Roles and Responsibilities

National Food Security Act: Highly Erodible Lands

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General Background

- Food Security Act 1985
- Food, Agriculture, Conservation, and Trade Act 1990
- Federal Agriculture Improvement & Reform Act 1996
- Farm Security & rural Investment Act 2002
- Food conservation and Energy Act 2008

General Information

Includes Procedures for Implementing

- Highly erodible Land Provisions (HELC)
- Wetland Conservation Provisions (WC)
- FSA Farm-Credit participants
- Wetland mitigation easements for maintenance of wetlands

NFSAM 510.0 C,D

General Information

Related programs authorized include:

- Conservation Security Program (**CSP**)
- Conservation Reserve Program (**CRP**)
- Environmental Quality Incentive Program (**EQIP**)
- Farm and Ranch Land Protection Program
- Grassland Reserve Program (**GRP**)
- Wetlands Reserve Program (**WRP**)
- Wildlife Habitat Incentives Program (**WHIP**)

General Information

Objectives

- Remove certain incentives for persons who-
  - Produce ag commodities on HEL without treatment
  - Convert wetlands to make production possible
- Reduce nonpoint source pollution
- Reduce soil loss from wind and water
- Protect nation's long-term capability to produce food and fiber

General Information

- Reduce sedimentation and improve water quality
- Assist in preserving the functions and values of the nation's wetlands

General Information

To Ensure Compliance

Before processing any program payments, NRCS

- Ensures compliance with HELC and WC
- Reviews compliance status for HELC/WC during regular contract reviews

NFSAM 510.1(c)

Compliance Criteria & Technology

Background

- HEL **determinations** – frozen list Jan. 1, 1990

- By 1995 conservation systems developed using USLE & WEQ – incorporated into the FOTG

- New erosion technologies (policies) when adopted, will be established and used

NFSAM 510.2 A

Compliance Criteria & Technology

Technology Changes

- *"New technology **will not** result in increased requirements for HEL/WC. Original treatment will be honored . Any NEW or REVISED systems will be based on new data and technology as it becomes available."*

NFSAM 510.2 B

Compliance Criteria & Technology

Use of RUSLE2/WEPS

- Approved Conservation Plans
- Recalculating soil loss for system
- Evaluate substantial reduction/no substantial increase
- Determine before and after soil loss
- Evaluate applied conservation systems

NFSAM 510.3 B

HELC

Highly Erodible land Determinations

Calculating Erodibility Index

Sheet and Rill Erosion
(USLE)

$$\frac{R \times K \times LS}{T}$$

Wind Erosion
(WEQ)

$$\frac{C \times I}{T}$$

EI ≥ 8 is considered a
Highly Erodible Map Unit

NFSAM 511.0 C

Highly Erodible Map Units & Soil & Soil Components

IF the soil map unit...	AND...	THEN...
Is named for either— A single type of soil or A single miscellaneous area,	Either the named— soil is identified as highly erodible, or Miscellaneous area is identified as highly erodible,	The entire soil map unit is considered highly erodible.
Is named for two or more— Types of soils or Miscellaneous areas,	A predominance of the named components are all highly erodible,	
	Less than a predominance of the named components are highly erodible,	The soil map unit is not considered highly erodible.
Contains highly erodible soils only as inclusions,		

NFSAM 511.1 C

Example Calculations - Wind

Nez Perce County – MU 20

	EI	HEL	MU HEL
Calouse (55%) C=10 I=56 T=5	**1.12**	N	**N**
Endicott (20%) C=10 I=56 T=2	**2.8**	N	
Bryden (15%) C=10 I=56 T=1	**5.6**	N	

What if C = 50?

