

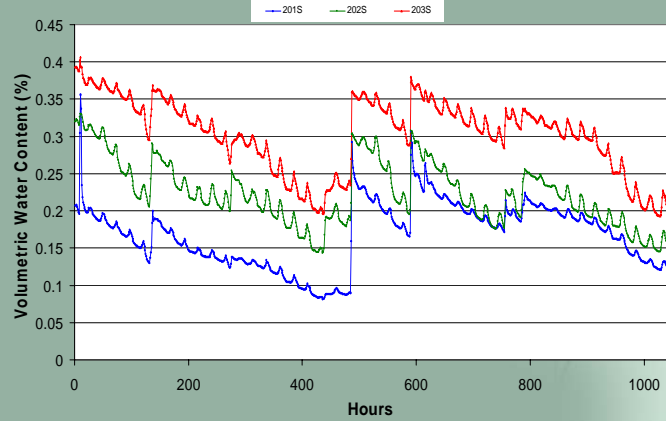
Agronomic Impacts of Stripper Stubble

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Evaporation During Fallow Period

Volumetric Water Content with Time





Evaporation During Fallow Period

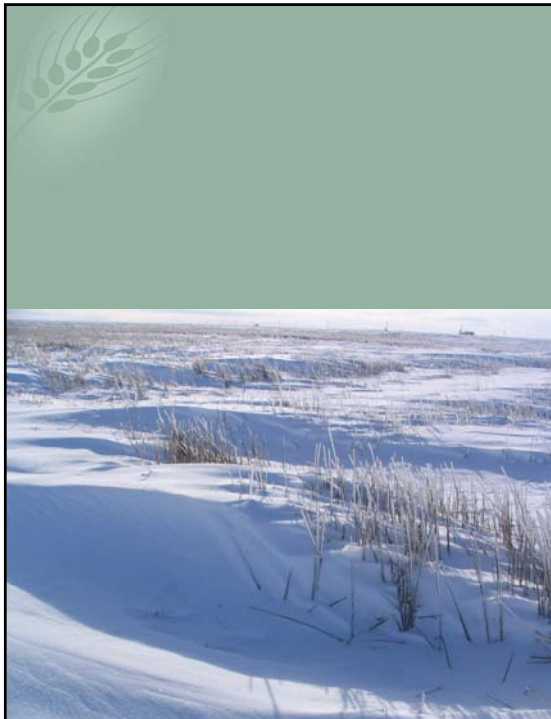
Table 1a. - Linear regression coefficients of Ψ mm profile water (mm Eto)-1

DOY	2005 - Decatur County, Kansas				2006 - Red Willow County, Nebraska					
	229-236	238-248	249-283	284-292	220-224	225-230	231-237	239-244	244-250	252-262
Bare	-0.0681	-0.0773	-0.0342	-0.0729	-0.1064	-0.0877	-0.0865	-0.1270	-0.1143	-0.0346
Cut	-0.0248	-0.0442	-0.0279	-0.0301	-0.0373	-0.0686	-0.0474	-0.0629	-0.0632	-0.0462
Stripped	-0.0292	-0.0365	-0.0277	-0.0270	-0.0524	-0.0533	-0.0450	-0.0676	-0.0600	-0.0320

Values in red represent the highest loss rate for the given time period. Values in blue represent the lowest loss rate.

Table 2. - Estimated soil water loss (mm) from shallow profile using regression coefficients.

DOY	2005 - Decatur County, Kansas					2006 - Red Willow County, Nebraska						
	229-236	238-248	249-283	284-292	Total	220-224	225-230	231-237	239-244	244-250	252-262	Total
Cum. ET _o	44.07	84.86	231.14	35.84	395.91	41.43	34.62	42.29	30.99	37.41	61.82	248.56
Bare	3.00	6.56	7.90	2.61	20.08	4.41	3.04	3.66	3.94	4.28	2.14	21.45
Cut	1.09	3.75	6.45	1.08	12.37	1.55	2.37	2.00	1.95	2.36	2.86	13.09
Stripped	1.29	3.10	6.40	0.97	11.76	2.17	1.85	1.90	2.09	2.24	1.98	12.24



