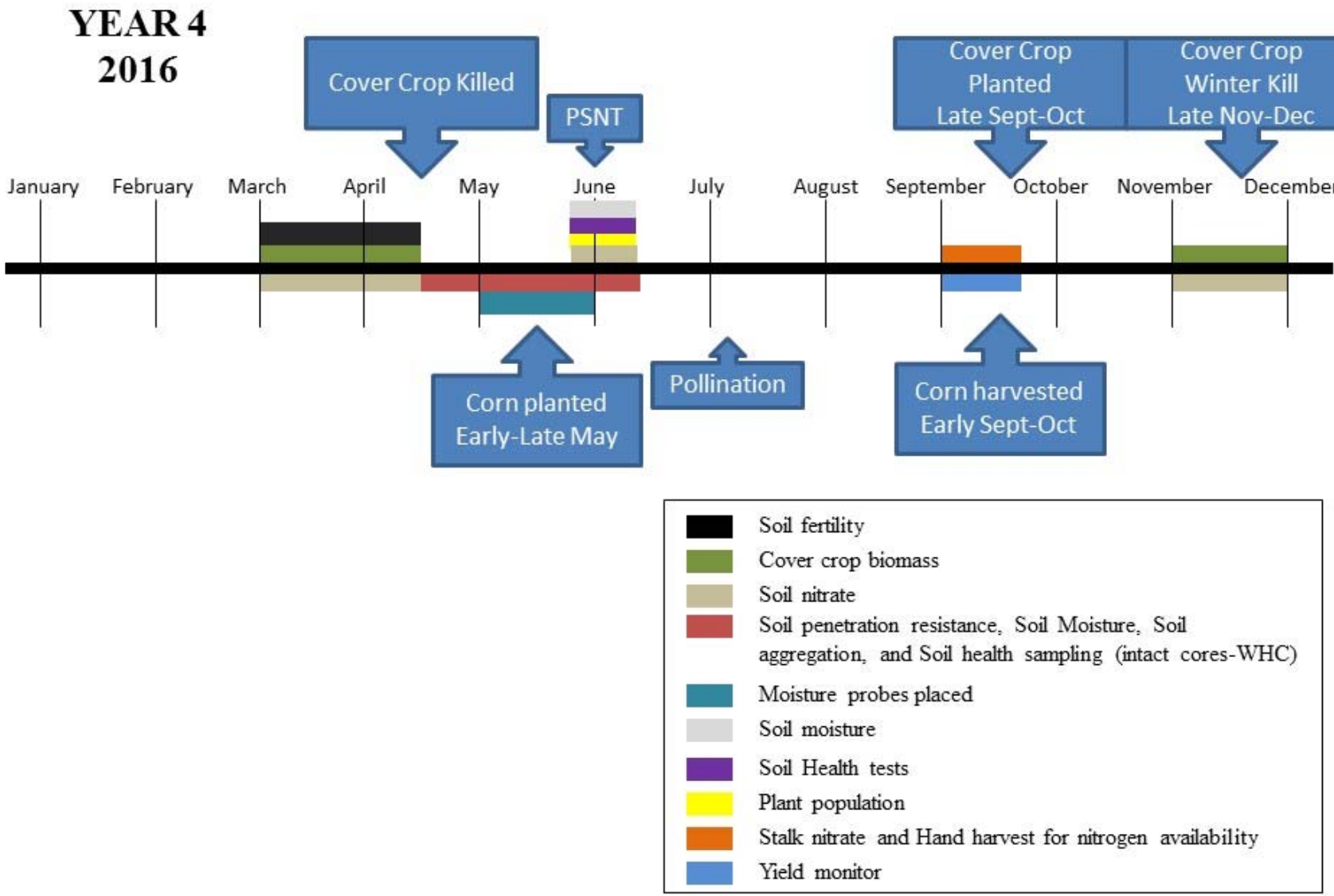
WHAT SAMPLE WHEN

	Early Spring		Late Spring		Late Summer/Harvest		Late Fall	
	CCSI	Conv.	CCSI	Conv.	CCSI	Conv.	CCSI	Conv.
Basic Soil Fertility 0-8		X						
Ammonium-Nitrate 0-12 only			X					
Ammonium-Nitrate 0-12, 12-24	X						X	
Cover Crop Biomass	X						X	
Plant Population			X	X				
Soil Moisture			X	X				
PFLA			X	X				
Cornell			X	X				
SHNT			X	X				
Mycorrhizal Assessment			X	X				
Late Season Stalk Nitrate					X			
Yield					X	X		


YEAR 4
2016
Cover Crop Killed
PSNT
Cover Crop Planted Late Sept-Oct
Cover Crop Winter Kill Late Nov-Dec
January
February
March
April
May
June
July
August
September
October
November
December
Corn planted Early-Late May
Pollination
Corn harvested Early Sept-Oct
Soil fertility
Cover crop biomass
Soil nitrate
Soil penetration resistance, Soil Moisture, Soil aggregation, and Soil health sampling (intact cores-WHC)
Moisture probes placed
Soil moisture
Soil Health tests
Plant population
Stalk nitrate and Hand harvest for nitrogen availability
Yield monitor

SAMPLE RUN #1: Early Spring

Timing

Just before cover crop termination.

