NLEAP climate input

MONTH	Month (e.g., 03).
DAY	Day (e.g., 01).
YEAR	Year (e.g., 2005).
RNFALL	Daily precipitation (inches).
TMAX	Daily maximum air temperature (F).
TMIN	Daily minimum air temperature (F).
PAN	Daily pan evaporation (inches).
PAN_COEF	Daily pan coefficient.

NLEAP Simulation Results Summary

Monthly tabular values and graphs for:

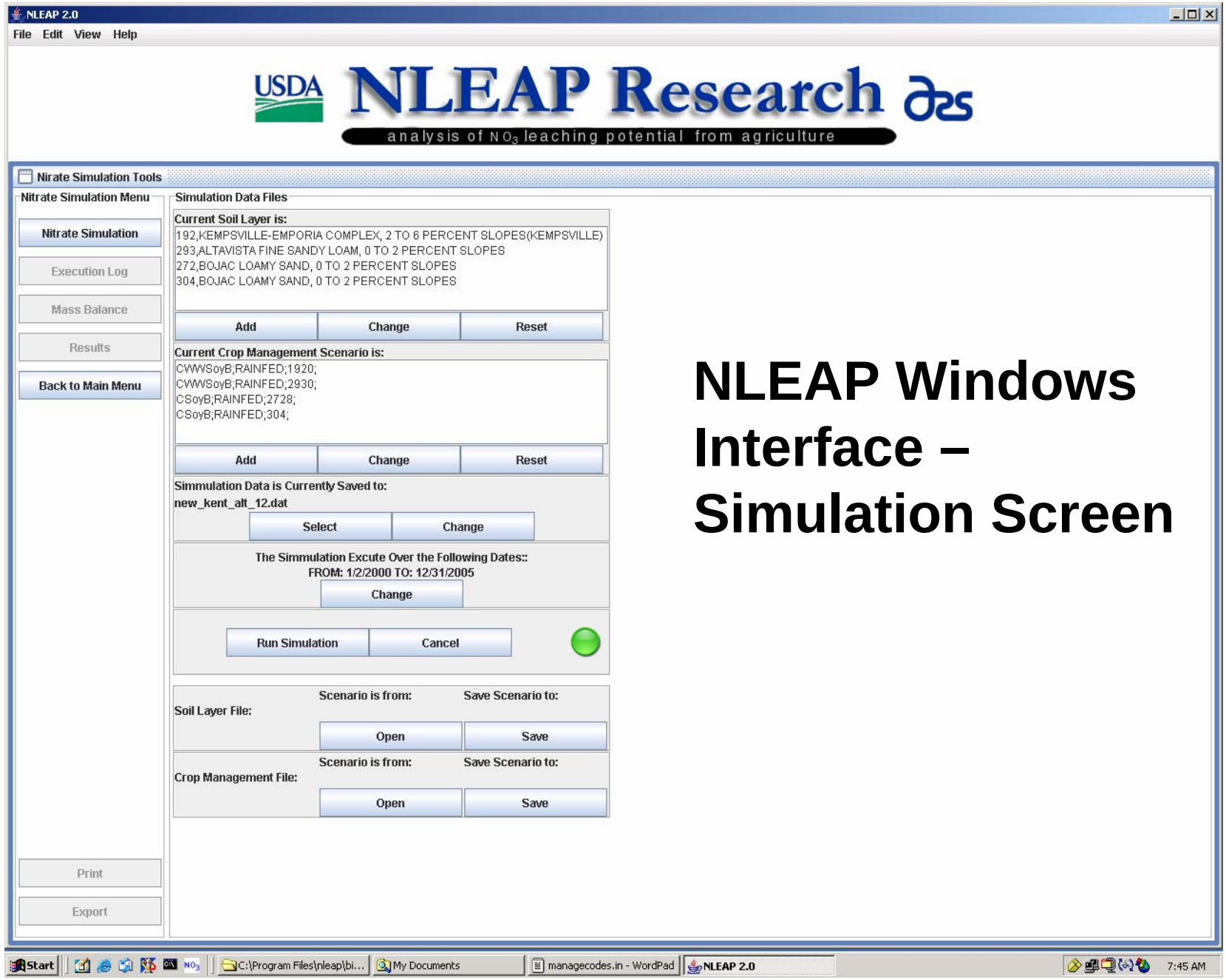
- **Nitrate-N leached below the root zone**
- **Residual soil nitrate-N**
- **Crop N uptake**
- **N denitrified**
- **N_2O soil emissions (as N)**
- **NH_3 volatilized from soil (as N)**
- **N lost in surface runoff**