	EI	HEL	MU HEL
Calouse 55% C=50 I=56 T=5	**5.6**	N	**Y**
Endicott 20% C=50 I=56 T=2	**14.0**	Y	
Bryden 15% C=50 I=56 T=1	**28.0**	Y	

Example Calculations - Water

Nez Perce County – MU 20

						EI	HEL	MU HEL
Calouse	55%	R=40	K=.43	LS=1.01	T=3	**8.79**	Y	**Y**
Endicott	20%	R=35	K=.43	LS=1.01	T=4	**3.80**	P	
Bryden	15%	R=35	K=.49	LS=1.01	T=5	**3.46**	P	

Multiple R and C Factor Values

- Note that **counties** that have multiple R and C factors, must have separate determinations completed for each map unit using all of the factors individually

Uncompleted Soil Surveys

SS in progress or started post 1/1/1990:

- Must use frozen soil factors (R, C, LS, K, I, T)

- New HEL Map Unit(s) (if correlated) can only be appended to HEL list
- Must be approved by State Soil Scientist
- Must say, ***"Superceded by HEL map unit list dated ."*** (enter appropriate date).
- No other changes can be made to the HEL list

NFSAM 511.3 A-E

Field Boundaries/Redefinitions

Highly Erodible Land Determinations

NRCS Responsibility

- Determinations made for each field assigned a separate number

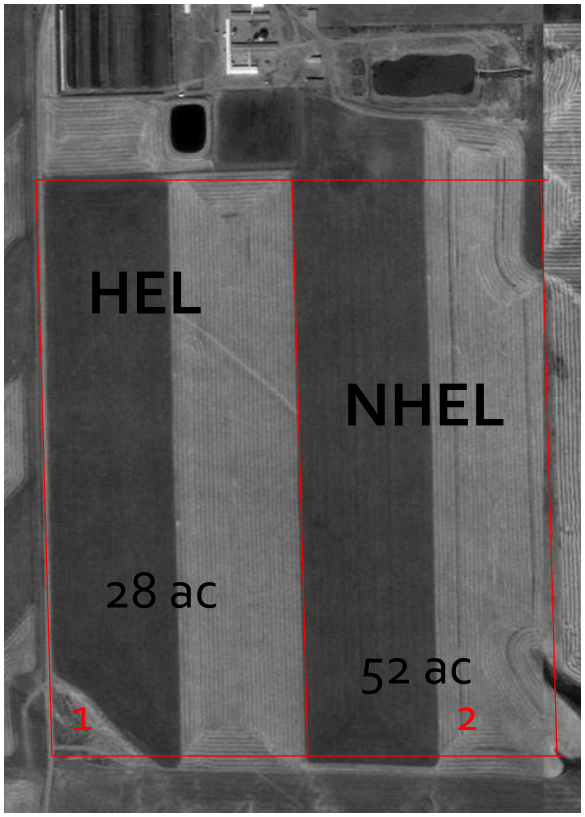
OR

NFSAM 511.10

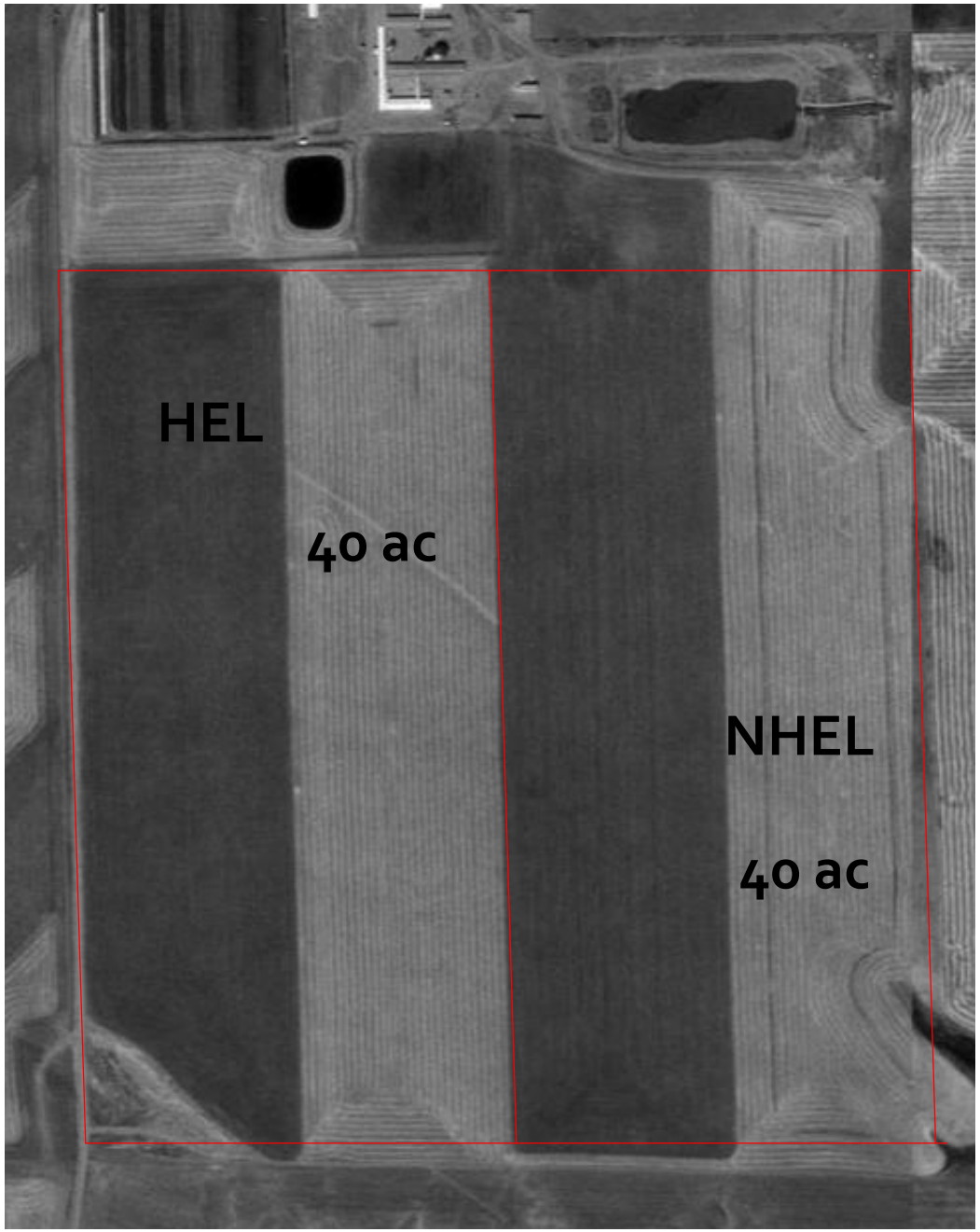
Changing Field Boundaries

HEL & NHEL <u>combined</u>:

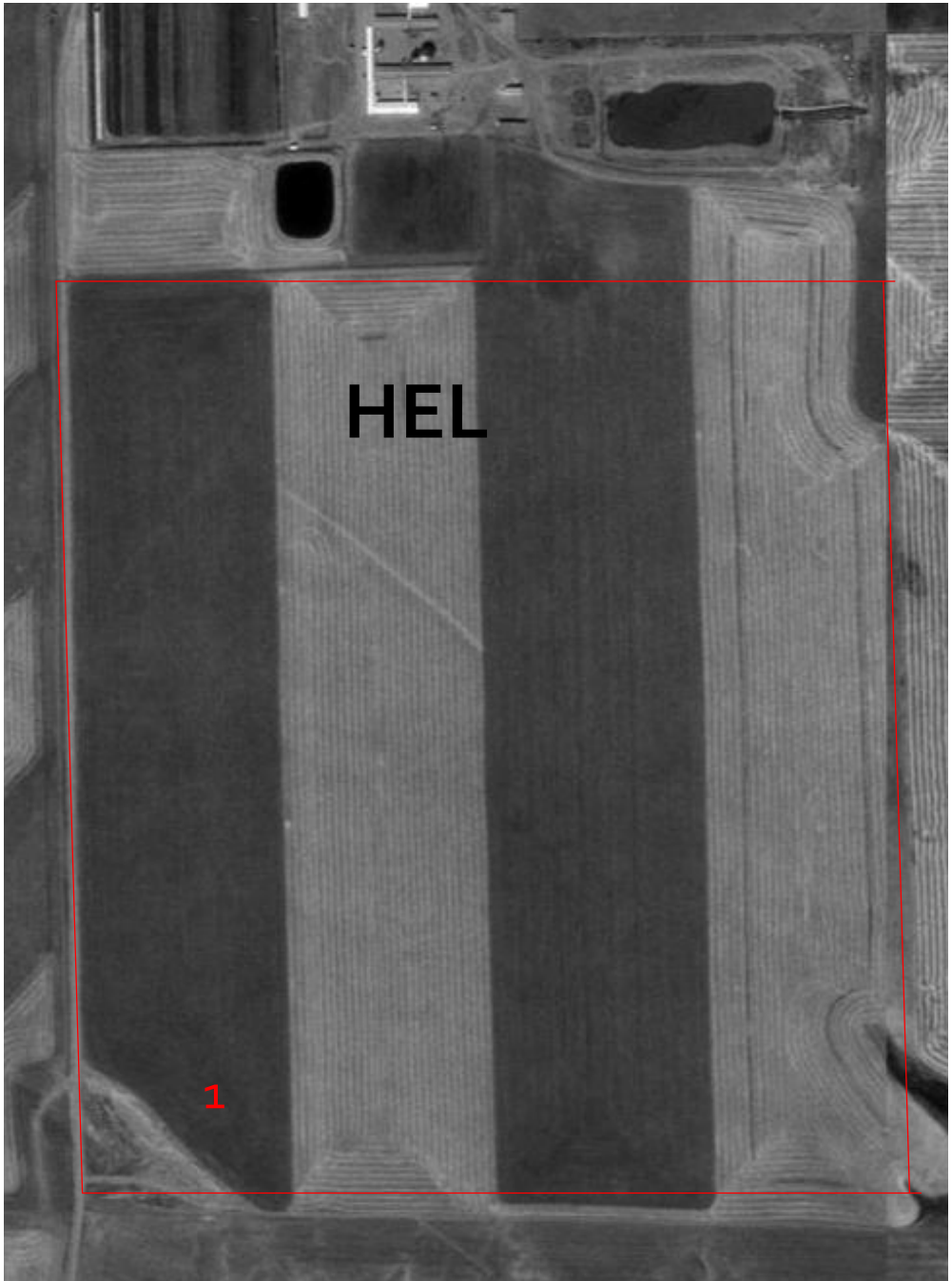
- 33 1/3 or 50 acre rule – HEL
- Does not meet HEL rule? – then determination continues to be HEL or NHEL



