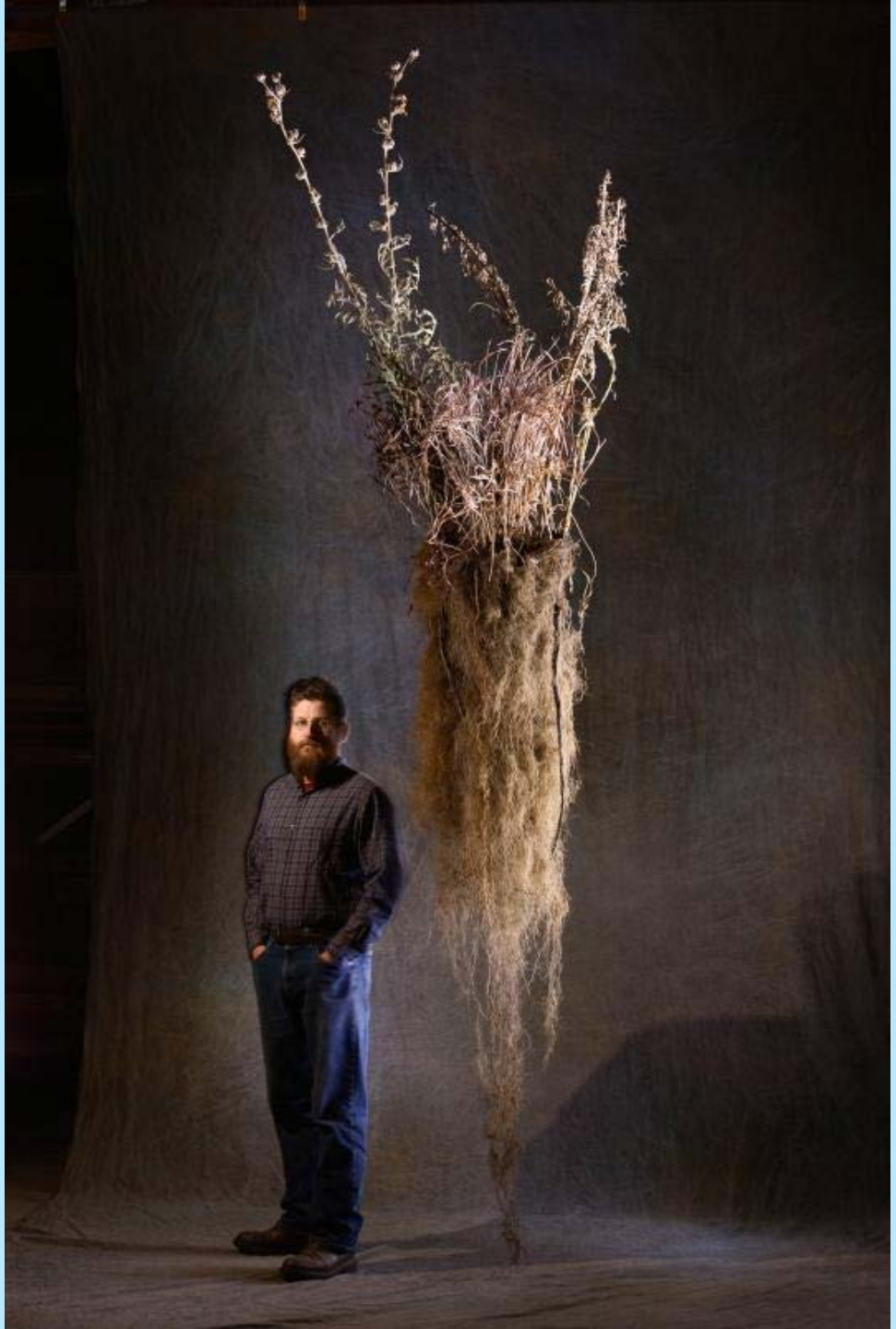
