CENTRAL PLATTE NRD

Fiscal Year 2025/2026 Budget Hearing Minutes
July 31, 2025

OPEN HEARING: Chairman Deb VanMatre opened the public hearing at 1:45 pm. She stated that this public hearing is an open meeting of the Central Platte Natural Resources District. The NRD abides by the Open Meetings Act in conducting business. A copy of the Open Meetings Act is displayed on the South wall of this room, as required by State Law.

ATTENDANCE: Board members present by roll call were:

Todd Arends	Charles Maser	Jay Richeson
Lon Bohn	Jerry Milner	Ed Stoltenberg
Tom Downey	Barry Obermiller	John Stoltenberg
Brian Keiser	Keith Ostermeier	Deb VanMatre
Amy Kyes	Doug Reeves	Kevin Werner
Dwayne Margrtiz	Mick Reynolds	Mike Wilkens

Excused Absences: Ryan Kegley and Marvion Reichert

Chairman VanMatre reported that the purpose of this hearing is to receive support, criticism, suggestions, or observations of taxpayers relating to the proposed Fiscal Year 2025/2026 budget and to consider amendments relative to the proposed budget. Notices of the hearing and budget summary were published in the Grand Island Independent, Kearney Hub, Central City Republican Nonpareil, Lexington Clipper Herald and Gothenburg Leader. The hearing notice was entered into the record (See attached Grand Island Independent notice).

REVIEW: General Manager Lyndon Vogt said the Budget Committee had met prior to the board meeting and reviewed the proposed budget as advertised and any Budget Committee recommended amendments. Lyndon referred to the "Budget Summary Comparison" showing last year's adopted budget and the proposed FY 2025/2026 budget (see attached).

General Manager Vogt said the budget, as advertised, would require property taxes of $5,347,834.31. This would be a decrease of $1,489.86 from last year. He also reviewed the balances on hand as of June 30, estimated revenue, and totals for proposed expenditures. No new property tax is being proposed for the Sinking Fund.

CALL FOR TESTIMONEY: Chairman VanMatre asked if there was any testimony on the proposed budget. There was none.

CLOSE: Chairman VanMatre closed the hearing at 1:50 pm.

See July 31, 2025, board meeting minutes for action on the proposed Fiscal 2025/2026 budget.

CENTRAL PLATTE NRD
Board Meeting Minutes
July 31, 2025

CALL TO ORDER: Chairman Deb VanMatre called the meeting to order at 2:00 p.m. She reported that the NRD abides by the Open Meetings Act in conducting business and said that a copy of the Open Meetings Act was displayed on the south wall of the conference room. The Board reserves the right to change the order of an item on the agenda, and some items on the agenda are subject to closed session.

ATTENDANCE: Board members present by roll call were:

Todd Arends	Charles Maser	Jay Richeson
Lon Bohn	Jerry Milner	Ed Stoltenberg
Tom Downey	Barry Obermiller	John Stoltenberg
Brian Keiser	Keith Ostermeier	Deb VanMatre
Amy Kyes	Doug Reeves	Kevin Werner
Dwayne Margritz	Mick Reynolds	Mike Wilkens

Excused Absences: Ryan Kegley and Marvion Reichert

Staff present: Lyndon Vogt – General Manager, Kelly Cole – Administrative Assistant, Marcia Lee – Information/Education Specialist, Jesse Mintken – Assistant Manager, Tricia Dudley – Water Quality Specialist, Courtney Widup – Water Resources Technician, Brody Vorderstrasse – Communications Assistant, Dean Krull – UNL/CPNRD Demo Project Coordinator, Courtney Olson – Office Assistant and Collin Quandt – Agronomist.

Others present: Joe Krolikowski – District Conservation

MEETING NOTICES: Chairman VanMatre reported that the notices of the meeting had been published in the Grand Island Independent, and the news release was provided to other media outlets in the district.

MEETING MINUTES: Keith Ostermeier made the motion to approve the June board meeting minutes. Mike Wilkens seconded the motion. All board members present, voting by roll call vote, were in favor, except Charles Maser who abstained. Motion carried.

ANNOUNCEMENTS & OTHER BUSINESS FOR FUTURE MEETINGS: Chairman VanMatre asked if there were any announcements or suggestions for future meetings. There was none.

PUBLIC FORUM: Chairman VanMatre asked if anyone wanted to address the board on any item not included on the agenda. There was none.

EXCUSED ABSENCES: Chairman VanMatre reported that Ryan Kegley and Marvion

Reichert requested to be excused from the board meeting.

Jay Richeson made the motion to approve the absences as requested. Tom Downey seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

NRCS REPORTS: Joe Krolikowski, District Conservationist, reported on Dawson County's current projects as Carrie Thompson was unable to attend meeting (see attached).

Joe Krolikowski, District Conservationist, also reported on the National Food Security Act (see attached).

BUDGET COMMITTEE: Deb VanMatre reported that the committee met earlier today.

VanMatre reported that the advertised budget proposed the property tax request of $5,347,834.31 which is a decrease of $1,489.86 from last year. No changes were made to the budget as advertised.

Action on Budget of Expenditures for Budget Hearing & Set Public Hearing – Kevin Werner made a motion to approve the budget as advertised, with a property tax request of $5,347,834.31, which is a decrease of $1,489.86 from last year. Jay Richeson seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

Set Public Levy Hearing – Tom Downey made a motion to schedule the public hearing to set the Fiscal Year 2025/2026 levy on September 4, 2025, at 1:45 pm with the board meeting scheduled that day at 2:00 or immediately following the public hearing. Keith Ostermeier seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

BUILDING COMMITTEE: Mick Reynolds, chairman, reported that the committee met earlier today. A video of the building progress was presented.

Reynolds reported that the Central Platte NRD is applying for federal assistance from the Recreational Trails Program to install a 10' wide x 70' long prefabricated pedestrian bridge over Silver Creek which will link a future naturalized trail for the public on the north side of our new office. To apply for the grant, Resolution 001-25 needs to be approved by the board. The resolution states that the Central Platte NRD has the written commitment for the 20% local matching share for the project.

Mick Reynolds made a motion to approve Resolution 001-25 to apply for federal assistance from the Recreational Trails Program for a prefabricated pedestrian bridge over Silver Creek on the north side of our new office. Keith Ostermeier seconded the

motion. All board members present, voting by roll call vote, were in favor. Motion carried.