Daily mass balance status for water and N components:

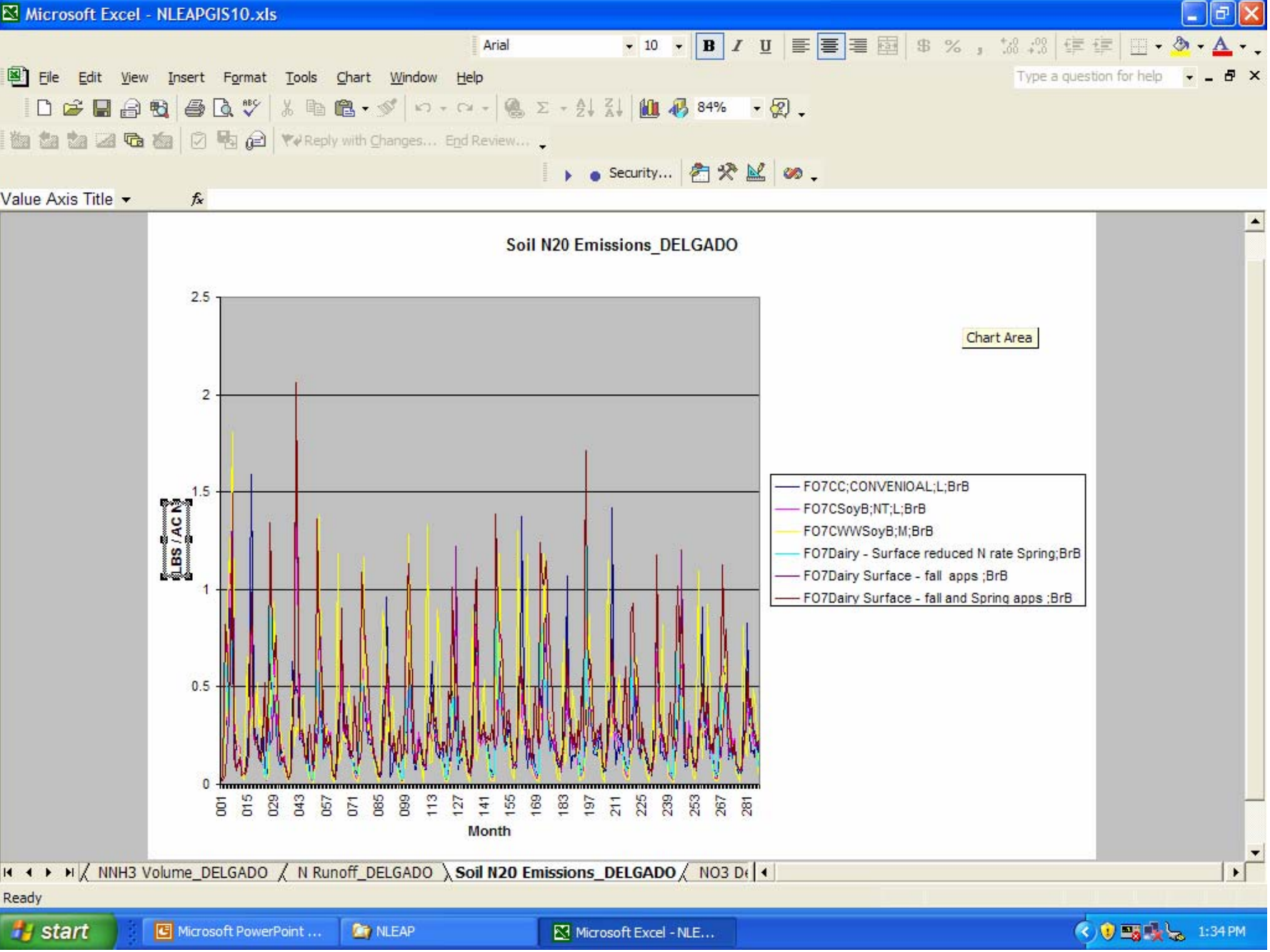
End of run summary values for GIS maps:

- **Same variables as above monthly results.**

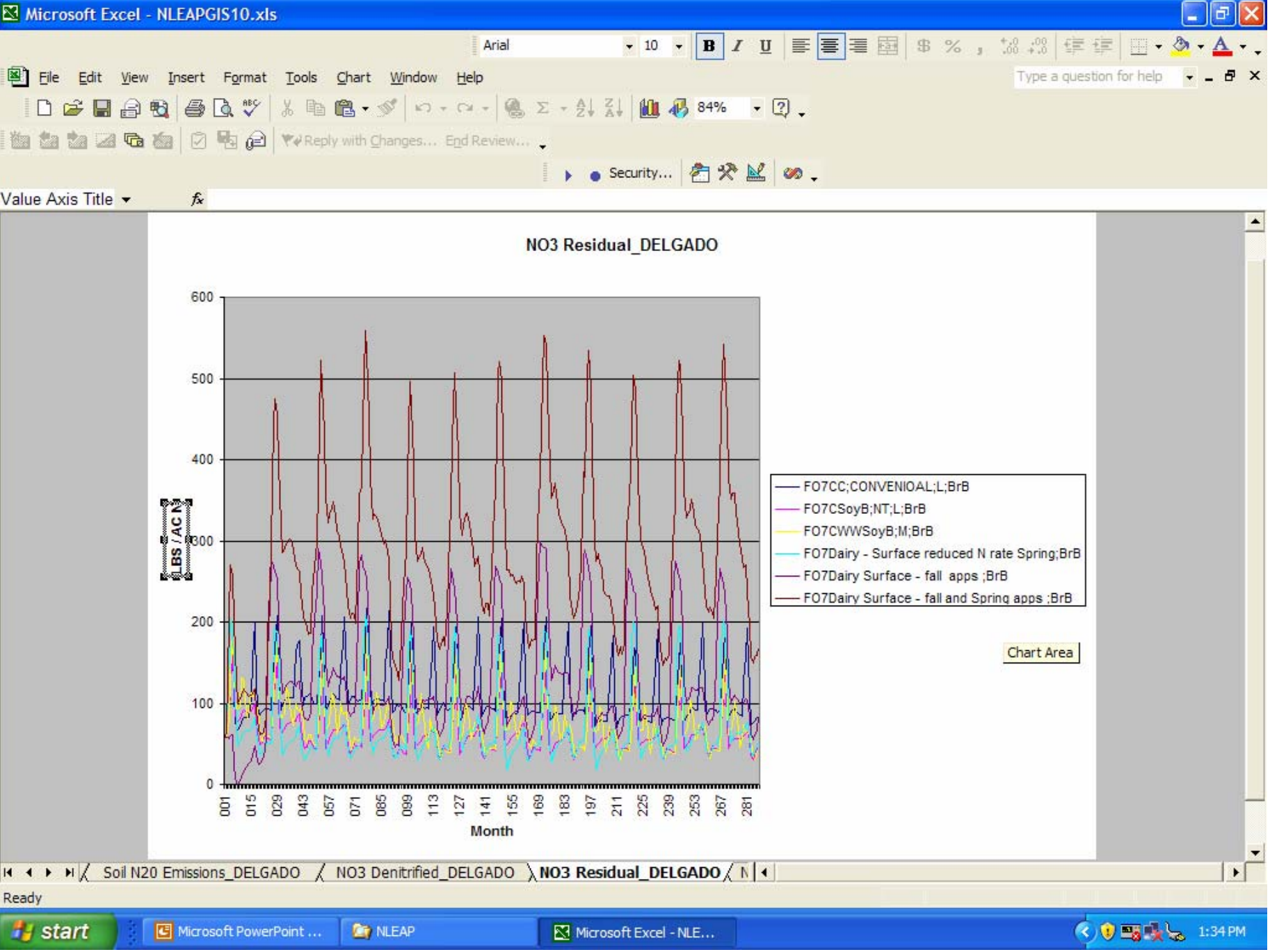
Simulation run logs.



