- November 8, 2017 -

Journey to Grassmilk
100% Grass-fed Dairy Production

Presented by:

Kevin Mahalko

Grassmilk Dairy Grazier Organic Valley
Board member River Country RC&D
Dairy Grazing Apprenticeship Educator
Grassworks Inc. Advisor/Member

Hosted by:

Food Animal Concerns Trust (FACT)

Introductions

FACT
Food Animal Concerns Trust

Food Animal Concerns Trust (FACT) is a national nonprofit organization that advocates for the safe and humane production of meat, milk, and eggs.

Larissa McKenna
Humane Farming Program Director
Email: lmckenna@foodanimalconcerns.org
Website: foodanimalconcernstrust.org/farmer/

FACT's services for livestock and poultry farmers include:

- **Fund-a-Farmer Grants** – deadline is December 4!
- **Conference scholarships**
- **Free webinars**
- **Networking and learning opportunities**

Our Presenter

Kevin Mahalko

- Grassmilk Dairy Grazier with Organic Valley
- Board member River Country RC&D
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- Grassworks Inc. Advisor/Member

~Journey to Grassmilk~

Kevin Mahalko: Gilman, Wisconsin

Grassmilk Dairy Grazier Organic Valley, Boardmember River Country RC&D, Dairy Grazing Apprenticeship Educator, Grassworks Inc. Advisor/Member


CROPP COOPERATIVE
ORGANIC VALLEY
FARMER-OWNED
Mahalko Dairy
rganic Grazing Farm
MAHALKO DAIRY


Secure your Farming Future
ORGANIC VALLEY
ORGANIC PRAIRIE
FARMER-OWNED

DAIRY GRAZING APPRENTICESHIP

DGA-NATIONAL.ORG

DGA: First In The Nation

National Standards for Training in Managed Grazing Dairy Production

- Guided work experience
- Related instruction
- Facilitated peer group
- Industry networking
- Pathway to farm ownership

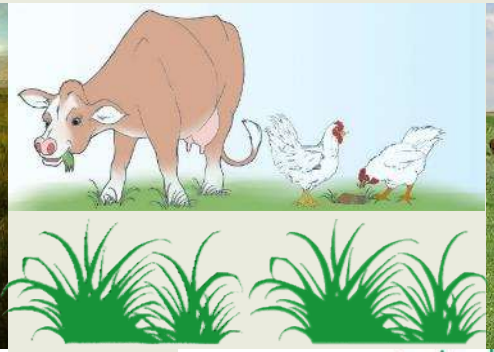
DAIRY GRAZING APPRENTICESHIP

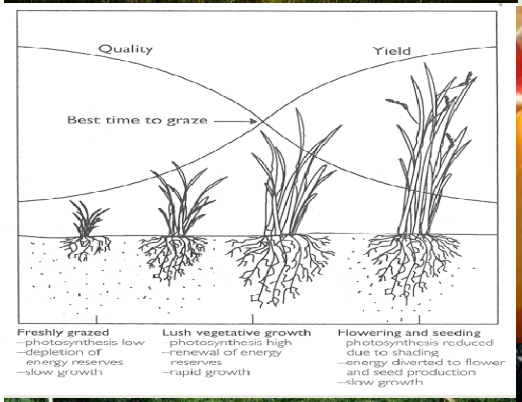
GrassWorks, Inc.

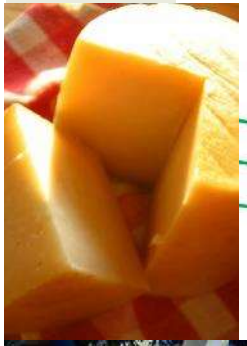
- Led by and for active graziers
- Host of annual state-wide Grazing Conference since 1992.
- Pioneers in farmer-to-farmer grazing networks throughout Wisconsin; 23 in total
- Partnerships with the NRCS and the WI DATCP
- Established in 1994

Through its state-wide coalition of grazing networks, GrassWorks provides leadership and education to farmers and consumers for the advancement of managed grass-based agriculture to benefit present and future generations.

Managed Grazing: Linking Food, People, Animals and the Environment







What is Grassmilk®?

Organic Valley's Grassmilk family of products is an artisanal, 100% grass-fed product line produced by cows that eat only fresh grasses and dried forages, like hay.

Watch Out!

No grass-fed standard exists and many products are positioned as "grass-fed", but are **not** 100% grass-fed.