NFSAM 511.10 C



NFSAM 511.10 C



NFSAM 511.10 C

Determining HEL Fields

FSA AD-1026:

- Determine HEL by Field

IF the highly erodible soil map units in a field…	THEN the field is…
Constitute 33.33 percent or more of the acreage in the field,	HEL
Equals 50 or more acres,	
Do not constitute 33.33 percent nor equal 50 acres or more,	NHEL

NFSAM 511.11 C

Determination Notification

- Notify all USDA signatories on AD-1026
  - Type of determination
  - Basis for determination
  - Appeal/mediation rights
  - Copy of determination
  - Any other documentation used

NFSAM 511.11 G

Revising HEL Determinations

- AD-1026 with aerial map from FSA
  - If field boundaries are incorrect
  - New field boundaries from dividing/combining
  - Request to separate HEL/NHEL map units

  - Remember to give appeal rights with notification

NFSAM 511.12 A

Incorrect Determinations

- Technical Errors
  - Immediately take action to correct
  - Provide notification

- Correcting Determinations
  - No ineligibility for previous years
  - Assist development of conservation plan, if requested.

NFSAM 511.13 A-B

Data Needed

- AD-1026
- Aerial photo from FSA showing field boundaries
- Frozen soil list
- Soil survey map
- In-field measurements (slope/length)

Conservation Systems & Plans

Applied Conservation Systems

- All HELC conservation plans must:
  - Provide for substantial reduction in erosion
  - Permit no substantial increase in erosion (sodbuster)