NLEAP Windows Interface – Simulation Screen

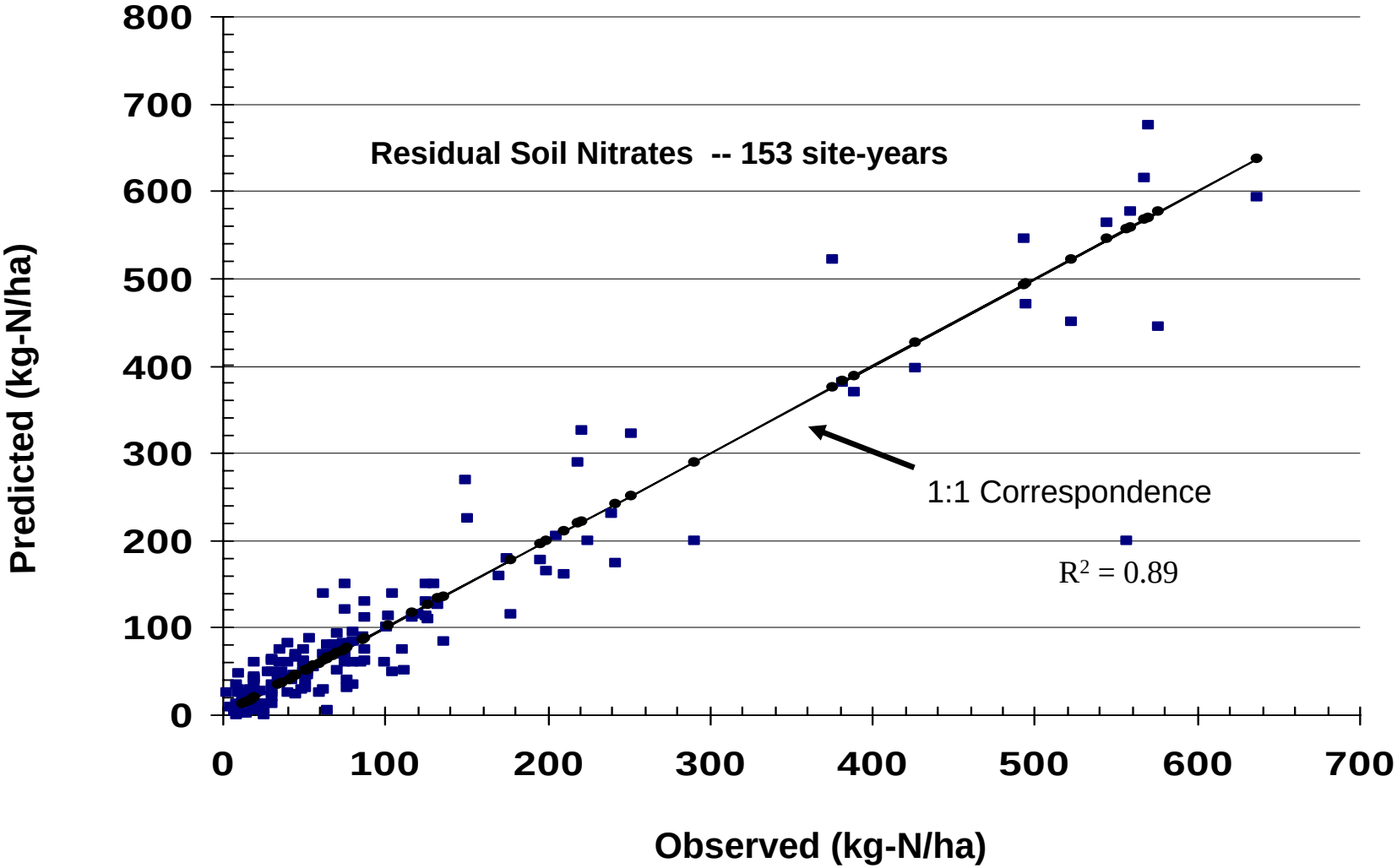


From Delgado, J.A. and M. Shaffer, Nitrogen Loss and Environmental Assessment Package with Geographic Information System Capability – Advances in Nutrient management for Water Quality



From Delgado, J.A. and M. Shaffer, Nitrogen Loss and Environmental Assessment Package with Geographic Information System Capability – Advances in Nutrient management for Water Quality

NLEAP Testing Results (Colorado)



USDA-NRCS Nitrogen Trading Tool - Windows Internet Explorer

http://cougar.itc.nrcs.usda.gov/nttweb/default.aspx

USDA-NRCS Nitrogen Trading Tool

United States Department of Agriculture NRCS Natural Resources Conservation Service

Nitrogen Trading Tool

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Summary Report

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Name:					
Calculation Summary	Base	Alternative	Change	Acres	(lbs/yr) Change
	52.7	12.0	40.7	130	5291.0

Management Information

	Base	Alternative
Crop system:	Potato,Barley	Potato,Barley,Barley
Irrigation:	Irrigated(sprinkler)	Irrigated(sprinkler)
Nitrogen input:	High 330	Low 190
Tillage:	Conventional	Conventional
Tiled:	(none)	(none)
Activities:	(none)	(none)

Additional Information

State:	Colorado
County:	Alamosa
Weather station:	Alamosa
Soil survey area:	Alamosa Area
Soil series name:	Gunbarrel loamy sand
Description:	