It is important to sample before cover crops have been terminated.

Parameters

1. Basic Soil Fertility – 0-8" **Conventional Sites ONLY**
2. Soil Nitrate and Ammonium – 0-12" and 12-24" **CCSI sites only**
3. Cover Crop Biomass

Fields NOT in corn for 2016

- Winter Wheat, Oats – **No Spring Sampling.**
- Soybeans – **All samples will be pulled**

Supplies

CCSI Provided

- Sample Bags
  - Standard Soil Sample Bags
  - Paper "Grocery" Bags
- Hula Hoops (supplied 2013 / Year 1)
- Grass Shears (supplied 2013 / Year 1)
- Pre-populated Lab Forms
- Mailing Labels

Provided Locally

- Soil Probe
- CLEAN Sampling Buckets (2-3)
  - 1 - Soil Fertility
  - 2 - Soil Nitrate and Ammonium
- Sharpie
- Camera / Camera Phone—**Please take photos of overall field, then of hula hoop areas of biomass!** (see detailed instructions on biomass page)
- Shipping Boxes

SAMPLE RUN #2: LATE SPRING

Timing

Corn V4-V6 / Crop at 6-12". Other crops – when nearby cornfields are at V4-V6.
Soil should be **moist** (not muddy and not dry) for sampling. If soil has dried out, wait for rain and sample 1-2 days later.
It is important to sample BEFORE sidedress

Parameters

1. Soil Nitrate and Ammonium – 0-12" only
2. Soil Health Tests
    - Ward – PLFA
    - Cornell Soil Health Assessment
    - Soil Health Nutrient Tool
    - Mycorrhizal Spore Assessment
3. Soil Moisture
4. Plant Population

Supplies

CCSI Provided

- Sample Bags
- Plastic Bags (for Soil Health Sampling)
- Soil Moisture Cans
- Ice Sheets
- Shipping Labels
- Shipping Boxes (Soil Health Tests ONLY)

Provided Locally

- Soil Probe
- Field Penetrometer (Cornell)
- CLEAN Sampling Buckets
- Measuring Cup
- Cooler
- Shovel (or other means of securing measuring tape)
- Measuring tape
- Sharpie
- Shipping Boxes

SAMPLE RUN #3: LATE SUMMER

Timing

- Crop Maturity (Black Layer)**)**.
- *See "Grain Fill Stages in Corn", Bob Nielsen, for identification of crop maturity*
- For further estimates of crop maturity based upon milk line (from University of Nebraska)

Growth Stage	Water Use to Maturity	Approximate Days to Maturity
R5 – Beginning to Dent	5"	24
¼ Milk line	3.75"	19
½ Milk line	2.25"	13
¾ Milk line	1"	7

Parameters

End of Season Stalk Nitrate Sampling (Corn Only)

Fields NOT in corn for 2016

- No readings will be taken

Supplies

CCSI (ISDA/INField Advantage) Provided

- Cloth and Mesh Sampling Bags
- Submittal Forms
- UPS Shipping Labels
- Sampling Loppers (Coordinate use with local INField Advantage Network group)

Provided Locally

- Sharpie
- Shipping Boxes

SAMPLE RUN #4: LATE FALL

Timing

- Near maximum fall growth
- Just before projected low temperatures of 22F or less.

Parameters

1. Soil Nitrate and Ammonium – 0-12" and 12-24"
2. Cover Crop Biomass

Supplies

CCSI Provided

- Sample Bags
  - Standard Soil Sample Bags
  - Paper "Grocery" Bags
- Hula Hoops (supplied 2013 / Year 1)
- Grass Shears (supplied 2013 / Year 1)
- Pre-populated Lab Forms
- Mailing Labels

Provided Locally

- Soil Probe
- CLEAN Sampling Buckets
- Sharpie
- Camera / Camera Phone—**Please take photos of overall field, then of hula hoop areas of biomass!** (see detailed instructions on biomass page)
- Shipping Boxes

Basic Soil Fertility

- Sample Depth: 0-8”
- Number of Probes: 12-15 evenly spaced along each strip
- One sample bag per strip (3 reps = 6 bags, 4 reps = 8 bags)

1. Pull 12-15 soil probes from along the full length of the 500’ strip.
2. Place into clean bucket. Mix thoroughly
3. Place approximately 1 cup of mixed soil into sample bag
4. Label bag
    a. Sample ID (First Initial, Last Initial, Sequential Number)+ depth
       ex: Cameron Mills, Strip 1, 0-12” = CM1 0-12
    b. S1 (test requested)
5. Complete Form
    a. Date = Date samples were pulled
    b. Sampled by: In-field lead, in case of questions
6. Ship to A&L using provided mailing labels.