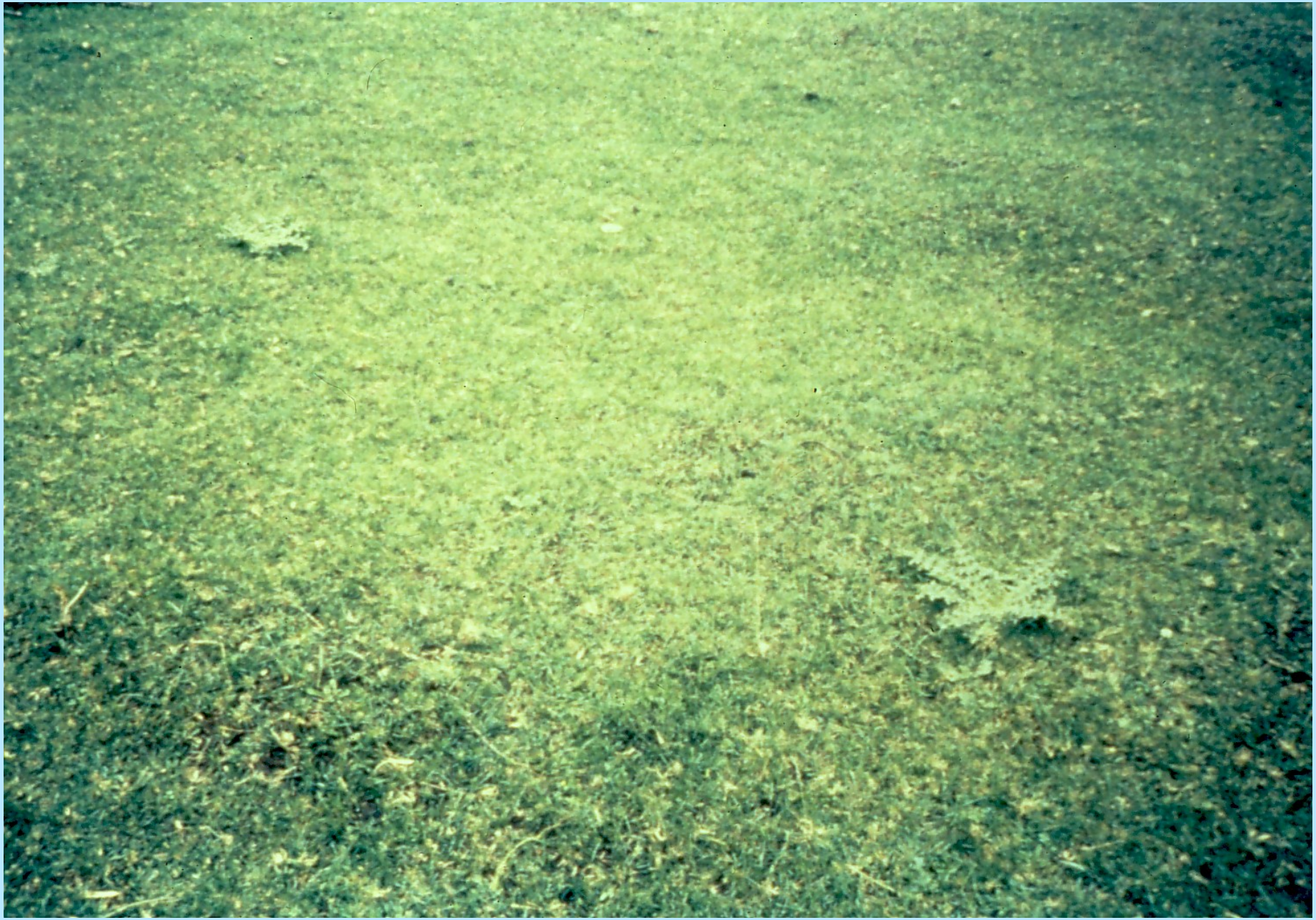