Reynolds reported that since we are not considered agricultural, we are required to have a geotechnical survey done where the new CPNRD Storage Building will be located. GSI Engineering, LLC – A UES Company presented a proposal with a total cost of $4,185.00.

Tom Downey made a motion to accept the proposal from GSI Engineering, LLC – A UES Company for a geotechnical survey on the location of the CPNRD Storage Building at a cost of $4,185.00. Keith Ostermeier seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

WATER UTILIZATION COMMITTEE: Brian Keiser, chairman, reported that the committee met earlier today.

Keiser reported that CPNRD currently has a WaterSmart grant with the Bureau of Reclamation. This grant will provide CPNRD with installing 100 flow meters with telemetry throughout CPNRD at no cost to the landowners. Seim Ag Technology presented a quote for a McCromoter meter at $4,435.68 each installed.

Brian Keiser made a motion to approve the contract with Seim Ag Technology for the purchase of 100 McCromoter Flow Meters with Telemetry at a cost of $4,435.68 each installed for our WaterSmart grant. Mick Reynolds seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

PROGRAMS COMMITTEE: Kevin Werner, chairman, reported that the committee met earlier today.

Werner reported that Central Platte NRD received 4 scholarship applications for the Ron Bishop Memorial College Scholarship Program. To receive the $1,000 scholarship, you must be a college sophomore, junior, senior or graduate student who resides within the district and is pursuing a natural resource related degree. Three of the four applications qualified.

Kevin Werner made a motion to approve the following awardees the $1,000 Ron Bishop Memorial College Scholarship: Cooper Grant of Grand Island, Gage Fryda of Kearney and Braeden Anderson of Gothenburg. Doug Reeves seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

EASTERN PROJECTS COMMITTEE: Jerry Milner, chairman, reported the committee met earlier today.

Milner reported on the Platte Valley Industrial Park Drainage Ditch Project Amendment #4 with Olsson Inc in the amount of $16,500. This amendment includes updating property appraisals, renegotiating easements with existing and new property owners, and

redesigning a portion of the plans to accommodate new ownership.

Jerry Milner made a motion to approve Amendment #4 with Olsson Inc for the Platte Valley Industrial Park Drainage Ditch Project in the amount of $16,500 to update property appraisals, renegotiate easements with existing and new property owners and redesign a portion of the plans to accommodate new ownership. Kevin Werner seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

BOARD SEARCH COMMITTEE REPORT: Deb VanMatre reported that no letters of interest were received for the sub-district 3 vacancy. If anyone knows of someone interested, please reach out to them. CPNRD will advertise the vacancy again.

MANAGER'S REPORT: Lyndon Vogt, General Manager, reported that four individuals remain out of compliance with the District's Nitrogen Management program. Tricia Dudley has spoken with 2 of the individuals, but has sent multiple letters to all the landowners.

Vogt reported that on July 15, Governor Jim Pillen and Attorney General Mike Hilgers announced that the State of Nebraska has filed a case with the US Supreme Court to uphold Nebraska's rights under the 1923 South Platte River Compact. A publication was sent out from all the partners which include Twin Platte NRD, Central Platte NRD, South Platte NRD, Western Irrigation District, Nebraska Public Power District and Central Nebraska Public Power and Irrigation District.

Vogt reported that he will serve on the University of Nebraska Medical Center's Contamination in Drinking Water Educational Advisory Board.

Vogt reported that Tri-Basin NRD will be hosting a meeting on Wednesday, August 20 at Noon at the Younes Convention Center-South in Kearney. This meeting will have a series of presentations about various aspects of water management in the Platte Basin downstream from Lake McConaughy. Anyone interested in attending needs to let Lyndon or Kelly know as soon as possible.

STAFF REPORTS: Courtney Olson, Office Assistant and Dean Krull, UNL/CPNRD Demo Project Coordinator, presented to the board what their job duties are.

COST SHARE PROGRAMS: Applications - Kelly Cole, Administrative Assistant, reported that we have received cost share applications for the following programs: Nebraska Soil & Water Conservation, Center Pivot, Cover Crop, and Soil Moisture Sensors (see enclosed). She said the applicants are in compliance with the District's rules and regulations, funds are available, and she recommended they be approved.

Jay Richeson made the motion to approve the cost share applications as reported. Doug Reeves seconded the motion. All board members present, voting by roll call vote, were

in favor. Motion carried

FINANCIAL REPORT: Lyndon Vogt, General Manager, reviewed the July financial report.

Mick Reynolds made a motion to approve the July financial report as presented. Tom Downey seconded the motion. All board members present, voting by roll call vote, were in favor. Motion carried.

NEBRASKA ASSOCIATION OF RESOURCES DISTRICT: Deb VanMatre, NARD Board Member, reported the next meeting will be September 30, 2025, in Kearney in conjunction with the NARD Annual Conference. If interested in attending the NARD Annual Conference, please let Kelly Cole know.

NATURAL RESOURCES COMMISSION: Doug Reeves, Middle Platte Basin Representative, reported that the Commission received 24 applications for the Water Sustainability Fund (9 large/14 small). The Commission approved funding for 2 large projects and 2 small projects, totaling $1.48 million.

UPCOMING EVENTS: Chairman VanMatre reviewed the upcoming events.

Next Board Meeting – Scheduled for the afternoon of Thursday, September 4. Details to follow.

OTHER BUSINESS: There was none.

ADJOURN: Chairman VanMatre adjourned the board meeting at 3:16 p.m.

Dawson County Workload 2025

Carrie Thompson

EQIP

- 34 Active EQIP contracts
- Mix of SDI, irrigated to dryland, livestock watering systems, brush management
- Several livestock watering systems going in right now
- Lots of cedars being cut right now
- Some irrigation practices completed before planting this last spring

CSP

- 33 Active CSP contracts
  - Nutrient management, Body condition scoring for cattle, Pest management, Herbaceous weed spraying
- 5 renewal applications
- Producer will start turning in records soon

RCPP 2271 and 1966

- 15 Active contracts
- 9 irrigated to dryland contracts
- 6 Cover crop contracts

What we are working on now

- Grassland CRP Signup until August 8th
  - Conducting field visits and working with the producers on stocking rates
- CSP renewals
  - Application deadline was back in June- mapping, assessments and rankings due in November
- CSP Certification will start in the next week for Active contracts
- EQIP- taking new applications, making field visits for inventory, mapping and assessment prep
- Starting to get calls for tree planting
- General CTA inquiries

United States Department Of Agriculture

USDA NRCS
Natural Resources Conservation Service
Grand Island Field Office
703 S Webb Rd., Suite B
Grand Island, NE 68803
Phone (308) 395-8586 (Ext. 3)
http://www.ne.nrcs.usda.gov

July 28, 2025

Central Platte NRD
215 North Kaufman Avenue
Grand Island, NE 68803

July Report to CPNRD

During the month of May, the Natural Resources Conservation Service (NRCS), as part of its responsibility in carrying out the conservation provisions of the National Food Security Act of 1985, as amended, conducted the annual status reviews in the Central Platte NRD and across the state for the 2024 crop year. In total, staff in our 4 offices completed 56 status reviews this year, the review required the staff to evaluate each of those 56 tracts for potential wetland and/or highly erodible land issues, and in some cases, tracts contained both.