DO NOT SHIP SAMPLES ON FRIDAYS OR BEFORE HOLIDAYS!!

If you MUST pull samples on Fridays or the day before a holiday *keep soil samples refrigerated*:

A & L GREAT LAKES LABORATORIES, INC.
3505 Conestoga Dr. • Fort Wayne, Indiana 46808-4414 • Phone (260)483-4759 • FAX (260)483-5274

QUALITY ANALYSES FOR INFORMED DECISIONS®

2013 SWCD SOIL STUDY

Sample Date: 4/15/2016

ACCT 42020 (or ACCT 71066 for Purdue Farm Samples)

Sampled by: Holscher

Indiana Association of Soil and Water Conservation Districts
225 S East Street STE 740
Indianapolis IN 46202

GROWER NAME	Jane Doe
FARM	CCSI
FIELD	Strip Trial

INSTRUCTIONS: Take 12-15 soil probes 0-8 inches deep. Mix soil in a clean bucket. Place one cup of soil in a soil bag. Label the soil bag and send samples to A & L Great Lakes Labs.

SAMPLE ID	TEST REQUESTED	LAB NUMBER
JD1	S1 (report as Mehlich 3)	
JD2	S1 (report as Mehlich 3)	
JD3	S1 (report as Mehlich 3)	
JD4	S1 (report as Mehlich 3)	
JD5	S1 (report as Mehlich 3)	

Write the Sample ID on the soil bag and in the Sample ID Column (above).

Please send an e-mail copy of the report to (include all e-mail addresses here):
Dr. Eileen Kladivko kladivko@purdue.edu
Lisa Holscher / IN NACD Lisa.Holscher@IN.NACDnet.net
OTHERS: jwoodyar@purdue.edu

Soil Nitrate and Ammonium 2 Depths

1Photo Courtesy Wabash SWCD

- Sample Depth: **0-12" *and* 12-24"**
- Number of Probes: 12-15 evenly spaced along each strip *for each depth* (24-30 total, each strip)
- Two sample bags per strip (3 reps = 12 bags, 4 reps = 16 bags)

1. Pull 12-15 soil probes <u>at each depth</u> from along the full length of the 500' strip.
2. Place into clean bucket (1 bucket for 0-12", 1 bucket for 12-24"). Mix thoroughly
3. Place approximately 1 cup of mixed soil into sample bag (2 required, 1 for each depth)
4. Label bag
    a. Sample ID (First Initial, Last Initial, Sequential Number – see above)+ depth
       ex: Cameron Mills, Strip 1, 0-12" = CM1 0-12
    b. SNO3NH4 (test requested)
5. Complete Form
    a. Date = Date samples were pulled
    b. Sampled by: In-field lead, in case of questions
6. Ship to A&L using provided mailing labels.
   <u>DO NOT SHIP SAMPLES ON FRIDAYS OR BEFORE HOLIDAYS!!</u>
   If you MUST pull samples on Fridays or the day before a holiday *keep soil samples refrigerated*:

Soil Nitrate and Ammonium 0-12 ONLY

- Sample Depth: **0-12””**
- Number of Probes: 12-15 evenly spaced along each strip
- One sample bag per strip (3 reps = 6 bags, 4 reps = 8 bags)

1. Pull 12-15 soil probes from along the full length of the 500’ strip.
2. Place into clean bucket. Mix thoroughly
3. Place approximately 1 cup of mixed soil into sample bag
4. Label bag
    a. Sample ID (First Initial, Last Initial, Sequential Number)+ depth
       ex: Cameron Mills, Strip 1, 0-12” = CM1 0-12
    b. SNO3NH4 (test requested)
5. Complete Form
    i. Date = Date samples were pulled
    ii. Sampled by: In-field lead, in case of questions
6. Ship to A&L using provided mailing labels.
   DO NOT SHIP SAMPLES ON FRIDAYS OR BEFORE HOLIDAYS!!
   If you MUST pull samples on Fridays or the day before a holiday *keep soil samples refrigerated*:

A & L GREAT LAKES LABORATORIES, INC.
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QUALITY ANALYSES FOR INFORMED DECISIONS®