ALL Organic Valley dairy products come from pasture-raised cows, but only Grassmilk products are from a 100% grass-fed diet.

What are the Benefits?

Did you know?

Organic Valley whole milk contains 18% higher CLA than conventional whole milk and a better Omega 6 to Omega 3 ratio?

Health

Our cows graze on lush and diverse pasture and dried forages (not grain) resulting in simply delicious milk with naturally occurring omega-3, omega-6, conjugated linoleic acid (CLA) and calcium.

"I just tried your organic Grassmilk® for the first time and I must say this is seriously the best store bought milk I've ever tasted. " - OV Consumer

Taste

Light herbal top notes with a hint of flower petal. Deep base note of mineral earth. The taste will vary subtly from season to season based on what the cows are eating throughout the year. A wide assortment of grasses and forages means lots of flavor!

"I tried your Grassmilk for the first time- why is it so much better tasting than other milks?" – OV Consumer

Mission

Since 1988 we've been on a mission to bring you the best nature can muster, while supporting organic farm families who nurture us, their animals and the planet. Our farmers know how to use the land responsibly while giving their cows the best grass possible.

100% Grass-fed Dairy Standard
Five Fundamentals

- **No grain.** Cows eat a diet of high quality forages (pasture and hay) along with needed supplements like essential vitamins and minerals.
- **Pasture is a priority.** Cows must get the majority of their feed from good quality and well managed pastures during the grazing season.
- **Animal health is first.** Wellness checks or veterinarian oversight are required, these are not voluntary options – cows and calves must be healthy.
- **NO antibiotics, NO growth hormones, NO GMOs.**
- **Yearly farm inspections.** A 100% grass-fed farm receives a yearly on-farm review.

Transitioning to Grassmilk

- 60 day initial transition period on no grain
- Purchased organic animals must also meet 60 day transition requirement
- Must maintain adequate body condition on cows
- Adequate pasture and high forage quality is essential

CROPP Cooperative Grassmilk Facts

- 139 farms
- Four regions of the country
  - Midwest
  - California
  - East (Virginia to Vermont)
  - Mideast (Ohio)
- Organic Pay Price with a Grassmilk premium
  - $4/cwt premium for Grassmilk production
  - $1/cwt soil amendment reimbursement program (only able to be used for soil amendments)

CROPP Grassmilk Standards

- Includes mandatory feeding standards
- Target goals in soil and forage quality
- Requirements for active grazing and animal health/body condition
- Producers work to continuously improve soil, forage and animal health
- Results oriented approach monitored by testing regime

CHALLENGES

1. FORAGE INVENTORY: MUST know DMI
2. FORAGE QUALITY: Improve something every year! Start with soil, use your $! Must have high energy grasses
3. GENETICS OF THE HERD
4. HOW AVAILABLE IS **LOCAL** HIGH RFQ FORAGES -if case you need them?
5. ARE YOU ABLE/WILLING TO PROVIDE TIMELY ENERGY SUPPLEMENTATION?
6. MINERAL SUPPLEMENTATION

Summary: energy requirements (NRC, 2001)

• Maintenance	9.7	Mcal/d
• Body weight (1320 lb cow)		
• Lactation	12	Mcal/d
• 4% Milk fat percent (0.75 Mcal/ kg milk)		
• Volume of milk 50 LBS		
• Grazing related activities	0 to 5	Mcal/d
• Distance walking and topography		
• Pregnancy	0 to 4	Mcal/d
• If days pregnant > 190		
• Tissue loss	-5 to 0	Mcal/d
• Daily body weight losses		
• Tissue gain	0 to 2	Mcal/d

