the same poly bag, twist the neck of the bag tightly, fold the neck, and secure it with a rubber band. Do not use excess rubber bands to secure the bag. Complete an ID tag and attach the tag to the OUTSIDE of each poly bag with a rubber band. Be sure the tag is marked "Post-Harvest" and "On Plants". If more than one bag is required, mark "1 of 2". Otherwise, mark "1 of 1". Each poly bag must have an ID tag attached. An example of the ID tag is shown in Chapter 6.

Check either Item 7 or Item 7a indicating whether or not cotton was on the plant in either unit.

#### Item 8

8.		all loose cotton and cotton from open bolls and burrs <b>ON THE GROUND</b> in w and middle. Place the cotton from both units in a second poly bag	Check	
	a.	If there is <b>NO</b> cotton on the ground	Check	

Pick up all of the cotton on the ground in both units, remove all dirt and debris from the cotton, and place it all in the same poly bag. Include any locks from an open boll on the ground. Be sure the tag is checked "Post-Harvest" and "On Ground" for each poly bag. If more than one bag is required, mark "1 of 2". Otherwise, mark "1 of 1". Each poly bag must have an ID tag attached. An example of the ID tag is shown in Chapter 6.

The middle of the row associated with Row 1 will always be in the direction of Row 2. It will include the stalks in Row 1, and will extend up to Row 2. The plants in Row 2 are not included. Similarly, the middle of the row associated with Row 2 will be in the direction of Row 3. However, it will include the stalks in Row 2 and extend up to Row 3. The plants in Row 3 are not included.

In skip row cotton, the middle always includes the distance from one row to the next row. If a skip is between Row 1 and Row 2 or between Row 2 and Row 3, the skip is part of the middle and should be gleaned.

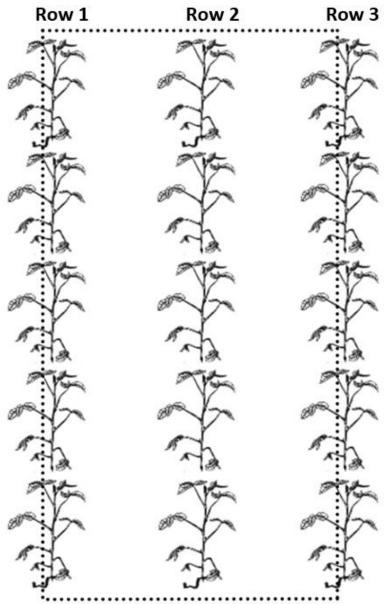
Check either Item 8 or Item 8a indicating whether or not cotton was on the ground in either unit.

Record your ID number and your supervisor's ID number. Be sure to sign your name.

## The back of Form E is for OFFICE USE ONLY.

Place poly bag(s) and Form E in the Tyvek envelope for shipping to National Lab.

# **Post-Harvest Unit**



Notice how row 3 plants are not in the unit.

Do not pick any cotton that is attached to row 3 plants, but do pick up <u>all</u> of the cotton on the ground between rows 1 and 2 and also between rows 2 and 3.

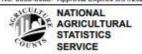
Place cotton collected from the ground from both units, in one poly bag.

Project Code 108

OMB No. 0535-0088: Approval Expires 3/31/2023



# FORM E COTTON YIELD SURVEY POST-HARVEST FIELD OBSERVATIONS 2022



		Date:			
NOTE: The post-harvest field gleanings should be com done within 3 days after harvest. If the sample field has field for gleaning if one is available in the tract					
UNIT LOCATION		2-1	UNIT 1	- 89	UNIT 2
Number of paces along edge of field			+ !	5	+ 5
2. Number of paces into field			+ (	5	+ 5
Is an alternate field being used for post-harvest obs	ervations?	785			
Yes - if Yes, lay out post-harvest units in alternate field. The item 4 counts will be made in the post-harves units.	No - If NO, continue with ite located, lay out counts from the	em 4. If the post-han	ne original vest units a	unit(s) ca and make	nnot be
		UI	NIT 1	U	NIT 2
Count the number of LARGE UNOPENED BOLLS (     diameter) and PARTIALLY OPENED BOLLS with or		On Plant 701	On Ground 702	On Plant 703	On Ground 704
IN POST HARVEST UNITS		-	UNIT 1		UNIT 2
<ol> <li>Measure distance from stalks in Row 1 to stalks in f (EXCLUDE rows skipped and other crop)</li> </ol>	CT-000.TT	708 Tenths		709	3
<ol> <li>Measure distance from stalks in Row 1 to stalks in f (EXCLUDE rows skipped and other crop)</li> </ol>	CELOOUTS.	713 Tenths	-	714	
7. Pick all cotton on the PLANTS, and place the cotto	n from both units in	one poly	y bag	Ch	eck 🔲
a. If there is NO cotton attached to plants				Ch	eck 🔲
8. Pick up all loose cotton and cotton from open bolls	and burrs ON THE				
row and middle. Place the cotton from both units in				Ch	eck