2013 SWCD PSNT STUDY

SAMPLE DATE: 6/15/16

ACCT 42020 (or ACCT 71066 for Purdue Farm Samples)

SAMPLED BY: Holscher

Indiana Association of Soil and Water Conservation Districts
225 S East Street STE 740
Indianapolis IN 46202

GROWER NAME	Jane Doe
FARM	CCSI
FIELD	Strip Trial

INSTRUCTIONS: Take 12-15 soil probes 0-12 inches and 12-24 inches deep. Mix soil in a clean bucket. Place one cup of soil in a soil bag. Label the soil bag and send samples to A & L Great Lakes Labs. Make sure the sample depths are indicated

SAMPLE ID		TEST REQUESTED	LAB NUMBER
JD1	**0-12"**	SNO3NH4	
JD2	**0-12"**	SNO3NH4	
JD3	**0-12"**	SNO3NH4	
JD4	**0-12"**	SNO3NH4	
JD5	**0-12"**	SNO3NH4	
JD6	**0-12"**	SNO3NH4	

Write the Sample ID on the soil bag and in the Sample ID Column (above).

Please send an e-mail copy of the report to (include all e-mail addresses here):
Dr. Eileen Kladivko kladivko@purdue.edu
Lisa Holscher / IN NACD Lisa.Holscher@IN.NACDnet.net
Jennifer Woodyard jwoodyar@purdue.edu
OTHERS:

Cover Crop Biomass

It is best to wait until dew is off the vegetation before sampling. If samples were very wet with dew, spread on newspaper overnight before rebagging and shipping.

- Sample Size: 2013 provided Hula Hoop (square frames acceptable substitute)
- One sample bag per cover cropped treatment (strip)
- Sample as close to termination as possible. DO NOT sample winter killed cover crops.
- Sample ONLY if have more than 3" of top growth (This should only be an issue at the fall/winter sampling event)

2Photo Courtesy Wabash SWCD

3Photo Courtesy Wabash SWCD

1. Place hula hoop on representative area for each strip
   Take 3 photos:
   i. straight down to hula hoop.
   ii. "up"
   iii. "down" strip
2. Using grass clippers, cut cover crop at approximately 1" above soil surface. *NOTE: Include weed species (henbit, chickweed, etc). Do NOT include tubers (radish, turnips).*
3. Place sample in paper grocery bag.
4. Label bag
   a. Grower Name: ex Cameron Mills
   b. Farm/Field: CCSI Strip Trial
   c. Sample ID (First Initial, Last Initial, Sequential Number)
5. Complete Form
   a. Date = Date samples were pulled
   b. Sampled by: In-field lead, in case of questions
   c. Area of collection (see form for example)
   d. Lab Number is for A&L use only
6. Ship to A&L using provided mailing labels.
   DO NOT SHIP SAMPLES ON FRIDAYS OR BEFORE HOLIDAYS!!
   If you MUST pull samples on Fridays or the day before a holiday, spread samples on a newspaper to dry.
7. Upload photos to appropriate folder in GoogleDrive
   https://drive.google.com/folderview?id=0BxbX9viaiDhxQ0RHczItYmlhWWc&usp=sharing

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QUALITY ANALYSES FOR INFORMED DECISIONS®

2013 SWCD COVER CROP MONITORING STUDY

ACCT 42020 (or ACCT 71066 for Purdue Farm Samples)

Sample Date: 4/15/16

Indiana Association of Soil and Water Conservation Districts
225 S East Street STE 740
Indianapolis IN 46202

Sampled by: Holscher

GROWER NAME	Jane Doe
FARM	CCSI
FIELD	Strip Trial

Cover Crop Instructions:

Select a uniform site from the field. Place a hula-hoop over the cover crop, and collect all of the above ground portion of the plants (cut about 1-inch above soil surface) within the circle. If the crop is radish or turnip, do NOT include the tubers, but only the vegetation above the tubers. Place all of the cover crop in a large paper grocery bag. Record the farm name, field ID and sample ID on the outside of the grocery bag.

Calculate the area of the collection site and record the area below:

Area of a circle = 3.14 x radius x radius (radius = ½ of the diameter)

EXAMPLE: If the circle had an inner diameter of 26.5 inches, the radius would be 13.25 inches. The area of the circle would be 3.14 x 13.25 x 13.25 = 551 square inches.

SAMPLE ID	JD1	JD2	JD3	JD4
AREA OF COLLECTION SITE in sq inches	551	551	551	551

Submit the entire sample to A & L Great Lakes Laboratories (address above).