It has been 40 years now that the National Food Security Act of 1985 was passed into law. As a reminder, the purpose of this Act is intended to discourage the conversion of wetlands and to reduce soil erosion on Highly Erodible Land (HEL). This was done by linking the United States Department of Agriculture (USDA) benefits to conservation compliance. This means if an owner/producer were deemed out of compliance, they would not be eligible to receive any USDA benefits, on any fields they own or operate.

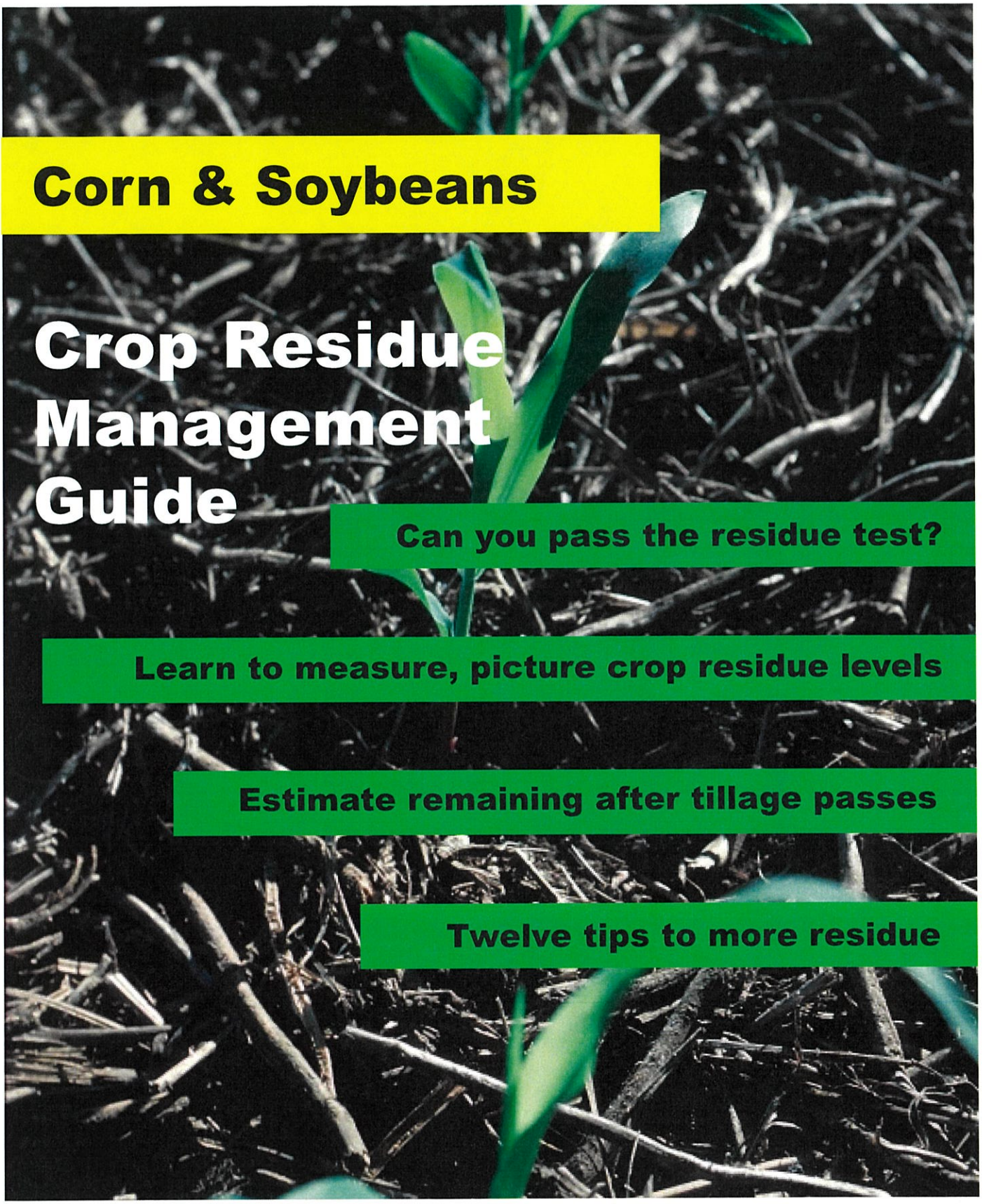
Examples of the USDA benefits producers could receive, or lose, are the direct payments made by the Farm Service Agency (FSA), Farm Bill conservation program participation and possible payments for conservation practices through NRCS, and nowadays probably the biggest benefit is Federal Crop Insurance subsidies through the Risk Management Agency (RMA). Every spring, random names and tracts are drawn out of the FSA database in Kansas City that contain highly erodible land and/or wetlands, and those are to be reviewed for conservation compliance as described above. The NRCS staff across the United States are tasked with completing these field reviews each year for the Farm Service Agency, and then if need, we work with producers to develop or update their conservation plans to maintain compliance and USDA benefits.

Respectfully Submitted,

/s/ Joe Krolikowski

Joe Krolikowski
District Conservationist

Attachments: CPNRDrep7-25 Attachment Corn & Soybean Crop Residue Management Guide
CPNRDrep7-25 Attachment G1931-2009 Estimating Percent Residue Cover
CPNRDrep7-25 Example Residue Tape Photo



Corn & Soybeans

Crop Residue Management Guide

Can you pass the residue test?

Learn to measure, picture crop residue levels

Estimate remaining after tillage passes

Twelve tips to more residue

United States Department of Agriculture

NRCS Natural Resources Conservation Service

Using this guide to reduce erosion with crop residues

Thousands of farmers have learned to save soil, time and money by farming successfully with crop residues. Their most important step, many say, was to become committed to the concept.