			P	790
ENUMERATOR:			Enumerator Numbe	r
9. Did a supervisor assist you in working this sample?	☐ Yes	□ No	Supervisor Number	791
SHIPPING INSTRUCTIONS:  Attach completed ID tag to the poly bag(s) containing Place bag(s) and this Form E in a Tyvek envelope.  Ship this Form E to the National Lab in the Tyvek envelope.	elope with t			
NATIONAL LABORATORY DETERMINATIONS				
(OFFICE USE ONLY)				
				710
10. Date (MMDD)			Code	20
11. Oven-dried weight of cotton picked from PLANTS		G	rams to Hundredths	715
12. Oven-dried weight of cotton picked ON THE GROUND		G	rams to Hundredths	716
			8	780
			STATUS CODE	
Lab Technician(s)		e Analys Complete		
			N	IM DD

# Chapter 7 – CAPI Data Entry

## General

CAPI will be used for data entry for Form A and B records. All data will be recorded on the paper forms in the field. After the field visit is complete the enumerator will access their assignment listing on the iPad and enter the data for their samples into the CAPI instrument exactly as it was recorded on the paper form in the field and submit the record after data entry has been completed.

# \*\*\*IMPORTANT: NEVER take the iPad into a field under any circumstance.\*\*\*

Enumerators may decide to enter the data immediately after they have exited the field or at the end of the day after all their work has been completed. To take full advantage of the mobile data collection technology developed for this survey it is highly recommended for all data to be entered and submitted by the end of the day it was collected. RFO survey coordinators will provide specific instructions on how they wish to handle the completed paper forms for samples entered and submitted via CAPI.

# **Survey Designer and Edit System**

CAPI instruments are designed in a system called Survey Designer. In this system the user has the ability to develop certain edits, which can assist the enumerator in making sure certain required cells are complete before final submission of the form through CAPI. These edits are a system of background checks within the CAPI instrument which will notify users of specific corrective actions that must be taken before proceeding with data entry. There are also certain data item checks that can be programmed in to assure completeness of the form. These depend on the OY survey being done and the crop.

These edits will help users submit complete records that meet the basic requirements of the survey edit system used for processing OY Survey data at the Regional Field Offices.

## **Examples of Edits in Place:**

- Fieldwork Date must be set before entering any other data in the form.
- A Status Code must be selected before proceeding to the next page.
- When Unit Location = 3- Unit Laid out Previously, the row space measurement cells are hidden. This is in
  place because the row space measurement does not change in a sample unit from month to month without
  first relocating it to a new position in the sample field.
- When Unit Location = 1 or 2, Row space measurement is required before proceeding.
- Enumerator and Supervisor fields must be complete before proceeding.

**NOTE:** Edits will not correct errors in entering the data. It is imperative that the user key the correct data in from the paper form, and into the correct cells in CAPI.

Always review your work before data entry and final submission. Errors on the paper form will also be errors when they are loaded to the survey edit system.

## **CAPI Form A and B Status Codes**

Prior to the implementation of CAPI data collection in the Objective Yield Survey status codes were determined by the survey statistician based on the data reported by the enumerator who completed the form.

The status code is used to identify the sample unit's status for the current enumeration period based upon recorded observations.

A status code must be selected by the user in CAPI for each Objective Yield Sample form before proceeding.

Please read the selections from the drop-down menus carefully before selecting the code that identifies the current status of the sample being enumerated.

# \*\*\*Status codes differ across all Objective Yield forms for all crops\*\*\*

## **Cotton Form A Status Code Definitions:**

# 1- Complete

First Visit: The enumerator was able to get permission to visit the field, lay out the sample units and

complete the Form A.

Minimum data requirement for Status Code 1:

Interview date must be entered

- Questions 1-5 must be positive where applicable (102-105)
- Enumerator and supervisor number must be entered
- Status Code 1 must be selected (180)

## 7- Refusal

Any Visit: The farmer refused to participate in the survey in the Form A-1 interview or decided they do

not want samples laid out in the field.

Future Visits: No future visits will be required.

Minimum data requirement for Status Code 7:

Interview date must be entered

Status Code 7 must be selected (180), no other data is required.

Enumerator and supervisor number must be entered. Put in Form B and E (if applicable) as refusals as well

## 13- No Cotton for Harvest on Entire Farm

First Visit: No cotton was planted for harvest on the entire farm at the time the Form A-1

interview was conducted.

Future Visits: No future visits will be required.