Please send an e-mail copy of the report to (include all e-mail addresses here):
Dr. Eileen Kladivko kladivko@purdue.edu
Lisa Holscher / IN NACD Lisa.Holscher@IN.NACDnet.net
Jennifer Woodyard jwoodyar@pudue.edu
OTHERS:

ALGL – Determine Total Dry Weight of Sample, and calculate grams per square meter. RUN PN

Soil Moisture

OPTIONAL – Only to be taken if you have access to a scale that reads between 200-2000g and down to 1/10 of a gram.

- Sample Depth: 0-4” and 4-8”
- Number of Probes: just enough to fill cans (2-3 per strip)
- Two sample cans / strip (3 reps = 6 cans, 4 reps = 8 cans)

1. Pull one soil probe at 0-8” in each strip.
2. Split core in half and place DIRECTLY INTO SAMPLE CAN
3. Repeat steps 1 and 2 until cans are filled.
4. Label can (if not already)
   Sample ID (First Initial, Last Initial, Sequential Number)+ depth
   ex: Cameron Mills, Strip 1, 0-4” = CM1 0-4”
5. Weigh cans – SAME DAY
   a. Can + Soil, Lid on Can
   b. Record weight down to 1/10 gram
   c. Upload form to appropriate folder in GoogleDrive
      https://drive.google.com/folderview?id=0BxbX9viaiDhxQ0RHczItYmlhWWc&usp=sharing
6. Within 1 week, transport cans and log to Purdue Main Campus.

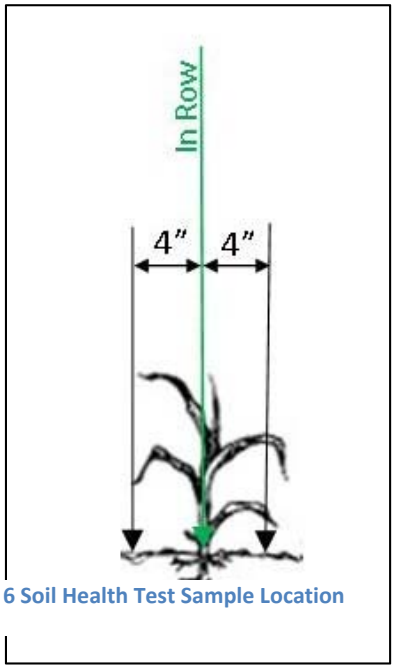
5 Photo Courtesy Wabash SWCD

4 Photo Courtesy Wabash SWCD

2016 CCSI SOIL MOISTURE STUDY			
DATE SAMPLED	June 15, 2016		
SAMPLED BY	Lisa Holscher		
GROWER NAME	Jane Doe		
FARM	CCSI		
FIELD	Strip Trial		
WRITE SAMPLE IDS ON CAN AND LID WITH SHARPIE			
SAMPLE ID	DEPTH	WEIGHT OF CAN, LID, AND WET SOIL	LAB USE
JD1 0-4"	0-4"	82.0	
JD1 4-8"	4-8"	97.7	
JD2 0-4"	0-4"	86.5	
JD2 4-8"	4-8"	91.9	
JD3 0-4"	0-4"	80.7	
JD3 4-8"	4-8"	95.3	
JD4 0-4"	0-4"	72.5	
JD4 4-8"	4-8"	98.9	
JD5 0-4"	0-4"	80.3	
JD5 4-8"	4-8"	95.3	
JD6 0-4"	0-4"	74.3	
JD6 4-8"	4-8"	98.1	
JD7 0-4"	0-4"	81.1	
JD7 4-8"	4-8"	98.8	
JD8 0-4"	0-4"	80.5	
JD8 4-8"	4-8"	95.1	