416



Glover, Land Institute


Mulberry
Walnut
Wild Plum
Locust
Cedar
Cotton Wood
BASSWOOD
OAK
Brookville Road
Lanes
Paddock Fences
Ponds
Creeks

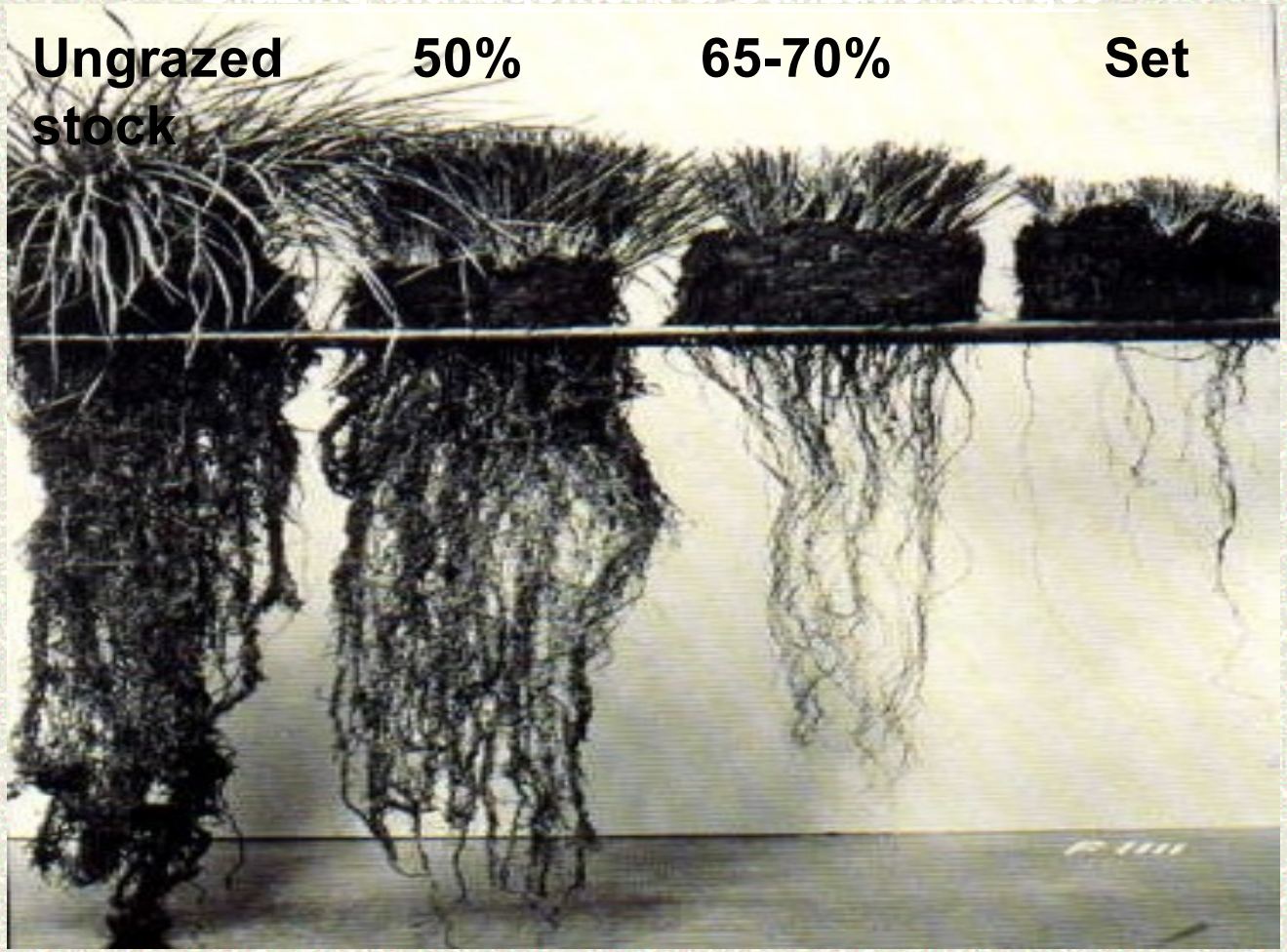


Plant Vigor-Leaves and Roots

Caring for the Green Zone, Riparian Areas and Grazing Management

Alberta Riparian Habitat Management Project, "Cows and Fish Project"