This guide gives direction on the soil-saving value of crops residues. Use it to:

- recognize crop residue levels;
- compare soil-saving abilities of various types of tillage equipment;
- measure crop residues;
- test yourself and your tillage system; and
- develop a tillage system for a "target" residue level.

There is a wealth of information available from farm suppliers on weed control, insect control, equipment needs, and other aspects of farming with crop residues. You can also find how to use other soil-saving practices with crop residues to build a complete conservation on your farm. Contact the Natural Resources Conservation Service (NRCS) office near you.

Picture your residue levels

Use the photographs in this guide to get a good picture in your mind of what the various percentages of residue look like. You may want to take the guide with you to your fields after planting, to compare your levels of residue with these pictures.

Percent ground cover is dependent on both the amount of crop residues and its distribution. Residues spread evenly across the rows produce the highest percentages of ground cover.

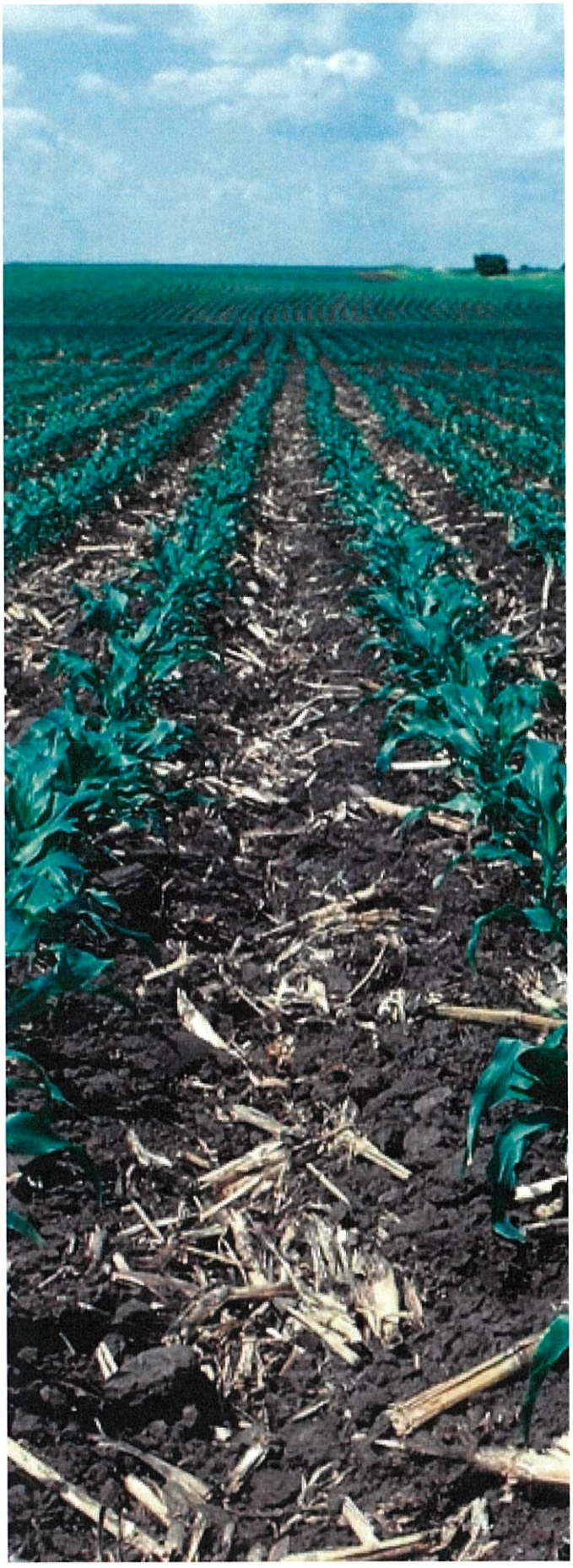
It's easy to over-estimate residue levels by looking out across a field. Residues appear to cover most of the ground from that perspective. For a true picture, look straight down at the field, as was done with the pictures in this guide. Ask yourself what percent of the ground is covered with residues

You'll develop confidence in your ability to visually estimate residue levels by using these photographs and measuring residues a number of times.

Caution: The tillage systems, described under the photos on the next pages, produced levels noted. Crop varieties, weather, timing of tillage operations, and other variables may change the actual amount of ground cover left after planting.

Look down, not out across the field, for an accurate estimate of ground cover

corn residue



10% corn residue This level of residue might be expected from a fall chisel with twisted points, a deep spring disking, a field cultivation, and planting.

20% corn residue This level of residue might be expected from a fall chisel with twisted points, one spring shallow disking, a field cultivation, and planting.

30% corn residue This level of reside might be expected from one fall chiseling with straight points, a shallow disking in the spring, a field cultivation, and planting.

40% corn residue This level of residue might be expected from a fall shallow disking, one spring field cultivation, and planting. Paraplowing in the fall followed by a spring field cultivation and planting are similar.

50% corn residue This level of residue will be difficult to reach without using a no-till system. One tillage system that could produce 50% ground cover after planting is to field cultivate twice in the spring and plant.

60% corn residue This level of residue might be expected from a no-till system where you plant directly into the existing residue. Another system is to field cultivate once in the spring and plant.

soybean residue

10% soybean residue This level of residue might be expected from a fall deep disking, spring field cultivation, and planting.

20% soybean residue This level of residue will be difficult to achieve with any fall tillage. This level could be achieved with an anhydrous application, a spring field cultivation, and planting.

30% **soybean residue** This level of residue might be expected from a spring field cultivation and planting.

40% **soybean residue** This level of residue might be expected from a well managed continuous no-till system.

How to measure residue

USE any line that is equally divided into 100 parts. Fifty foot cable transect lines are available for this purpose. Another tool is a 50-foot nylon rope with 100 knots or marks, six inches apart. A 50-foot tape measure using the 6-inch and foot marks also works well.

STRETCH the line diagonally across the crop rows. Walk back along the line, looking for residue underneath the marks. Count the number of marks (tabs or knots) that have residue under the leading dege when sighting from directly above the mark. It is important to use the same point on each mark for accuracy. Don't count residue smaller than 1/8 inch in diameter.

WALK the entire length of the rope or wire. The total number of marks with residue under them is the percent cover for the field. If your rope or tape has only 50 marks, multiply by 2; for 25 marks, multiply by 4.

REPEAT the procedure at least 3 times in different areas of the field and average the findings. Avoid measuring areas not representative of the whole field, such as end rows.