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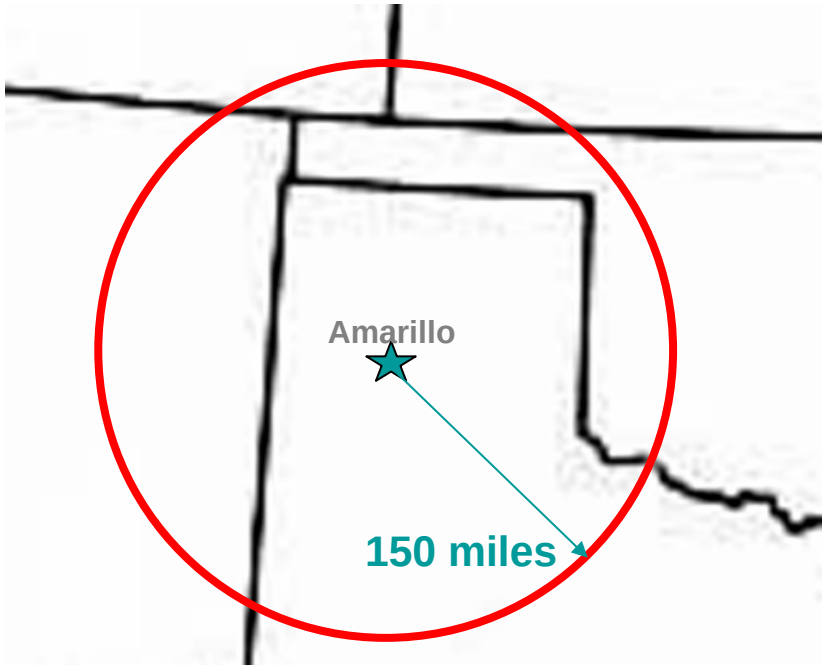
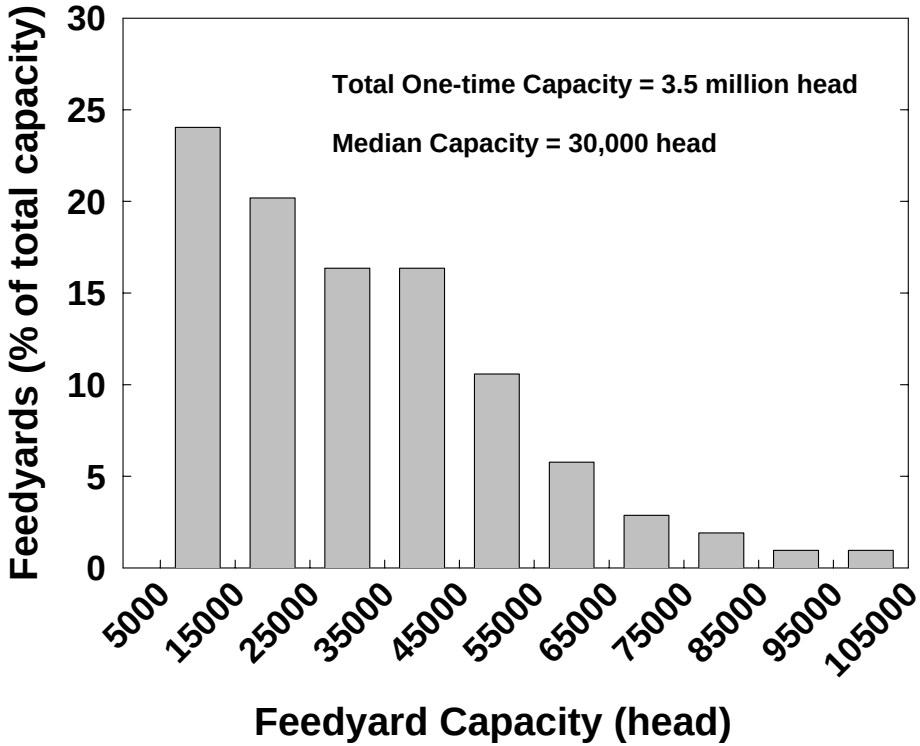
start | Inbox - ... | 2 Micr... | Windows... | 3 Wind... | Microsoft... | 2 Micr... | USDA-N... | 1:57 PM

Delgado, J.A. M. Shaffer, H. Lal, and S. McKinney - Potential Use of NLEAP as a Tool to Assess Delta Nitrogen Losses – (Internet DRAFT – PROTOTYPE; Paper in Peer Review)