Grazing management & Utilization target




ORGANIC VALLEY
NO
Mahaffey Dairy

Mississippi study — soil carbon data, carbon assessment per acre			
Farm description	**Carbon ($kg./m^2$)**	**Carbon (ton/ac.)**	**Carbon (ton CO_2 equiv.)**
AHSD	12.69	51.41	188.13
Slow rotation	7.09	28.71	105.07
CG	5.47	22.16	81.09

SOURCE: ALLEN WILLIAMS

AHSD = Adaptive High Stocking Density

Management	N lbs.	P lbs. (ppm)	K lbs. (ppm)	WEOC
Organic	2	156 (9)	95 (14)	233
No-till, low diversity	27	244 (14)	136 (19)	239
No-till, MD, high syn.	37	217 (12)	199 (28)	262
No-till, HD, NS, livestock	281	1,006 (56)	1,749 (250)	1,095

Tested by Dr. Rick Haney, ARS, Temple, TX

Note: Gabe Brown, whose ranch is shown in the bottom row of numbers, provided a 2007 soil test from his ranch showing these results: N - 10 lbs. in the top 24 inches; P (Olsen test) - 6 ppm; K - 303 ppm. Gabe says he has not used any fertilizers on his home ranch since 2007. The ppm numbers are a *Graze* conversion (with help from Gene Schriefer, University of Wisconsin-Extension) from the original lbs. listed in this soil test.

Soil Regeneration Principles

- Living plants in soil at all times
- Till as little as possible
- As much plant diversity as possible

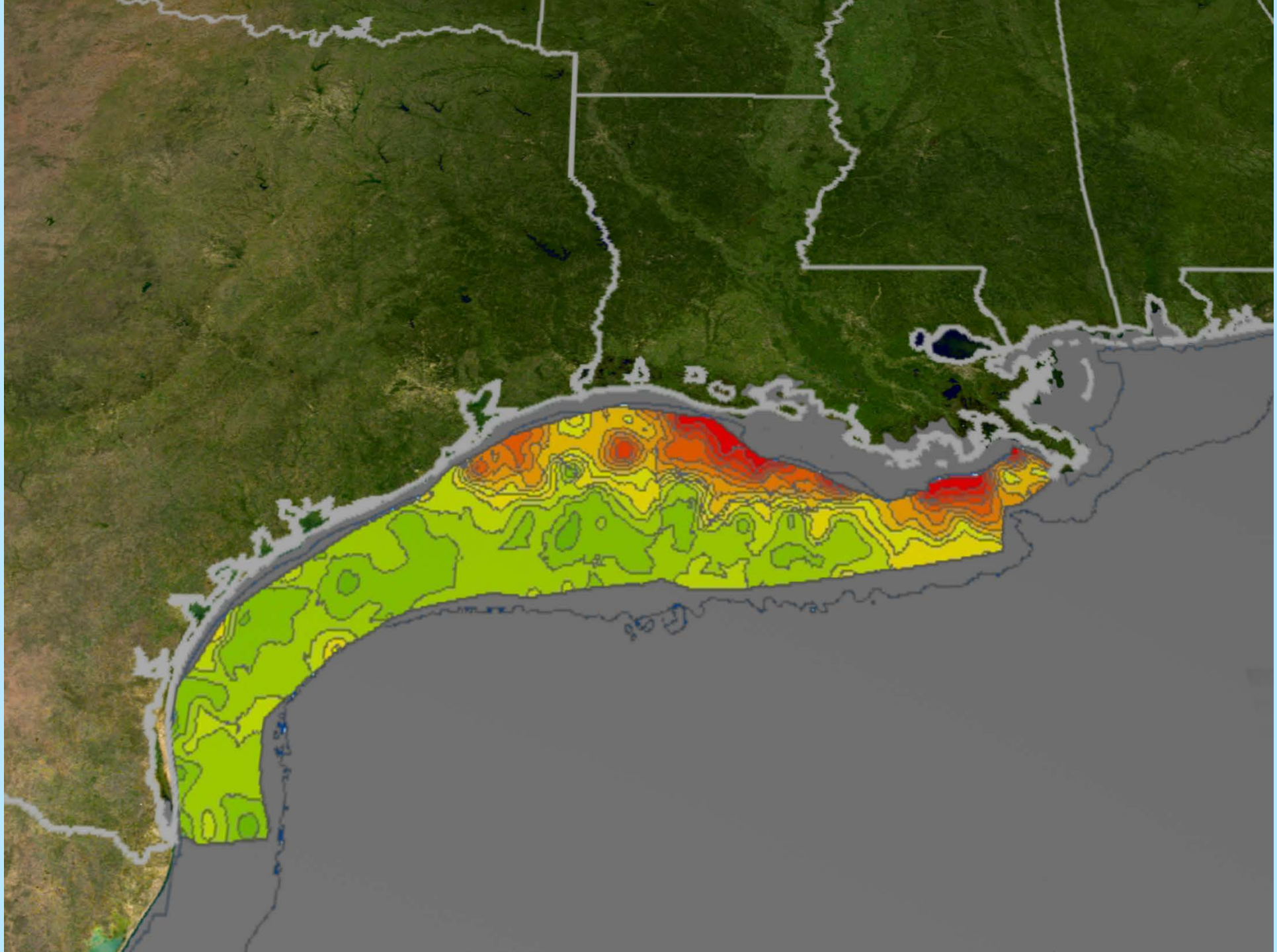
Hallmarks of Industrial vs. Ecological Agriculture