Measure residue before and after any field operation to find out how much residue is burried with a single pass of that piece of equipment.

For purposes of crop residue values for soil conservation systems, the residue cover is measured after planting.

A dozen ways to leave more residue

1. Follow a crop rotation sequence with high residue producing crops. Soybeans don't provide the same kind of protection as corn, for example. Also, high yields give more residues.

2. Wait until spring for tillage operations. This is most important on low residue producing crops such as soybeans. Fall tilled soybean ground is very vulnerable to wind erosion in late winter and early spring.

3. Reduce the number of tillage passes. In most cases, this is as important as the type of tillage performed.

4. Plant rye or wheat as winter cover crops. this is a good option when you are growing low-residue crops such as soybeans or corn silage.

5. Set chisels and disks to work shallower. Tilling deeper buries more residue.

6. Stop using the moldboard plow.

7. Drive slower on tillage operations. Driving faster throws more soil and covers more residue.

8. Use straight points and sweeps on chisel plows instead of twisted points. Twisted points may bury 20% more residue.

9. No-till drill soybeans instead of planting them in a prepared seedbed. No-till drilling keeps more residue on the soil surface, and generally produces a quicker canopy.

10. Convert to a no-till system. No-till disturbs residue only in the row.

11. A straighter alignment of disk blades buries less residue.

12. Strive for even distribution of residue from a combine at harvest. Also, leave residue size as large as possible. Smaller residue particles, such as chopped soybean residue will decompose more quickly and be buried more easily.

Points for higher residue levels

The point of a tillage implement can make a big difference in crop residue levels remaining on the surface after a tillage operation. for example, a shallow chisel plowing with sweeps could be expected to leave as much as 85 percent corn residue, while a deep dish-chiseling with a 4-inch twisted points could be expected to leave as little as 30 percent residue.

The percentages on these pages are based on tests under similar conditions. Use them as a guide to farming with heavier residues.

Your best guide will come from measuring residues levels before and after a tillage pass.

Sweeps

Sweeps can be operated shallow or as deep as 10 inches. Sweeps with low crowns fracture and loosen the soil but do very little turning of the soil. In corn residue, chisel plows with sweeps could be expected to leave 65 to 86% of the residue that existed before the tillage pass.

Straight points

Straight points, often called spikes, have been used for years on chisel plows. A two-inch wide point leaves more residue that wider points. Straight points do less turning and mixing of the soil than twisted points. In corn residue, expect to leave 55 to 75% of the residue that existed before a pass with a chisel with these points. The amount is less if stalks were disked.

Winged straight points

Winged straight points are a combination of sweeps and straight points. The sweep-like wing helps undercut and fracture more soil than a straight point. The wing extends a 2-inch wide point to a width of 7 inches. Expect residue levels similar to those of a straight point.

Twisted points

Twisted points work like a mini-moldboard plow bottom, turning and throwing soil. Twisted points, especially 4-inch wide twisted points, bury significantly more residue than straight points or sweeps. Expect to leave 40-60% of the corn residue that existed before a chisel pass with these points. Cover will be less if stalks are disked before chiseling.

Helical points

Helical points work much like twisted points, turning or throwing soil. Expect them to leave residue levels similar to those of twisted points.

Estimates of residue cover after machinery operations

Most tillage operations bury some crop residues. How much residue is buried depends primarily on the type of machine used, how it's used, and the type of residue it's used on.

The chart on the following page has been developed from research data. For each machine listed, the numbers to the right are the ranges of crop residue that you could expect to leave after one pass with that piece of equipment. The actual residue level can vary widely.

Type of machine

Machinery listed is that commonly used with corn and soybeans. Machines that are designed to turn the soil over, throw soil, and till the entire machine width tend to bury the most residue.

Tillage techniques

The person on the tractor seat can use a tillage tool to full advantage to leave crop residues on the soil surface. It's best to set equipment to work shallower, drive slower, and use tillage points that fracture the soil rather than turn to throw it.

Crop residue type

Fragile crop residues such as soybean stubble are more easily buried than larger, coarse residues such as corn stalks. Fragil residues decompose more quickly, and may be blown away. Fragile residues are produced from most vegetables, peanuts, grapes, and small grains harvested with a rotary combine.

Examples of non-fragile residue are sorghum, tobacco, sunflowers, popcorn, wheat, oats, and cotton.

Using the tillage chart

Use the chart on the following page to compare tillage implements for their ability to leave residues on the soil surface and to get a rough estimate of the percent residue you could expect to leave after planting from a specific tillage system. Multiply each of the machinery operations numbers together. Chose from withing the range listed.

Include the overwintering factor. As a general rule, use the higher number in northern states and the lower number in the South. Residue decomposes more quickly in warmer temperatures.

Here's an example of how to estimate ground cover after planting: .95 (% cover after harvest) X .90 (10% overwinter loss) X .60 (40% spring chisel - straight points loss) X .80 (20% field cultivate with sweeps loss) X .90 (10% planting loss) = .37 (times 100 equals 37% ground cover after planting).

The attached table (in the back) will convert percent ground cover to pounds per acre weight.

Machine or operation	Percent Residue Left	
	Corn/Small Grain	Soybean
Over winter weathering	80-95	70-80
Moldboard plow	0-10	0-5
Paraplow/Paratill	80-90	65-75
V ripper/subsoiler	70-90	60-70
Chisel plows with:		
Sweeps	65-85	35-55
Straight chisel points	55-80	30-50
Twisted points	40-60	15-35
Coulter chisel plows with:		
Sweeps	60-80	30-60
Straight chisel points	50-70	25-45
Twisted points	35-55	10-30
Disk chisel plows:		
Sweeps	55-75	25-45
Straight Chisel Points	45-65	20-40
Twisted points	30-50	10-25
Disks: Offest light duty	45-55	30-40
Offset heavy duty	35-45	25-35
Tandem disk (as a secondary operation)	40-60	35-45
Tandem disk after harvest, before other tillage	80-90	50-60
Field cultivators as primary tillage operation:		
Duckfoot points	---	30-55
Sweeps or shovels 6-12"	---	50-70
Sweeps 12-20"	---	55-75
Field cultivators as secondary operation:		
Duckfoot points	60-80	50-70
Sweeps or shovels 6-12"	75-85	60-75
Sweeps 12-20"	80-90	65-80
Finishing tools:		
Soil finisher	45-65	30-50
Seedbed conditioner	75-95	50-70
Culti-mulcher	70-90	60-70
Harrows	70-90	65-85
Drills: Hoe openers	50-80	40-60
Disk openers	80-90	60-80
No-till coulters	75-85	70-80
Cross slot openers	90-95	90-95
Planters: Runner planters	85-95	80-90
Double disk opener planters	80-90	70-80
Sweeps or double row cleaning kisks	60-80	40-60
Ridge-till planter	60-70	30-50
No-till planters with:		
Offset double disk openers	90-95	85-95
Smooth coulter	90-95	85-95
Ripple coulter	85-90	80-90
Fluted coulter	80-85	70-80
2 or 3 fluted coulters	75-85	65-75
Anhydrous applicator	75-85	45-70
Knife-type fertilizer applicator	60-80	40-60
After Harvest*	75-95	65-90

* Begin calculations with residue remaining after harvest.