Soil Health Tests

- **PLFA, Cornell, and Mycorrhizal Spore Count (new) = sample 3 replications (strips) of "current" and "new" treatments: 6 samples per test. Sample the same strips as 2013 and 2015. SHNT = All Reps** Collect all samples (for each site) on the same day.
  1. Take 20-25 soil probes at 0-8" along the 500ft length strip into a clean bucket. *You may need more than 20 soil probes, possibly somewhere around 30 (figure this out on your first strip)*
     - **Focus on root zone of cash crop** (within approximately 4" of either side row)
     - 8 total cups required per strip
     - NOTE – DO NOT use any form of lubricants on the soil core sampler.
  2. Thoroughly mix soil in bucket and then put the required amount into sample bag.
     - PLFA (Ward) = 2 cups. Quart Plastic Bag
     - Cornell = 6 cups. Gallon Plastic Bag
     - SHNT = 4 cups. Quart Plastic Bag
     - Mycorrizal = 2 cups. Quart Plastic Bag
  3. Label Each Bag with Sample ID (First Initial, Last Initial, Sequential Number), Date, and Lab Test
     - PLFA (Ward) = "PLFA". ***Also label box "PLFA" so lab refrigerates immediately upon receipt.***
     - Cornell = "Std Soil Health" ***Also lable box "Soil Health" so lab handles appropriately***
     - SHNT = **ARS ID** (From Soil Health Nutrient Tool Form).
     - Mycorrizal – ***Label Box REFRIGERATE***
  4. Store in cooler with ice packs during sampling (out of sun/heat).
  5. Penetrometer (Cornell Test)
     - 10 locations / strip
     - 2 depths (0-6 and 6-18 inches)
     - For each depth, record the highest/maximum measured penetrometer reading on the Cornell Grower and Field Information Sheet
  6. Place Ward and Cornell samples in refrigerator overnight (or over weekend if Friday sampling is necessary). Store SHNT samples at room temperature.
  7. Complete forms (see attached samples)
     - Appropriate lab submission forms (include with samples when shipping)
       (i) PFLA (Ward) = 1 form / field
       (ii) Cornell = 1 form / field
       (iii) SHNT = 1 form / field
       (iv) Mycorrhyzal = 1 form / field
  8. Package for Shipping
     Bag samples and lab card(s) by account before placing into shipping box with ice packs as required.
     i.e. NRCS Soil Health Initiative in one bag. Purdue in a second bag. Place both in same shipping box w/ ice packs.
  9. Ship to lab
     - PLFA – Overnight to lab – With IcePacks
     - Cornell – 2nd Day to lab – With IcePacks. ***Separate NRCS Soil Health Initiative from Conventional Comparison – Place ziplocks in 2 separate bags in the same shipping box***
     - SHNT – Ground to ARS. No IcePacks
     - Mycorrizal – Overnight to Purdue – With IcePacks. ***Email kladivko@purdue.edu Jwoodyar@purdue.edu so they may give agronomy office heads up to refrigerate samples***.



6 Soil Health Test Sample Location

2016 Cornell Assessment of Soil Health Submission Form - PRINTABLE spreadsheet

page 1

Please see the website for an on-line version of the soil health sample submission form. If not, then print this form, enter your iunformation, and place into the box with your samples. Save a copy for your records.

You will be contacted upon receipt of this form with the amount due for the soil sample analyses. NOTE: Quarantined samples are subject to an additional 15% surcharge.

Cornell Nutrient Analysis Lab, G01 Bradfield Hall,
306 Tower Rd, Ithaca, NY 14853 607-227-6055

email: soilhealth@cornell.edu

http://soilhealth.cals.cornell.edu

You can enter more than one ASP here

Grower First Name	Grower Last Name	Grower Address	Grower Email Address	Who is paying for the sample? (name or email)	Quarantine samples?	Ag Service Provider (or leave blank)	Ag Service Provider Email Address	Ag Service Provider Phone Number
JANE	DOE	DECKER, IN	JANE.DOE@JANEDOE.COM	lisa.holscher@in.nacdnet.net	No		kladivko@purdue.edu, lisa.holscher@in.nacdnet.net, woodyar@purdue.edu	

number your samples	Field I.D./Sample Name WRITTEN ON SAMPLE BAG	Date sampled 2016	Testing Package Basic, Standard or Extended (see page 2)	Any Additional Testing? Choose: Soluble Salts; Heavy Metal digestion; Bean Root Bioassay; Hot-water Soluble Boron	GPS Coordinates for Field or Sample (online help at http://itouchmap.com/latlong.html)		soil name (if known)	Tillage Depth 2016 1 = notill 2 = 1-7 inch 3 = 7-9 inch 4 = > 9 inch	Crop Information* *Find the Crop Codes at http://dairyone.com/analytical-services/agronomy-services/soil-testing/ 2014	2015	2016
JD1	JD 1 CCSI	15-Jun	S	No	87*27.21'-38*1.26'		Hosmer	1	WHT/SOY	COG	SOY
JD2	JD2 CCSI	15-Jun	S	No	87*27.21'-38*1.26'		Hosmer	1	WHT/SOY	COG	SOY
JD3	JD3 CCSI	15-Jun	S	No	87*27.21'-38*1.26'		Hosmer	1	WHT/SOY	COG	SOY
JD4	JD4 CCSI	15-Jun	S	No	87*27.21'-38*1.26'		Hosmer	1	WHT/SOY	COG	SOY
JD5	JD5 CCSI	15-Jun	S	No	87*27.21'-38*1.26'		Hosmer	1	WHT/SOY	COG	SOY
JD6	JD6 CCSI	15-Jun	S	No	87*27.21'-38*1.26'		Hosmer	1	WHT/SOY	COG	SOY

BASIC Soil Health Analysis Package $50/sample **(sample size 3 cups)**
Recommended applications: field crops, dairy, lawns
> Soil pH, Organic Matter, Modified Morgan Extractable P, K, micronutrients
> Wet Aggregate Stability
> Soil Respiration
> Surface , sub-surface Hardness interpretation (optional- *you provide the penetrometer readings*)