Ecological

- Biodiversity
- Self Sufficient
- Conserves/Recycles

Industrial

- Monoculture
- High Input
- Leaks



Iowa Nutrient Reduction Strategy

Table 1. Estimated percent load contributions from point and on-point sources.

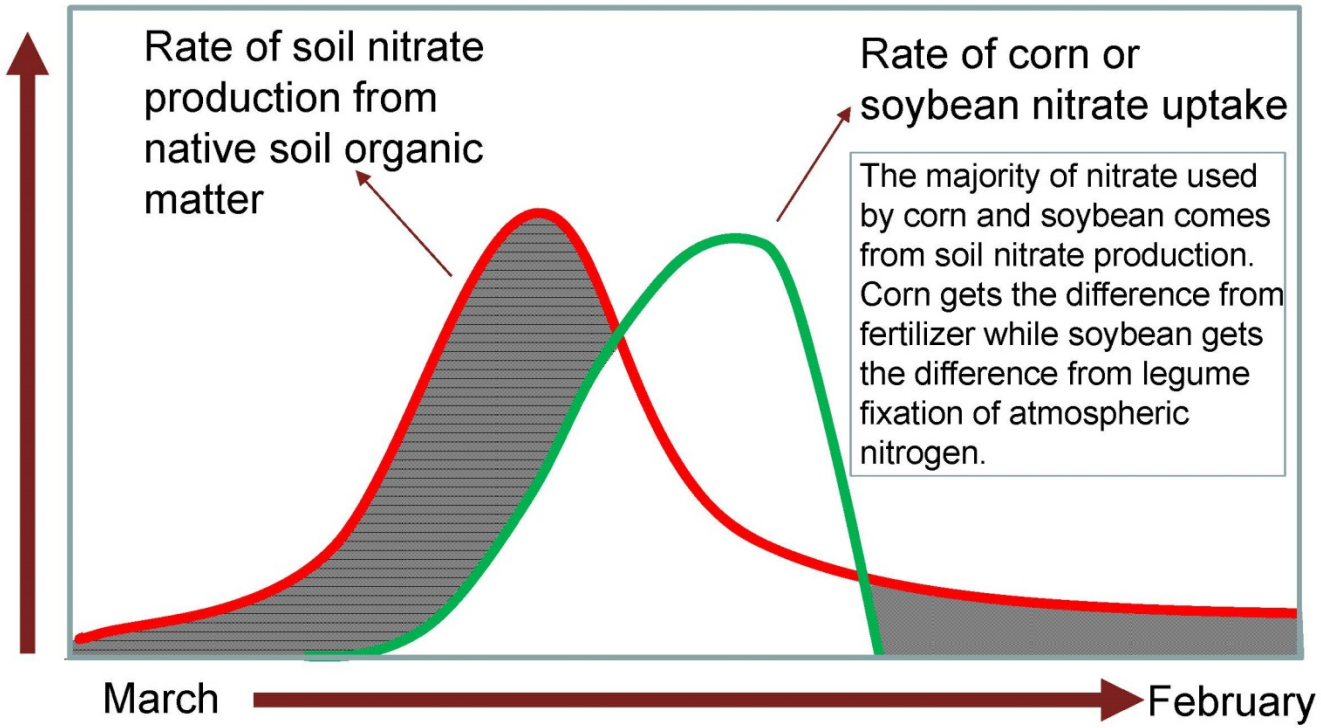
Estimated % of Loads and Load Reduction	Nitrogen	Phosphorus
% of Total Load from Point Sources	7	21
% of Total Load from Non-point Sources (Agriculture)	93	79
% of Overall Load Reduction from Point Sources to meet 45% Total Load Reduction	4	16
% of Overall Load Reduction from Nonpoint Sources to meet 45% Total Load Reduction Goal (Agriculture)	41	29

Effect of CROPPING SYSTEM on drainage volume, NO_3-N concentration, and N loss in subsurface tile drainage during a 4-yr period (1990-93) in MN.

Cropping System	Total Disharge	Nitrate-N	
		Conc.	Loss
	Inches	ppm	lb/A
Cont. Corn	30.4	28	194
Corn – Soybean	35.5	23	182
Soybean – C	35.4	22	180
Alfalfa	16.4	1.6	6
CRP	25.2	0.7	4

Gyles Randall, University of Minnesota

Soil Nitrate Production *vs.* Crop Nitrate Uptake



In the shaded areas, the soil produces nitrate, but there is no crop to use it. As a result, <u>some</u> nitrate is lost to waterways.

Crop	Cum Annual N Loss
Total 2012-2014	
Organic C-S-O/A-A	35.3
Conventional C-S	69.7
Organic Pasture	15.6

Cambardella et al.