Can you pass the residue test?

Do you know how much crop residue is called for in your conservation plan?

Does your tillage system allow for leaving that amount of residue?

Did you measure that percent ground cover after planting?

If you answered "yes" to these questions YOU PASS!

Percent Residue Cover to Residue Weight for Various Crops[1]

% Cover	Small Grains, Soybeans, Peanuts, and everything else	Corn, Tobacco, & Sorghum	Cotton, Sesame, & Sunflowers	% Cover	Small Grains, Soybeans, Peanuts, and everything else	Corn, Tobacco, & Sorghum	Cotton, Sesame, & Sunflowers
	Residue lbs/ac	Residue lbs/ac	Residue lbs/ac		Residue lbs/ac	Residue lbs/ac	Residue lbs/ac
1	15	18	40	51	1244	2064	3048
2	30	36	80	52	1288	2128	3146
3	45	54	120	53	1332	2192	3244
4	60	72	160	54	1376	2256	3342
5	75	90	200	55	1420	2320	3440
6	90	112	250	56	1466	2386	3542
7	105	134	300	57	1512	2452	3644
8	120	156	350	58	1558	2518	3746
9	135	178	400	59	1604	2584	3848
10	150	200	450	60	1650	2650	3950
11	168	240	502	61	1698	2734	4078
12	186	280	554	62	1746	2818	4406
13	204	320	606	63	1794	2902	4734
14	222	360	658	64	1842	2986	5062
15	240	400	710	65	1890	3070	4590
16	258	440	764	66	1942	3156	4722
17	276	480	818	67	1994	3242	4854
18	294	520	872	68	2046	3328	4986
19	312	560	926	69	2098	3414	5118
20	330	600	980	70	2150	3500	5250
21	350	640	1036	71	2212	3618	5433
22	370	680	1092	72	2274	3736	5616
23	390	720	1148	73	2336	3854	5799
24	410	760	1204	74	2398	3972	5982
25	430	800	1260	75	2460	4090	6165
26	450	840	1318	76	2528	4212	6352
27	470	880	1376	77	2596	4334	6539
28	490	920	1434	78	2664	4456	6726
29	510	960	1492	79	2732	4578	6913
30	530	1000	1550	80	2800	4700	7100
31	556	1044	1614	81	2918	4898	7280
32	582	1088	1672	82	3036	5096	7460
33	608	1132	1730	83	3154	5294	7640
34	634	1176	1788	84	3272	5492	7820
35	660	1220	1870	85	3390	5690	8000
36	688	1266	1936	86	3512	5892	>8000
37	716	1312	2002	87	3634	6094	>8000
38	744	1358	2068	88	3756	6296	>8000
39	772	1404	2134	89	3878	6498	>8000
40	800	1450	2200	90	4000	6700	>8000
41	838	1504	2274	91	4200	6960	>8000
42	876	1558	2478	92	4400	7220	>8000
43	914	1612	2682	93	4600	7480	>8000
44	952	1666	2886	94	4800	7740	>8000
45	990	1720	2570	95	5000	8000	>8000
46	1032	1776	2646	96	5450	>8000	>8000
47	1074	1832	2722	97	5900	>8000	>8000
48	1116	1888	2798	98	6350	>8000	>8000
49	1158	1944	2874	99	6800	>8000	>8000
50	1200	2000	2950	100	7250	>8000	>8000

[1]Note: Small grain, Corn, and Cotton table values are from figure 5-4 RUSLE Ag. Handbook 703, pg. 179. Green shaded values match 703 table values, non-shaded values are interpolatec

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G1931

Estimating Percent Residue Cover Using the Line-Transect Method

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This NebGuide describes how to use the line-transect method to estimate the percentage of the soil surface covered with crop residue to help control soil erosion.

Crop Residue and Soil Erosion

Leaving crop residue on the soil surface is one of the easiest and most cost-effective methods of reducing soil erosion. Research in Nebraska and other midwestern states has shown that leaving as little as 20 percent of the soil surface covered with crop residue can reduce soil erosion by one-half of what it would be from residue-free conditions. Greater amounts of residue cover will further reduce erosion.

Many Conservation Plans specify crop residue management or residue left on the soil surface as the primary erosion control method. Generally, the amount of cover required after planting ranges from 30 percent to as much as 85 percent. Thus, it is important to accurately determine percent residue cover to verify effective erosion control and compliance with a Conservation Plan.

Residue cover cannot be estimated merely by looking across a field. Such estimates, often attempted from the road or edge of the field, grossly overestimate the actual amount of cover. Accurate estimates of residue cover can only be obtained from measurements taken within the field, while looking straight down at the soil and residue.

Line-Transect Method

The line-transect method is one of the easiest and most accurate methods of estimating percent residue cover. A 100-foot measuring tape is used most often, but other tape lengths, specially made cords with "beads" attached, or knotted ropes will also work, *(Figure 1)*. For convenience, there should be 100 easily visible marks on the measuring device.

To use the line-transect method, the measuring device is first stretched across a section of the field. By counting the number of marks on the measuring device *directly over* a piece of residue you can figure the percent of residue cover. Following is a step-by-step procedure:

Find a representative area. Select an area that is representative of the whole field. Avoid end rows, or small areas of the field that have been adversely affected by flooding, drought, weed or insect infestations, compaction or other factors that have substantially reduced yields or affected residue cover.

Stretch tape or line diagonally across crop rows. Anchor one end of the tape or line and stretch it diagonally at about a 45° angle across the crop rows so it crosses more than one pass of the implements used. This avoids inaccurate readings such as those obtained if all measurements were taken in a windrow of residue left by the combine, or in an area of reduced amounts of residue. Do not take measurements parallel or perpendicular to crop rows.