STANDARD Soil Health Analysis Package $95/sample **(sample size 4 cups)**
Recommended applications: organic production, veg crops, problem diagnosis, home gardens
> Soil pH, Organic Matter, Modified Morgan Extractable P, K, micronutrients
> Soil Texture
> Wet Aggregate Stability
> Available Water Capacity
> Active Carbon
> Soil Respiration
> Soil Protein
> Surface and sub-surface Hardness (optional- *you provide the penetrometer readings*)

EXTENDED Soil Health Analysis Package $150/sample **(sample size 6 cups)**
Recommended applications: urban/ suburban gardens, problem diagnosis, soil health initializing, home gardens, landscaped areas, corner lots, brownfields
> Includes the **STANDARD Soil Health Analysis Package PLUS**
> Add-on Soluble Salts
> Add-on Heavy Metal Screening
> Add-on Bean Root Bioassay

Useful Add-on Tests for the BASIC and STANDARD Package

Soluble Salts $10/sample
Recommended applications: high tunnels, lawns and urban areas, heavily composted areas, home gardens, landscaped areas

Heavy Metal Screening $30/sample
Recommended applications: urban areas, home gardens, playgrounds, brownfields

Bean Root Bioassay $15/sample
Recommended applications: home gardens, vegetables, problem areas

Hot Water-soluble Boron $15/sample
Recommended applications: small fruits, vegetables, home gardens

Soil penetrometer data- record the highest number encountered in the 0-6" and the 6-18" depth for each subsample location

location 1		location 2		location 3		location 4		location 5		location 6		location 7		location 8	
0-6"	6-18"	0-6"	6-18"	0-6"	6-18"	0-6"	6-18"	0-6"	6-18"	0-6"	6-18"	0-6"	6-18"	0-6"	6-18"
275	450	300	500	300	350	300	>500	350	500	225	>500	375	>500	250	>500
325	500	300	500	300	500	375	500	275	475	350	>500	325	>500	300	500
300	>500	300	500	400	>500	300	500	300	450	250	>500	400	500	400	>500
300	500	325	>500	300	500	300	>500	275	500	325	425	300	450	300	>500
300	450	250	500	325	>500	275	>500	300	>500	300	>500	350	500	300	500
350	>500	300	500	350	>500	300	>500	300	>500	325	>500	400	>500	400	>500

All of the soil analyses found in the Packages or the Add-ons are available from the Cornell Nutrient Analysis Lab. Use the Submission form S at this link: http://cnal.cals.cornell.edu/forms/pdfs/CNAL_Form_S.pdf

Phospholipid Fatty Acid (PLFA)
Missouri Soil Health Assessment Center
College of Agriculture, Food and Natural Resources
3600 New Haven Road
University of Missouri
Columbia, MO 65201

GROWER NAME:	John Doe		
County	Knox	**State**	Indiana
Sample Date:	6/1/16	**Ship Date:**	6/1/16
Sampled By:	Holscher		
Time since planting:	4 weeks	**Crop Stage:**	V5

Sample ID	Notes
JD1	
JD2	
JD3	
JD4	
JD5	
JD6	

Email results to:
Dr. Eileen Kladivko kladivko@purdue.edu
Lisa Holscher Lisa.Holscher@IN.NACDnet.net
Jennifer Woodyard jwoodyar@purdue.edu

Soil Health Nutrient Tool
USDA-ARS
808 E Blackland Road
Temple, TX 76502

GROWER NAME:	John Doe		
County	Knox	**State**	Indiana
Sample Date:	6/1/2016	**Ship Date:**	6/1/2016
Sampled By:	Holscher		
Time since planting:	4 weeks	**Crop Stage:**	V5

ARS ID	CCSI ID	Notes
IN-1000-C	JD1	
IN-1001-C	JD2	
IN-1002-C	JD3	
IN-1003-C	JD4	
IN-1004-C	JD5	
IN-1005-C	JD6	

Email results to:
Dr. Eileen Kladivko kladivko@purdue.edu
Lisa Holscher Lisa.Holscher@IN.NACDnet.net
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Mycorrizal Spore Assessment
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GROWER NAME:	John Doe		
County	Knox	**State**	Indiana
Sample Date:	6/1/16	**Ship Date:**	6/1/16
Sampled By:	Holscher		
Time since planting:	4 weeks	**Crop Stage:**	V5

Sample ID	Notes
JD1	
JD2	
JD3	
JD4	
JD5	
JD6	

EMAIL ON SHIPPING SO AGRONOMY DEPT OFFICE IS ALERTED (and samples are refrigerated upon receipt)

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Plant Population

Video Instruction (30" Rows): http://www.youtube.com/watch?v=nO6TN5fJ5v8&feature=youtu.be

Counting Plants in a Row

Count the number of plants in a length of row equal to 1/1000th of an acre.