N Balance in Animal Production Systems



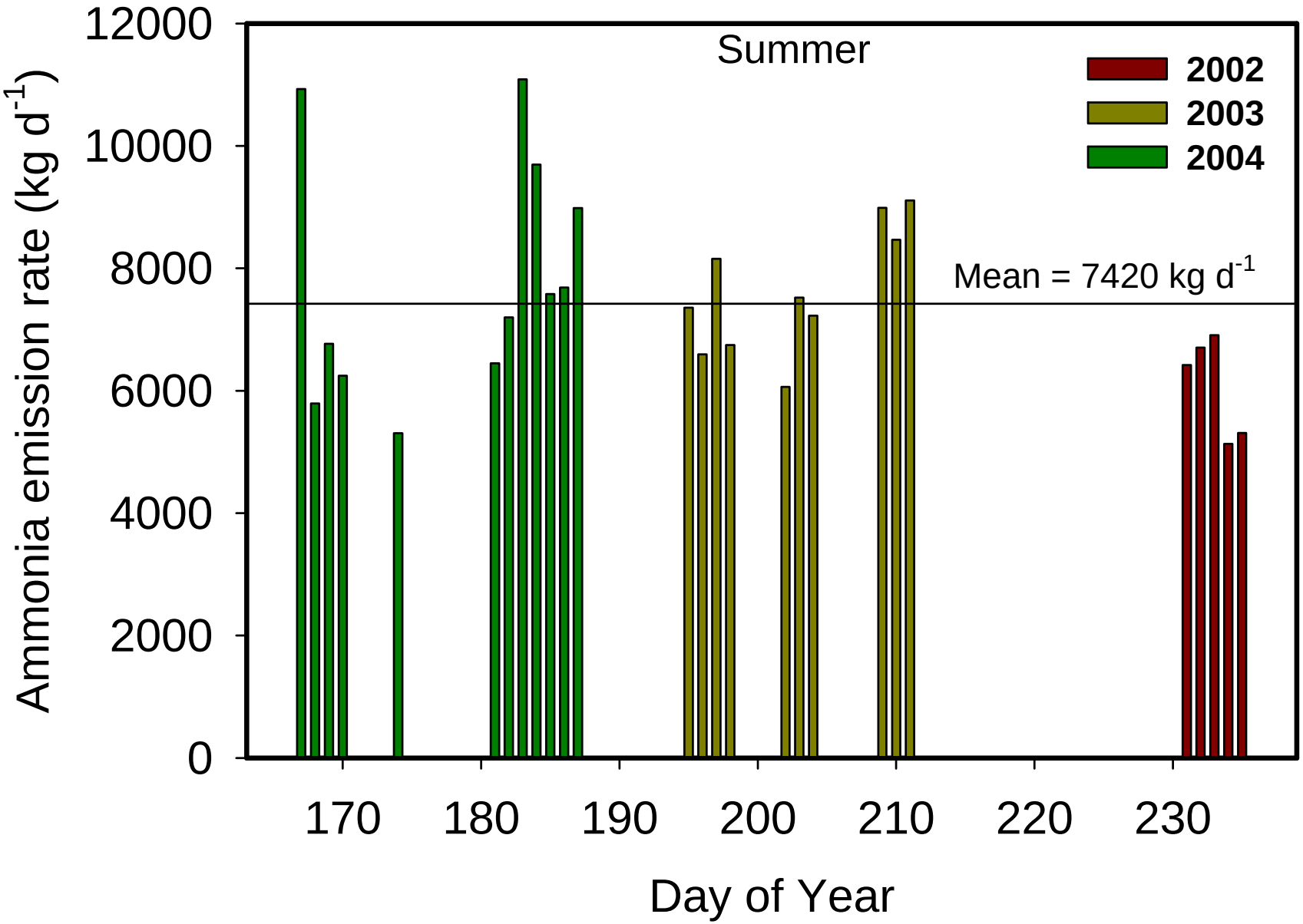
Texas Panhandle Center of the fed cattle industry