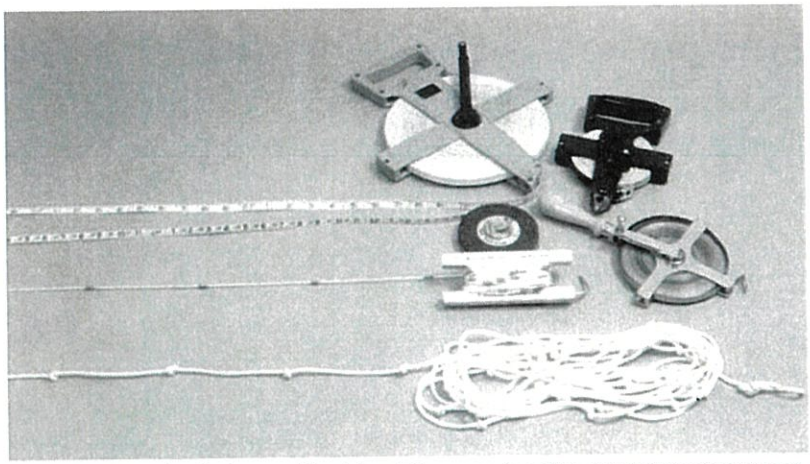

Figure 1. Measuring devices used for determining percent residue cover: tape measures; specially made cord with attached plastic beads; and knotted rope. For convenience, there should be 100 clearly visible marks on the measuring device.

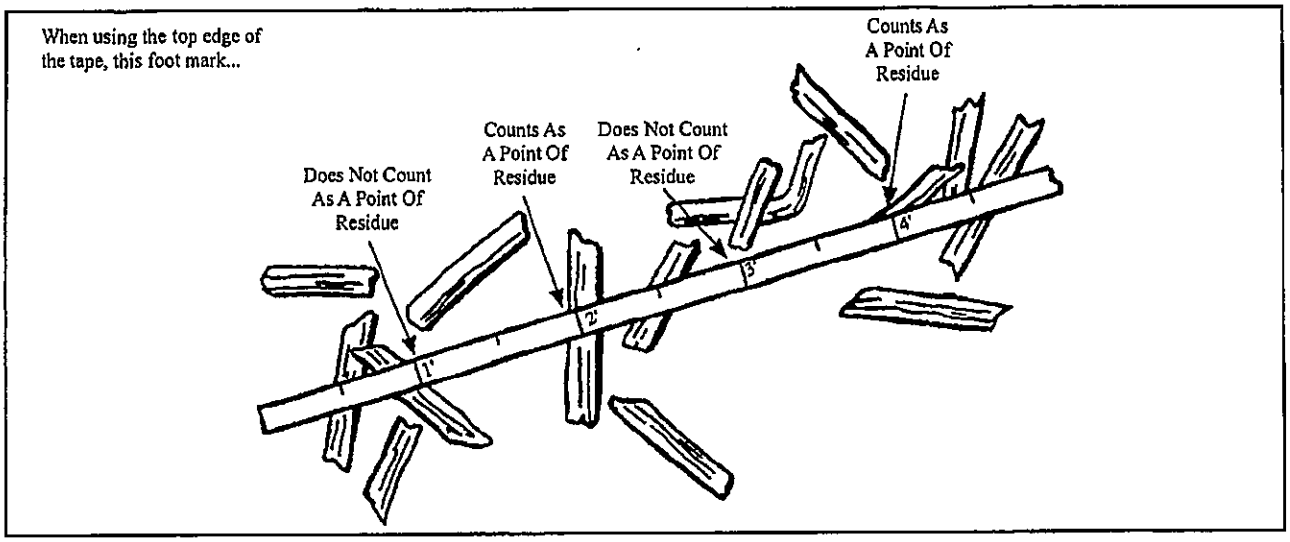

Figure 2. While consistently looking at only one side of the measuring device, count only those marks that have a piece of *residue* beneath them.

Check for residue at each mark. Determine residue cover by counting the number of marks that are directly over a piece of residue. (An inexpensive click or lap counter, available at sporting goods stores, can help keep count.)

When looking at the tape and counting, follow these rules:

1. Keep both ends of the tape anchored and do not move the tape.
2. Look straight down at the tape and marks.
   - Leaning from side to side will result in overestimation because residue may appear to be under the mark when it really is not.
   - To get an accurate measurement, count only those marks that have residue *exactly under them (Figure 2).*
3. Consistently look at the same side of the tape.
4. Consistently look at the same point at each mark.
   - This is especially important when using a knotted rope or cord with attached beads. The knot or bead covers a relatively large area, and if residue at any location under the mark is counted, overestimation will result. Instead, always focus on a small, single point such as where the bead meets the cord *(Figure 3).*
5. Do not count if questionable.