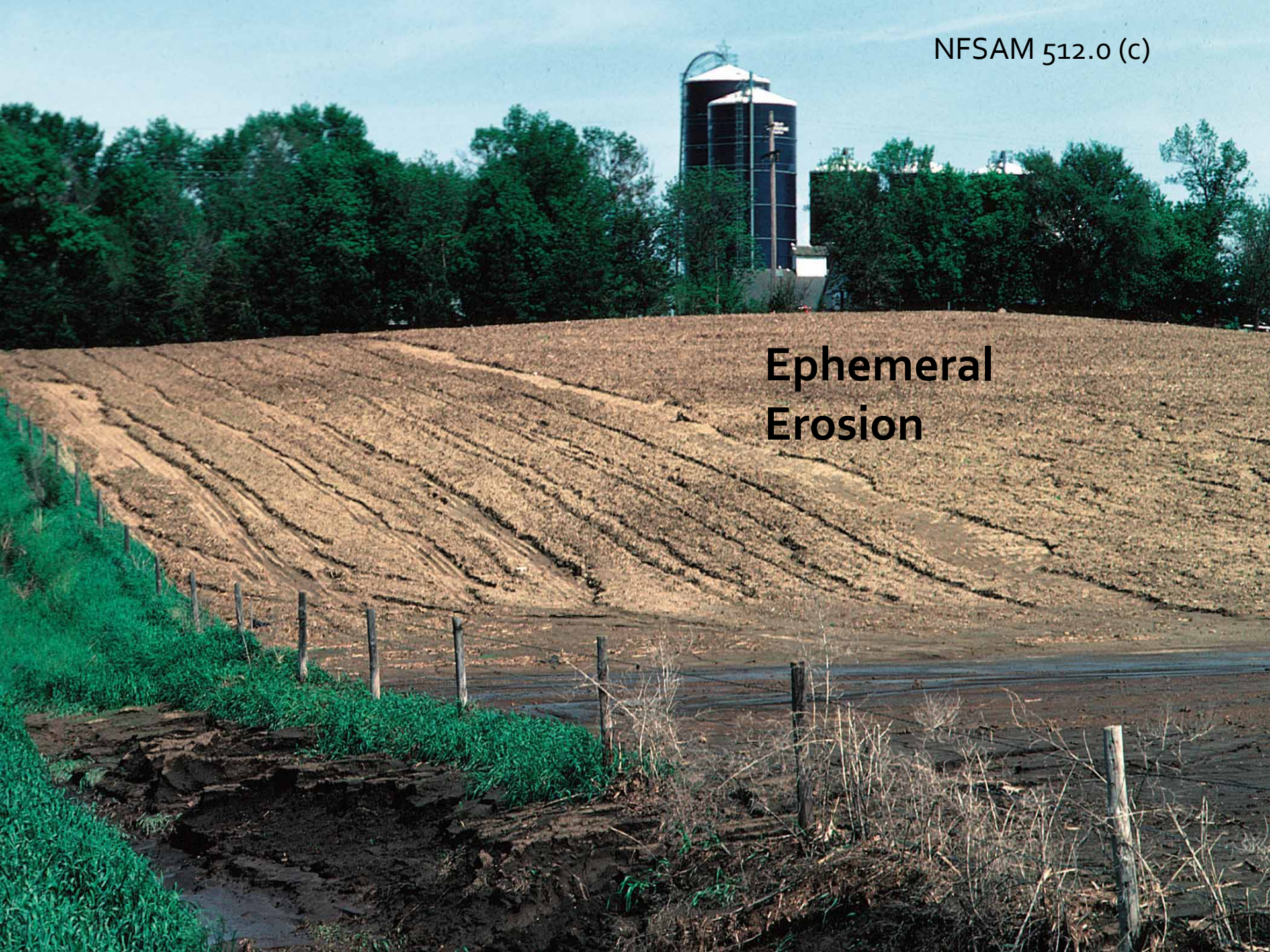
NFSAM 512.0 C

HELC (eligibility requirements)

IF a field has been determined…	AND…	THEN…
To be highly erodible and was used to produce crops prior to December 23, 1985,	A system or plan in the FOTG was in place, maintained, and had been approved prior to July 3, 1996,	That field is considered to be in compliance with the HELC provisions.
	A system in the FOTG is planned and/or applied after July 3, 1996,	The system to be applied must meet the FOTG criteria for a substantial reduction in erosion. (See NFSAM, Part 512.01 (e).)
To be highly erodible with no history of crop production prior to December 23, 1985,	Is broken out of native vegetation (including rangeland or woodland),	The system to be applied must meet the FOTG criteria for no substantial increase in the level of erosion. (See NFSAM, Part 512.01 (f).)