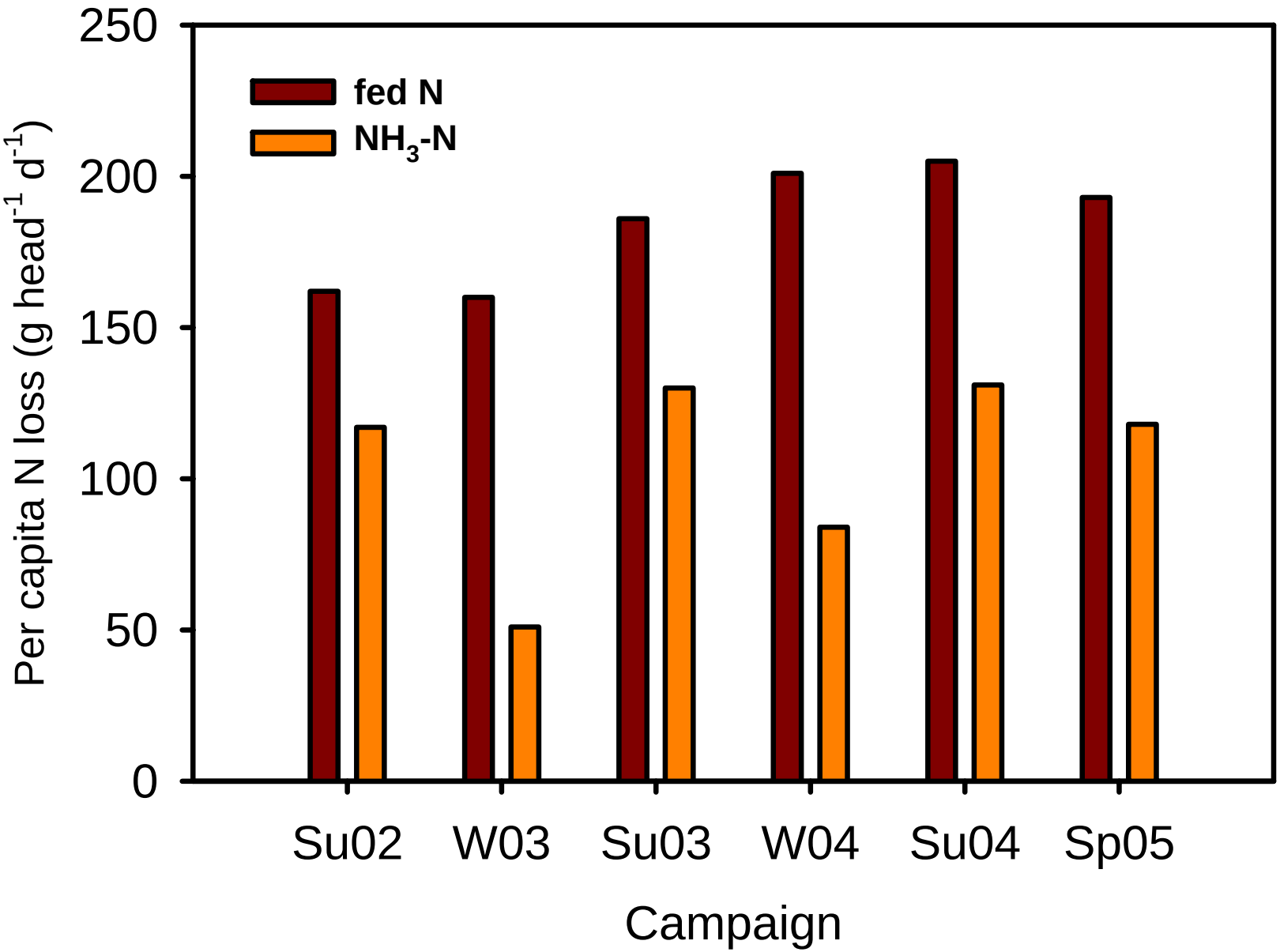
- More than 7 million fed annually
- 1/3 of U.S. fed cattle

Summer 2003

Ammonia emissions - summer



Per capita fed N or NH3-N loss



NH_3-N loss (% of fed N)

Study	Summer	Winter	Annual
	---------- % ----------		
This study	68	36	53
Flesch et al. (2007)	63		
Harper et al. (2004)	53	29	
Todd et al. (2004) N:P ratio method	45	44	45
Cole et al. (2006) N:P ratio method	51-65		
Bierman et al. (1999)	51-61		
Erickson et al. (1999)	63		
Erickson and Klopfenstein (2001)	53-63	35	

Summary and Conclusions

	NH_3 emission	NH_3-N emission	Per capita NH_3-N loss
	kg d^{-1}	% fed N	g $head^{-1}$ d^{-1}
Summer	7420	68	128
Winter	3330	36	64

Acknowledgments

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- Richard W. Todd, Conservation & Production Research Laboratory, USDA/ARS, Bushland TX
- Charlie Walthall & Robert Wright, National Program Staff, USDA/ARS, Beltsville, MD