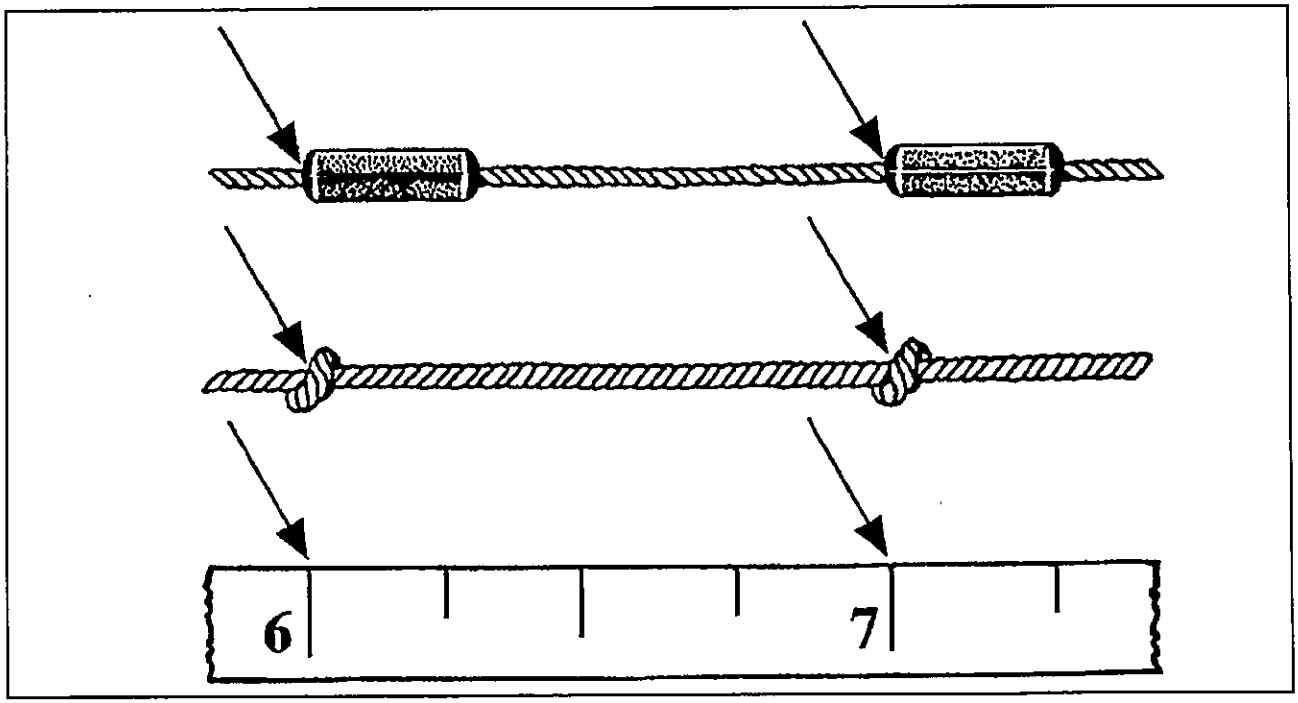

Figure 3. At each mark, consistently focus on a single point on the same side of the measuring device, rather than on the entire mark.

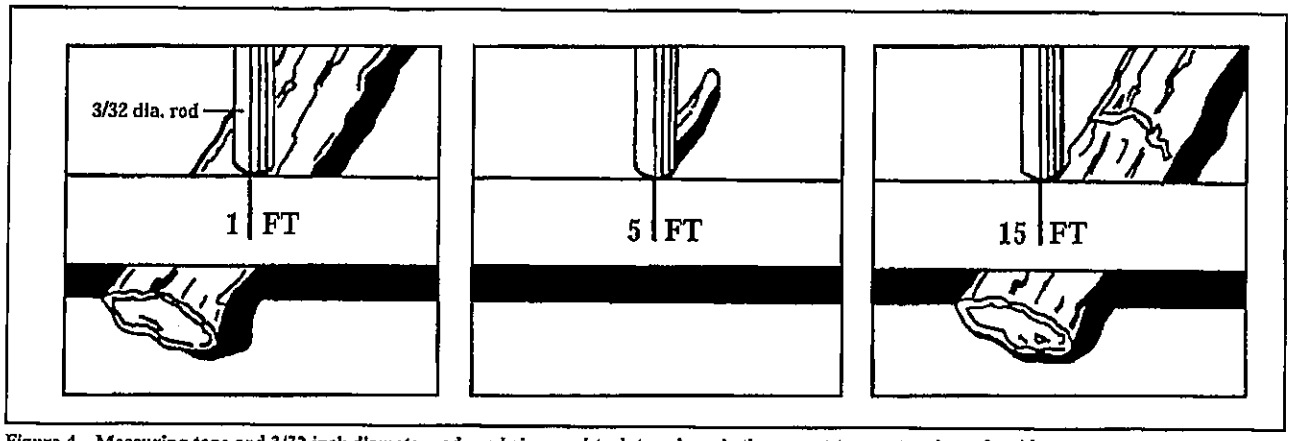

Figure 4. Measuring tape and 3/32 inch diameter rod are being used to determine whether or not to count a piece of residue.

Residue Size

To effectively reduce erosion, a piece of residue needs to be large enough to dissipate the energy of a raindrop during an intense storm. Consider a dot of 3/32 inch in diameter as the minimum size suggested for residue to be counted. Use your judgment, but if you are not sure whether the piece of residue is large enough to absorb the raindrop energy, do not count it.

One way to determine if a piece of residue is large enough to count is to use a 3/32 inch diameter brazing rod, wooden dowel, or the unsharpened lead from a wooden pencil. The end of the rod is used to touch the residue at each mark. If the piece of residue extends completely beyond all edges of the rod, count it. If the rod completely covers the piece of residue, or if part of the rod end extends beyond the edge of the residue at any location, the point shouldn't be counted, because a raindrop falling on this location would strike some bare soil *(Figure 4)*.

Determine percent cover. When 100 points are observed, the number of marks that are directly over residue will be a direct measurement of the percent cover for that area of the field. That is, if 35 marks on a 100 foot tape were observed to be exactly over a piece of residue, then the residue cover is 35 percent.

If less than 100 points are observed, multiply the count by the appropriate conversion factor to obtain percent cover. For example, if a 50-foot tape is used, and only the foot marks are observed, multiply the count by two.

Take at least three measurements. For increased accuracy, repeat the measuring process in three or more representative areas of the field. Average the individual measurements to obtain an estimate of percent cover for the entire field.

Conclusion

Crop residue management, or leaving residue on the soil surface, is the most cost-effective method of reducing soil erosion available to Nebraska farmers. Accurate measurements of percent residue cover are needed to determine if enough cover is present to adequately reduce erosion and to comply with a Conservation Plan. The line-transect method is one of the easiest and most accurate methods of determining percent residue cover.

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Index Crop Production/Field Crops
Conservation Management
Issued February 2009

CENTRAL PLATTE NRD
Cost Share
Thursday, July 31, 2025

NEBRASKA SOIL & WATER CONSERVATION COST SHARE PROGRAM...			$ **42,497.71**
Ricky Lammers – Dawson – Underground pipeline to pivot	$	5,000.00	
Eagle Hills Ranch – Dawson – Brush Management		10,000.00	
Jon Strong – Merrick – Underground pipeline to pivot		5,000.00	
Kent W Hueftle – Dawson – Brush Management		4,811.03	
Stacey Stockdill – Dawson – Brush Management		7,139.18	
Frank Meier – Dawson – Planned Grazing		5,547.50	
Bradley Jones – Hall – Underground pipe to pivot		5,000.00	
CENTER PIVOT INCENTIVE COST SHARE PROGRAM			$ **12,116.00**
Ricky Lammers – Dawson	$	7,500.00	
Bradley Jones – Hall		4,616.00	
COVER CROP COST SHARE PROGRAM			$ **2,000.00**
Daneil Ziemba – Polk	$	2,000.00	
SOIL MOISTURE SENSOR COST SHARE PROGRAM			$ **2,000.00**
Pine Pasture Farms LLC – Polk	$	2,000.00	
TOTAL			$ **58,613.71**