Minimum data requirement for Status Code 13:

Interview date must be entered

• Status Code 13 must be selected (180), no other data is required

Enumerator and supervisor number must be entered

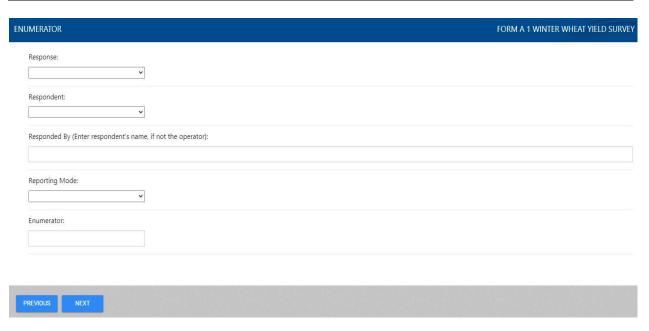
Put in Form B and E (if applicable) as No Cotton as well

When Cotton Form A Status Code is:	Is Form A Expected Next Month?
1- Complete (Form A expected next visit)	NO
<b>7</b> - Refusal	NO
13- No cotton for harvest on entire farm	NO

**CAPI Response Coding and Where to Enter Comments** 

After Form A data entry is completed select the following response codes in the submission screen. See below for comments entry example.

Item	Response Coding Used for OY Surveys
Response:	Completed
Respondent:	(Who Responded)
Respondent Name:	(Leave Empty)
Respondent Mode:	Telephone on iPad
Enumerator:	Auto coded from Assignment Listing
Comments:	General survey comments from the paper form should be entered in the comments icon. Comments that are related to a particular cell or item can be entered in item level comments, accessible via calculator icon.



## **Cotton Form B Status Code Definitions**

# 1- Complete (Form B Expected Next Visit)

The sample field is standing for harvest and sample unit measurements have been recorded. A Form B will be expected next month.

First Visit: Complete Form B to meet minimum data requirements for Status Code 1.

Future Visits: The enumerator will return to the sampled field to record measurements for both units and

complete Form B accordingly each month until the sample units are mature enough to perform preharvest procedures and send the final pre-harvest sample to the national laboratory for processing.

# Minimum Data Required for Status Code 1:

- Record Fieldwork Date
- Unit Location Codes must be 1-3 (305, 307)
- Row Space Measurements must be empty when Unit Location Code = 3 (301, 303, 302, 304)
- Counts in Items 6-19 are positive where applicable (311-389)
- Status Code 1 must be selected (380)

Form B is **expected** next month.

### 2- Farmer Harvested before Units Were Laid Out

The sample field was final harvested before sample units could be laid out. No alternate field is available in the tract. This Status Code cannot be used if previous Form B's were submitted.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument.

If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E.

Complete Form B to meet minimum data requirements for Status Code 2.

Future Visits: No future visit will be required.

## Minimum Data Required for Status Code 2:

- Record Fieldwork Date
- Status Code 2 must be selected (380)
   Form B is not expected next month.

### 3- Farmer Harvested before current month's observations

Sample units were laid out but were harvested by the farmer before the current month's observations could be completed.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument.

If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E.

Complete Form B to meet minimum data requirements for Status Code 3.

Future Visits: Gleanings samples (sample numbers that are a multiple of 4, i.e. 4, 8, 12...) will require a future visit

to complete Form E; within 3 days of farmer harvest.

# Minimum Data Required for Status Code 3:

• Record Fieldwork Date

- Item 20 must be 1 (376)
- Status Code 3 must be selected (380 Form B is **not** expected next month.

## 4- Enumerator Expects Final Harvest within 10 Days (No future Form B Expected)<sup>1</sup>

Field has not been final harvested, but enumerator expects final harvest within 10 days. Item 20 is checked 'YES'. No Form B is expected next month.

Pre-Harvest: Complete Form B to meet minimum data requirements for Status Code 4.

Future Visits: Gleanings samples (sample numbers that are a multiple of 4, i.e. 4, 8, 12...) will require a future visit

to complete Form E; within 3 days of farmer harvest.

If the field is not final harvested by next survey period, continue to complete and submit Form B

with this status code until final harvest occurs.

# Minimum Data Required for Status Code 4:

- Record Fieldwork Date
- Unit Location Codes must be 1-3 (305, 307)
- Row Space Measurements must be empty when Unit Location Code = 3 (301, 303, 302, 304)
- Counts in Items 6-19 are positive where applicable (311-389)
- Status Code 4 must be selected (380)

Form B is **not** expected next month if final harvest is completed before the next survey period.

Form B is expected next month if final harvest does not occur before the next survey period.

<sup>&</sup>lt;sup>1</sup> Form B is **not expected** next month if the sample field is harvested before the next survey period. Form B is **expected** if not harvested before next survey period.

## 6- Lost Sample - Field NOT Harvested for Cotton

The sample field was NOT harvested for cotton. During the initial interview, the farmer indicated the field would be harvested for cotton and the sample units were laid out by the enumerator. However, since the initial visit, the entire sample field was destroyed, plowed-up, pastured, or abandoned by the farmer.