Snow Catch

	Snow Depth (inches)		
	Mean	StDev	Precip
Bare	4.4	2.1	0.77
Cut	8.3	1.5	1.45
Stripped	14.7	3.9	2.57

4 measurements per plot
 3 plots per stubble treatment
 15" Snow = 2.62" precip

Corn Yields

- DCM Plot
(Rep, Stubble, and Hybrid significant at < 0.05)

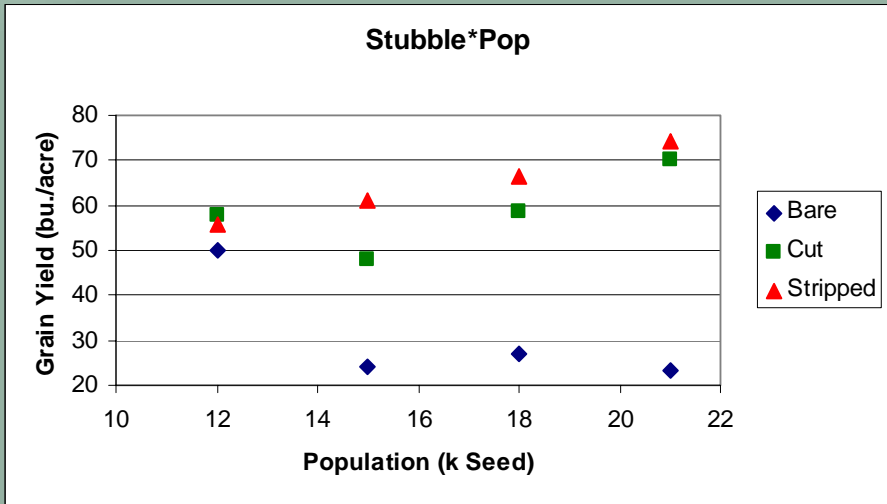
Stripped	49.7 bu/ac ^a
6" Cut	46.9 bu/ac ^a
2" Cut	27.3 bu/ac ^b

- DCE Plot
(Rep, Stubble, Hybrid, Pop*Hybrid, Stubble*Pop, Stubble*Hybrid significant at < 0.05)

Stripped	64.4 bu/ac ^a	Significant at p=0.12
6" Cut	58.5 bu/ac ^a	
2" Cut	31.1 bu/ac ^b	

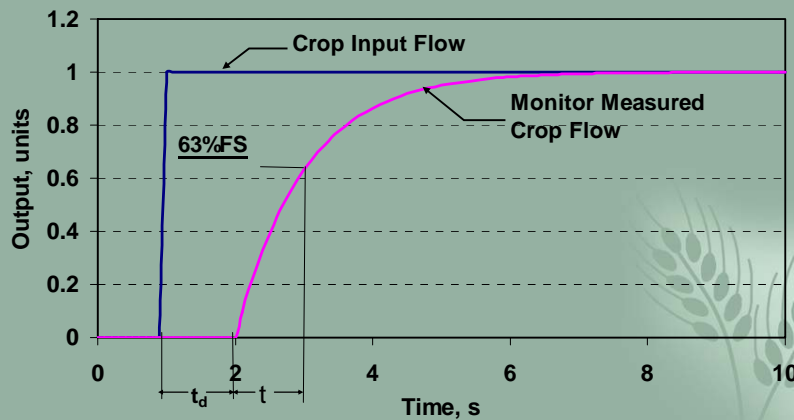
P<0.05

Stubble*Pop Interaction



Sensing Combine Cylinder Load for Data Correction

System Response to Step Input



ASAE X579 – Proposed Yield Monitor Test Standard

Sensing Combine Cylinder Load for Data Correction

- Pressure transducer installed on hydraulic line to variable speed cylinder sheave
- Pressure recorded at 10 hz.
- Data is geo-referenced and recorded for post-processing
- Will be interesting to see that data from a stripper equipped machine in wheat (Will it show anything of value?)