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Crimping Rye


Dickies

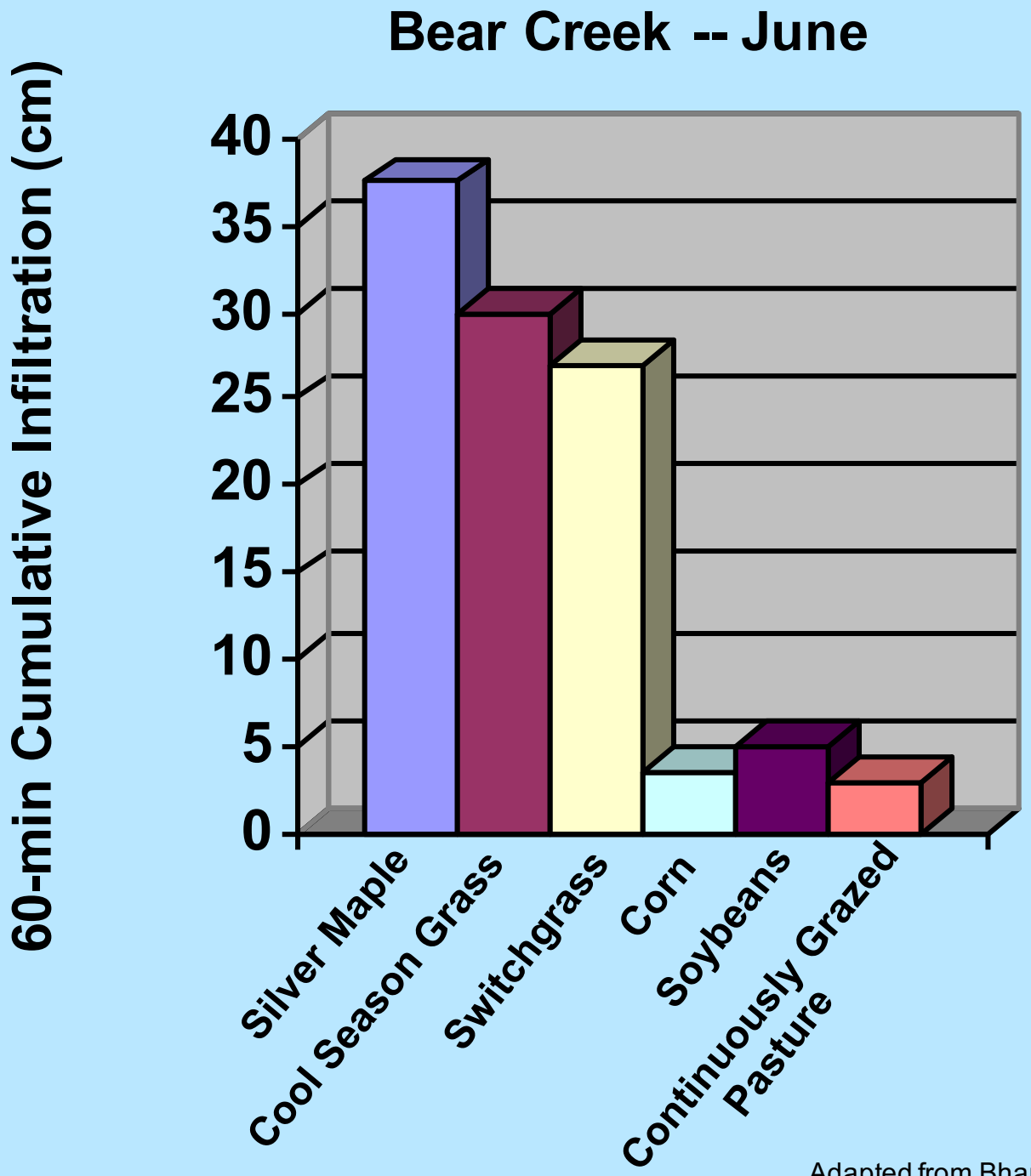

FreeFolo.com

NRCS Photo


4350
GEA Farm Technologies
Houle
GEA


Cobett


MOBILE SHADE



Adapted from Bharati, Lee, and Schultz


THERMO KING
ISUZU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20 0:38


EVERY
BODY'S


HOMEOPATHIC
BABY PRODUCTS
BESAN FLOUR


Baby Spinach
$2.95 ea
ORGANIC
Taylor Farms
ORGANIC
BABY SPINACH
GREEN CABBAGE
$3.49 ea
ORGANIC
BUNNY-LUV


Not Organic
Not Organic
Not Organic
Not Organic
Conventional
(Non-Organic)
Zucchini
$3.15/Lb.
PRIME PRODUCE
HASS AVOCADOS
SHITAKE MUSHROOMS
$9.99
ORGANIC
PORTOBELLO MUSHROOMS
$6.55
ORGANIC


LOW FAT
GOAT MILK
ORGANIC VALLEY
REDUCED FAT MILK
HEAVY WHIPPING CREAM
HALF & HALF
HORIZON ORGANIC


ISUZU