**Do not use status code 6 if the sample field has been harvested for cotton** but the field was plowed, grazed, etc. before the final pre-harvest observations could be made, use status code 3.

Any Visit: Confirm the field will not be harvested for cotton with producer and complete Form B accordingly.

 ${\bf Add\ comment\ explaining\ the\ situation\ on\ Form\ B/in\ Enumerator\ Comment\ area\ of\ CAPI\ instrument.}$ 

If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E.

Complete Form B to meet minimum data requirements for Status Code 6.

Future Visits: No future visit will be required.

## Minimum Data Required for Status Code 6:

• Record Fieldwork Date

Status Code 6 must be selected (380)
 Form B is not expected next month.

#### 7- Refusal

The farmer refused to participate in the survey in the Form A interview or decided they no longer wish to participate after samples were laid out in the field.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument.

If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E.

Complete Form B to meet minimum data requirements for Status Code 7.

Future Visit: No future visit will be required.

## Minimum Data Required for Status Code 7:

- Record Fieldwork Date
- Status Code 7 must be selected (380)
   Form B is not expected next month.

## 8- Inaccessible (Form B Expected Next Visit)

Sample units are standing for harvest, but are inaccessible by the enumerator this month. This occurs in instances where enumeration for the survey month was prohibited by weather, field point of access was closed, locked, recent chemical applications, etc.

Form B cannot be inaccessible the last survey month of the year. If no pre-harvest data can be collected, use status code 2 or 3 as the final Form B for the season.

Any Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument.

Complete Form B to meet minimum data requirements for Status Code 8.

Future Visits: Return to field as normally scheduled.

# Minimum Data Required for Status Code 8:

• Record Fieldwork Date

Status Code 8 must be selected (380)

Form B expected next month.

# 11- Sample Field Was Planted but Plowed Up or Abandoned Before First Visit

Sample field was planted to cotton but not for harvest for cotton. During the initial interview, the farmer indicated that the selected sample field will not be harvested for cotton. <u>No sample units were laid out</u>.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument.

If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E.

Complete Form B to meet minimum data requirements for Status Code 11.

Future Visit: No future visit will be required.

# Minimum Data Required for Status Code 11:

- Record Fieldwork Date
- Status Code 11 must be selected (380) Form B is not expected next month.

## 12- Planted in Tract but Not in Sample Field

During the initial interview, the farmer indicated that the selected sample field was planted to cotton, however the field was discovered to be planted to another crop. No sample field is available to be surveyed.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument.

If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E.

Complete Form B to meet minimum data requirements for Status Code 12.

Future Visit: No future visit will be required.

# Minimum Data Required for Status Code 12:

• Record Fieldwork Date

• Status Code 12 must be selected (380) Form B is **not** expected next month.

### 13- No Cotton Planted in the Tract

During the initial interview, the farmer indicated they did not plant any cotton in the entire segment. No sample field is available to be surveyed.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument.

If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E.

Complete Form B to meet minimum data requirements for Status Code 13.

Future Visit: No future visit will be required.

# Minimum Data Required for Status Code 13:

- Record Fieldwork Date
- Status Code 13 must be selected (380)
   Form B is not expected next month.

# **Status Code Summary:**

When Cotton Form B Status Code is:	Form B Expected Next Month?
1- Complete (Form B Expected Next Visit)	YES
2- Farmer Harvested <u>before</u> Units Were Laid Out	NO
3- Farmer Harvested <u>before</u> Current Month's Observations	NO
4- Enumerator Expects Final Harvest within 10 Days (No future Form B expected)	NO/YES <sup>1</sup>
<b>6-</b> Lost Sample – Field <b>NOT</b> Harvested for Cotton	NO
<b>7</b> - Refusal	NO
8- Inaccessible (Form B Expected Next Visit)	YES
11- Sample Field Was Planted But Plowed Up or Abandoned Before First Visit	NO
12- Cotton for Harvest as Cotton in Tract, But Not In Sample Field	NO
13- No Cotton Planted For Harvest as Cotton in the Tract	NO

<sup>&</sup>lt;sup>1</sup> Form B is **not expected** next month if the sample field is harvested before the next survey period. Form B is **expected** if not harvested before next survey period.

# **CAPI Response Coding**

After data entry is complete for a form and you have clicked the Finish Button at the bottom of the form to submit the record, select the following response codes in the submission screen for each record.

Item	Response Coding Used for OY Surveys
Response:	Completed
Respondent:	Other
Respondent Name:	(Leave Empty)
Respondent Mode:	Face-to-Face on iPad
Enumerator:	Auto coded from Assignment Listing
Comments:	Do not enter OY comments on the submission page.
	All OY survey comments should be made in the Enumerator Comments area at the bottom of the Form B.