NFSAM 510.10 A

NFSAM 512.0 (c)



Substantial Reduction

- Systems prior to July 3, 1996 – meets substantial reduction OR ACS Idaho/WA plan
- Systems after July 3, 1996 – 75% reduction of "potential erosion" not to exceed 2T

Potential Erodibility:

Wind	Water
C x I	**R x K x LS**

NFSAM 512.01 (e)

Example: Substantial Reduction WIND

- Nez Pierce County: MU 29

Chard 50% C=50 I=48 T=3
Tammany 40% C=50 I=48 T=4

Chard - .56 x 50 x .48 = 13.4
Tammany -.44 x 50 x .48 = 10.6
24.0 x.25 = 6.0 OR 2T = 8

Wind - Substantial reduction = 8

NFSAM 512.0 E

Example: Substantial Reduction WATER

Nez Pierce County – MU 29

Chard 50% R=46 K=.32 LS=.67 T=3

Tammany 40% R=46 K=.37 LS=.35 T=4

Chard - .56 x 35 x .49 x 2.84 = 27.47

Tammany - .44 x 35 x .32 x 2.84 = 13.9

41.37 x.25 = **10.34** OR 2T = **6**

Water - Substantial Reduction = 6

NFSAM 511.01 (b)

Example - Substantial Reduction WATER

Nez Pierce County – MU 5

Almota	30%	R=50	K=.43	LS= 4.60	T=2
Athena	30%	R=50	K=.37	LS= 4.60	T=5
Hatwal	25%	R=50	K=.43	LS= 4.60	T=2

Almota - .353 x 50 x .43 x 4.60 = 34.91

Athena - .353 x 50 x .37 x 4.60 = 30.04

Hatwal - .294 x 50 x .43 x 4.60 = 29.08

94.0 x.25 = **23.5** OR 2T = **10**

Water - Substantial Reduction = 10

No Substantial Increase

- Pertains ONLY to cropland converted from native vegetation (sodbuster)

- Soil Loss T of predominant map unit in field

Question – which soil map unit do you use for HELC conservation planning?

Answer – The critically predominant map unit - using CURRENT FACTORS

NFSAM 512.0 F

Acceptable Conservation Systems

- System approved prior to July 3, 1996
  - Must be actively applying and maintaining system
  - System must be documented in FOTG
- After July 3, 1996, plans must meet "Substantial Reduction"

NFSAM 512.0 C

Systems NOT in FOTG

- Participants responsibility - system that meets HELC requirements (substantial reduction)
- Must be documented during an HEL/WC annual status review including
  - Description of system
  - B& A soil loss calculations, including all factor values used
  - Practices necessary in system

NFSAM 512.1 A

Planning Approval Levels

- FO – up to 2T
- State Conservationist – up to 4T
- Division Directors - >4T

NFSAM 512.1 C

HEL on Expired CRP

Option 1:

- Reinstate previously approved plan or system found in **NRCS case files**
- Reinstate previously approved plan or system **participant has in his possession.**

OR equivalent system

NFSAM 512.1 D

HEL on Expired CRP

Option 2:

- Reinstate pre-CRP plan or system from participant records where **NO NRCS records exist.**
  - Must produce a copy of plan, and it must meet HELC criteria

HEL on Expired CRP

Option 3

- Develop new system that meets substantial reduction criteria
- If structural practices are needed – have 2 years to implement.

Plan Documentation

New HEL field

Minimum Requirements

- AD-1026 (15 days to complete HEL determinations)
- Aerial photo showing HEL field boundaries
- Soil map showing HEL field boundaries
- B & A soil loss prediction using latest tools and factors
- Decisions of producer (tillage, rotation, etc.)
- Schedule of practice application, narratives
- All other requirements of the NPPH

NFSAM 512.10 G

Newly Acquired Land

- Develop a new plan (substantial reduction)
  - If requested NRCS provides assistance

NFSAM 512.11 A

HEL Compliance

The process of Determining compliance

General Policy

- Based on a national sample of tracts
  - technical review of entire tract
- Check HEL & WC
- Supplemental tracts are assigned by State's
  - 5% of FSA Farm Credit Loans
  - Tracts referred by other agencies
  - Participants requesting reinstatement
  - Prior year variances
  - Whistleblower tracts

NFSAM 518.1 A

Correct timing

- Critical erosion period
- All must be completed by Nov. 15
- Whistleblowers completed 45 days

~ "Crop year" ~

NFSAM 518.0 D-E

Valid Tracts

- USDA benefits (previous or current)?
- Ag commodity grown?
- HEL or WC?