- 43,560 / Row Width (in feet) = Length of Row equal to 1/1000th of an acre
- 30" Rows – 17'-5" row length

Row Width (inches)	Length of Row Needed to Represent 1/1000th of an Acre
30	17' – 5"
20	26' – 2"
15	34' – 10"
10	52' – 3"
7.5	69' – 7"

1. Calculate average plant population
   a. Select representative area of RST
   b. Stick shovel in ground between rows. Secure measuring tape and walk it out 17'-5"
   c. Count plants in adjacent rows. Average number of plants.
   d. Multiply averaged number of plants x 1000 = plant population / acre
2. Calculate lower performing plant population
   a. Count number of plants that are a leaf stage or more behind. Average number of plants / row
   b. Multiply averaged number of plants x 1000 = plants "behind" / acre
3. Record plant populations on form.

Using the Hula Hoop Method

Recommended for soybeans

Toss hoop in representative area of strip. Count plants in each hoop. Repeat and average, then multiply by the appropriate factor.

$$\text{Factor} = \frac{43{,}560}{(\text{Hoop Radius in Inches}^2 \times 3.14)/144}$$

Diameter of Hoop (inches)	Factor
18	24,662
21	18,119
24	13,872
27	10,961
30	8,878
33	7,337
36	6,165

Conservation Cropping Systems Initiative

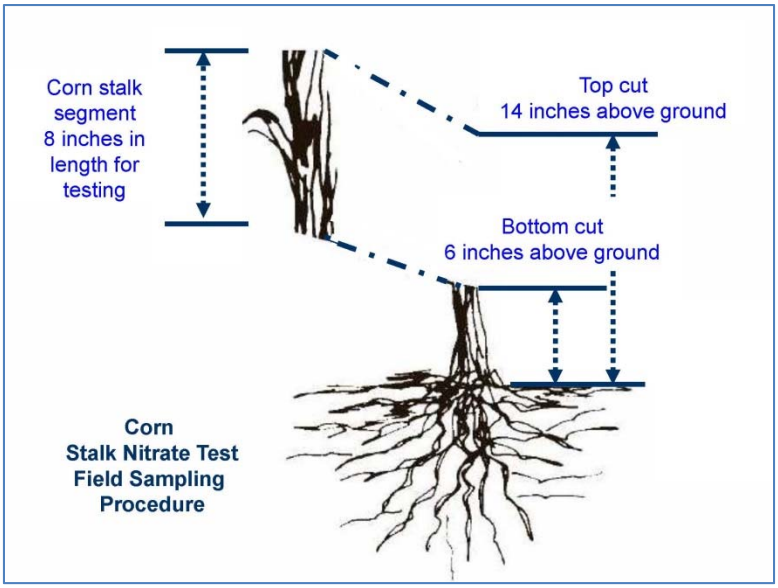
2016 CCSI RST Population		
Date sampled	6/15/16	
Sampled By	Holscher	
Grower Name -	Jane Doe	
Crop:	Corn	
Row Spacing (in inches):	30"	
Treatment (Sample) ID	Population / Acre	"Behind" Population
JD1	32000	1000
JD2	32500	0
JD3	32500	500
JD4	32000	2000
JD5	31500	1000
JD6	32000	500
JD7	32500	0
JD8	32000	500

Notes: .

Late Season Corn Stalk Nitrate

Collect all samples (for each site) at crop maturity (black layer) before harvest and on the same day.
*Note: CCSI stalk sampling **will not** be GPS-guided. (GPS points will **not** be provided)*

1. Select appropriate cloth bag for the strip being sampled.
    - One sample bag will be used for each strip
    - Cloth bags are pre-labeled, using the same naming convention as prior tests.
    - Sample ID (bag label) = Grower's Initials + Sequential Numbering
2. Collect approximately 15 stalk samples per strip.
    - Pace approximately 25 feet between sample locations
    - Pull samples from opposing rows.
    - Pull *representative* samples
        i. Avoid skips
        ii. Avoid doubles
        iii. Do NOT sample "zero" ear stalks
    - Using provided loppers, cut 8" stalk segment, 6" above ground (see photo)



3. Complete Sampling Form (Provided)
4. Place all cloth bags in provided mesh bag
5. Using provided labels, package and deliver to UPS pick-up point **on the same day**.
   If unable to ship on the same day, place samples in freezer for storage (even if overnight)
   DO NOT SHIP SAMPLES ON FRIDAY