Conduct Status Review

NN (not needed)

Select a different tract

NFSAM 518.03 (c)

Field Reviews

- All fields reviewed for HELC/WC
  - Residue measurements per NAM
  - Evaluate based on tool used to plan (RUSLE2 or WEPS)
  - If no prior plan, evaluate system used with RUSLE2 or WEPS

Example

Canyon County: EvC Elijah-Vickery-Chilcott, silt loam 3-7%

- Field is 160 ac square
-Winter wheat, beets, corn -irrigated
-ACS says 30% residue after planting = 6.2 T/A (critical method)

During corn year, you go out and measure 40% residue in **spring** right after planting – In or Out?

During corn year, you go out and measure 40% residue in **fall** after all tillage completed – In or Out?

Example

- During corn year, you measure 10% residue in **spring** right after planting – In or Out?
- During the beet year, you go out in the fall and measure 5% residue – In or Out
- How about when the producer has is NO plan?
  and the plan is not an ACS?

(E)* SOIL LOSS FROM WIND EROSION IN TONS PER ACRE PER YEAR JANUARY, 1998

C = 30

SURFACE - K =0.90 I = 56

(L) (V)** - FLAT SMALL GRAIN RESIDUE IN POUNDS PER ACRE

625#

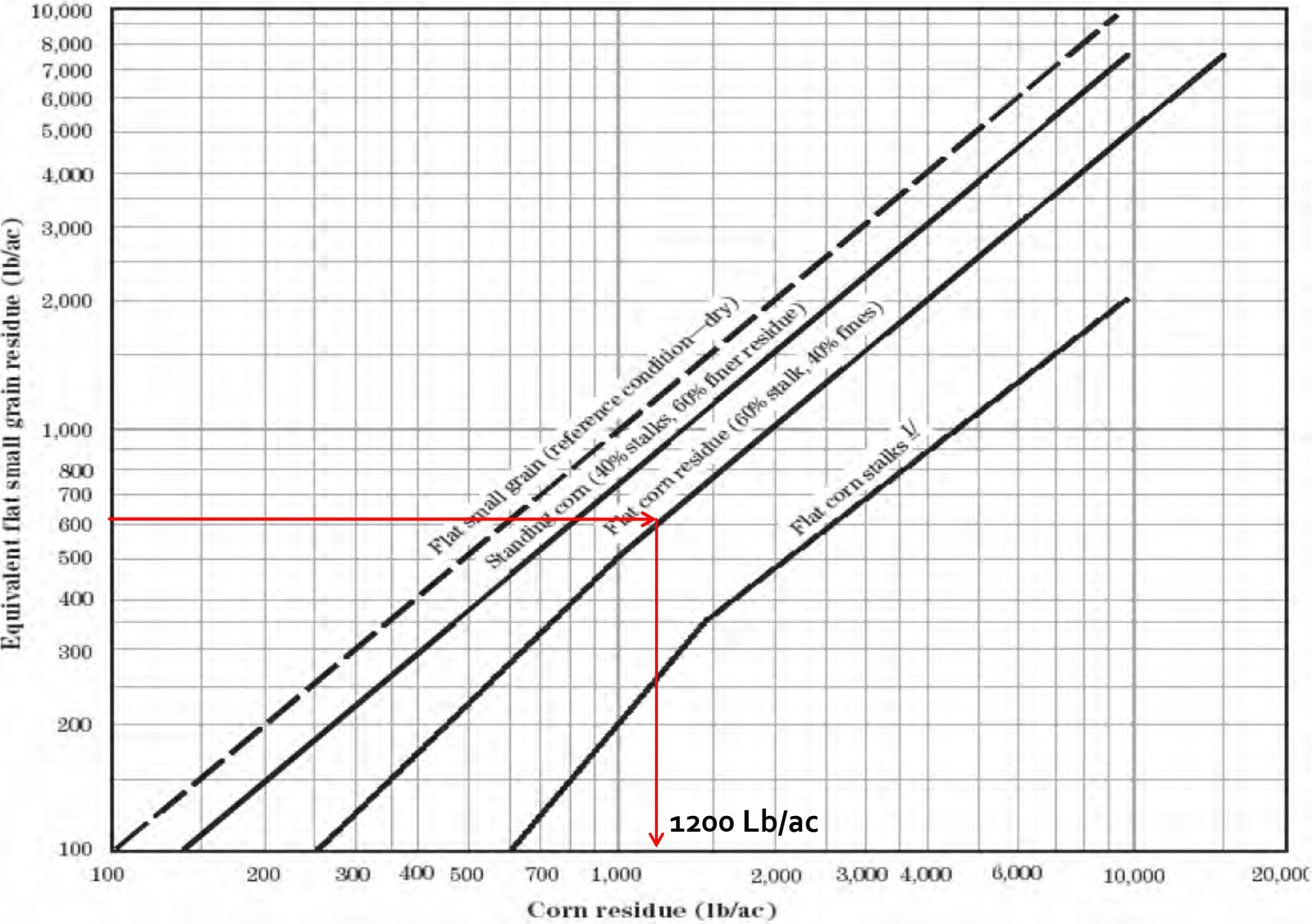
UNSHELTERED DISTANCE IN FEET	0	250	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000
10000	15.1	12.4	8.7	5.3	2.4	0.9							
8000	15.1	12.4	8.7	5.3	2.4	0.9							
6000	15.1	12.4	8.7	5.3	2.4	0.9							
4000	14.3	11.7	8.2	5.0	2.2	0.8							
3000	13.7	11.2	7.8	4.7	2.1	0.7							
2000	12.8	10.4	7.2	4.3	1.9	0.4							
1000	10.5	8.5	5.8	3.4	1.4	0.3							
800	9.4	7.6	5.1	3.0	1.2	0.3							
600	7.9	6.3	4.2	2.4	0.8								
400	6.1	4.9	3.2	1.7	0.6								
300	4.8	3.8	2.4	1.3	0.4								
200	3.6	2.8	1.7	0.8									
150	2.5	1.9	1.2	0.5									
100	1.7	1.3	0.7										
80	1.4	1.1	0.6										
60	0.9	0.5											
50	0.8	0.4											
40	0.6	0.4											
30													
20													
10													

6.2 t/a

* NOTE: SOIL LOSS FOR VALUES WHERE 'E' IS LESS THAN 0.1 OR GREATER THAN 440.0 ARE NOT SHOWN; OTHER VALUES NOT SHOWN ARE INVALID

** NOTE: VALUES SHOWN ARE FLAT SMALL GRAIN EQUIVALENT, NOT 'V'

Figure 3 Flat small grain equivalents of corn residue



How to Convert Percent of Cover To Pounds of Residue Per Acre

(Large Diameter Stalk Crops, i.e. corn, etc)

Percent Cover	Pounds Residue/ Acre	Percent Cover	Pounds Residue/ Acre	Percent Cover	Pounds Residue/ Acre
1	36	34	1484	67	3960
2	72	35	1539	68	4069
3	109	36	1594	69	4183
4	146	37	1650	70	4300
5	183	38	1707	71	4421
6	221	39	1765	72	4546
7	259	40	1824	73	4676
8	298	41	1884	74	4811
9	337	42	1945	75	4951
10	376	43	2008	76	5097
11	416	44	2071	77	5249
12	457	45	2135	78	5408
13	497	46	2201	79	5574
14	539	47	2267	80	5748
15	580	48	2335	81	5931
16	623	49	2405	82	6124
17	665	50	2476	83	6328
18	709	51	2548	84	6545
19	753	52	2621	85	6775
20	797	53	2697	86	7022
21	842	54	2773	87	7287
22	887	55	2852	88	7572
23	933	56	2932	89	7883
24	980	57	3014	90	8224
25	1027	58	3098	91	8600
26	1075	59	3184	92	9020
27	1124	60	3272	93	9497
28	1173	61	3363	94	10048
29	1223	62	3456	95	10699
30	1274	63	3551	99	11496
31	1326	64	3649	97	12523
32	1377	65	3749	98	13972
33	1430	66	3853	99	16447

Appeals

440-CPM, Part 510

7 CFR 614 [CPM 510]

- Preliminary technical determination (10 days)
  - Reconsideration/field visit
  - Mediation
- Final technical determination (15 days)
  - Still adverse? STC signs
  - Not adverse – DC signs/sends
- Appeal process

Exhibits

- Can be found in the appeals section
  - Example preliminary determination letter, final determination letter, etc.

Questions?

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