Total Requirements = sum of all items that apply

YEARLY HERD AVERAGES

DHI-207

Test Date: **11-08-2016**

Processed: **11-09-2016**

35-09-1351

MAHALKO DAIRY

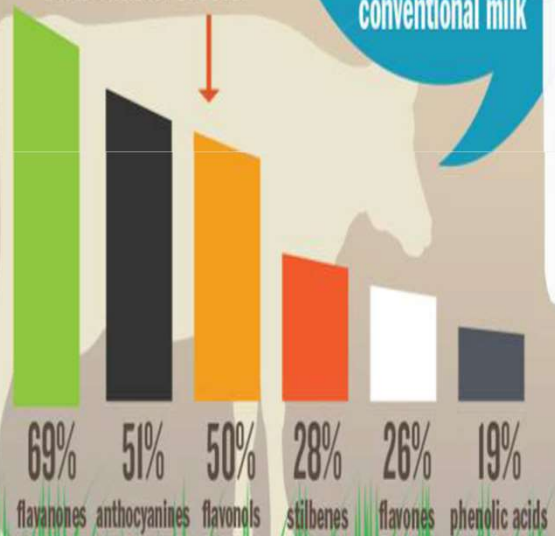
Year Ending		Breed	Cow Years	% DIM	Milk Lbs	Fat		Protein		Inc. Over Feed Cost	Feed Cost CWT	Blend Price of Milk	Calving Interval	Avg Days			% Heats Observed	Breedings per Conc.	Service Sire Merit $	1st Lact				2nd & Later Lact				% Cows Left Herd	Avg SCC Score	Cow Merit $	Avg Peak Milk		% Culls Voluntary
Mo	Yr					%	Lbs	%	Lbs					Dry	Open	1st Bred				Num	Avg Age	% Sire ID	Sire Merit $	Num	Avg Age	% Sire ID	Sire Merit $				1st Lact	2nd+ Lact	
9	16	HO	290	89	26586	3.7	989	3.1	815	1998	4.70	15.82	13.6	57	133	76	59	3.0	+481	117	24	90	+343	179	49	89	+211	37.7	2.4	+112	88	115	11.0
9	16	HO	41	87	12197	3.7	449	2.9	356			27.10	13.3	67	125	76	50	2.9	+587	13	32	92	+422	34	56	94	+304	42.2	1.3	-39	42	54	32.2
9	15	HO	40	87	12183	3.6	434	2.9	356			18.62	14.0	65	144	91	49	3.4	+495	13	32	92	+294	33	54	97	+248	32.8	1.1	-43	41	53	12.6
9	14	HO	40	85	11812	3.6	429	3.0	351			20.57	12.8	71	110	88	52	2.4	+669	16	33	100	+445	27	58	96	+425	33.0	1.3	+144	41	55	17.8
9	13	HO	40	84	13505	3.7	503	2.9	388			18.48	13.3	71	126	78	60	4.2	+558	17	31	94	+522	22	60	95	+314	48.1	1.3	+163	51	66	30.4
9	12	HO	42	84	13981	3.8	532	2.9	410			17.27	13.7	74	137	82	51	3.3	+424	13	31	100	+407	29	55	90	+309	29.1	1.1	+165	53	67	12.1
9	11	HO	38	88	15345	3.7	575	2.9	451			17.90	14.0	60	145	76	63	7.3	+638	12	30	83	+368	27	54	93	+289	40.2	0.8	+152	58	72	34.8
9	10	HO	37	87	17554	3.8	675	3.0	520			13.58	13.3	68	123	85	61	2.8	+514	20	28	85	+343	22	53	91	+233	43.7	1.0	+145	60	83	35.6
10	09	HO	38	85	15638	3.9	610	3.0	474			12.12	12.8	69	108	82	55	2.0	+628	15	27	93	+367	25	52	96	+329	29.7	1.5	+253	57	72	13.5
9	08	HO	37	87	16413	4.0	650	3.0	489			18.93	12.7	69	108	76	61	2.6	+430	18	28	89	+411	18	49	100	+292	69.5	1.2	+251	55	70	52.8
9	07	HO	37	86	17308	4.0	684	3.0	524			15.14	13.1	69	119	81	56	2.6	+448	17	27	94	+255	22	52	100	+313	54.4	1.3	+57	60	86	46.2
9	06	HO	34	89	16978	3.9	660	2.9	500			12.35	13.1	62	119	92	53	2.3	+450	21	26	95	+298	20	61	100	+282	44.4	1.3	+64	57	80	29.6
9	05	HO	35	86	17068	3.8	654	3.0	509			14.45	13.1	64	118	90	53	2.6	+424	8	26	88	+321	25	56	100	+249	55.7	1.4	+29	58	83	44.0
10	04	HO	35	89	17746	3.7	654	2.9	521			8.52	12.9	59	112	97	50	1.8	+545	19	25	100	+432	24	51	100	+362	25.8	2.1	+192	60	78	5.7

ORGANIC FOOD

Science confirms it's healthier!

NUTRIENTS

Organic crops have higher cancer-fighting antioxidant levels:



Organic milk has **62%** higher healthy omega-3 fatty acids than conventional milk

TOXIC METALS

Organic crops have **48%** lower levels of the toxic metal cadmium than conventional crops

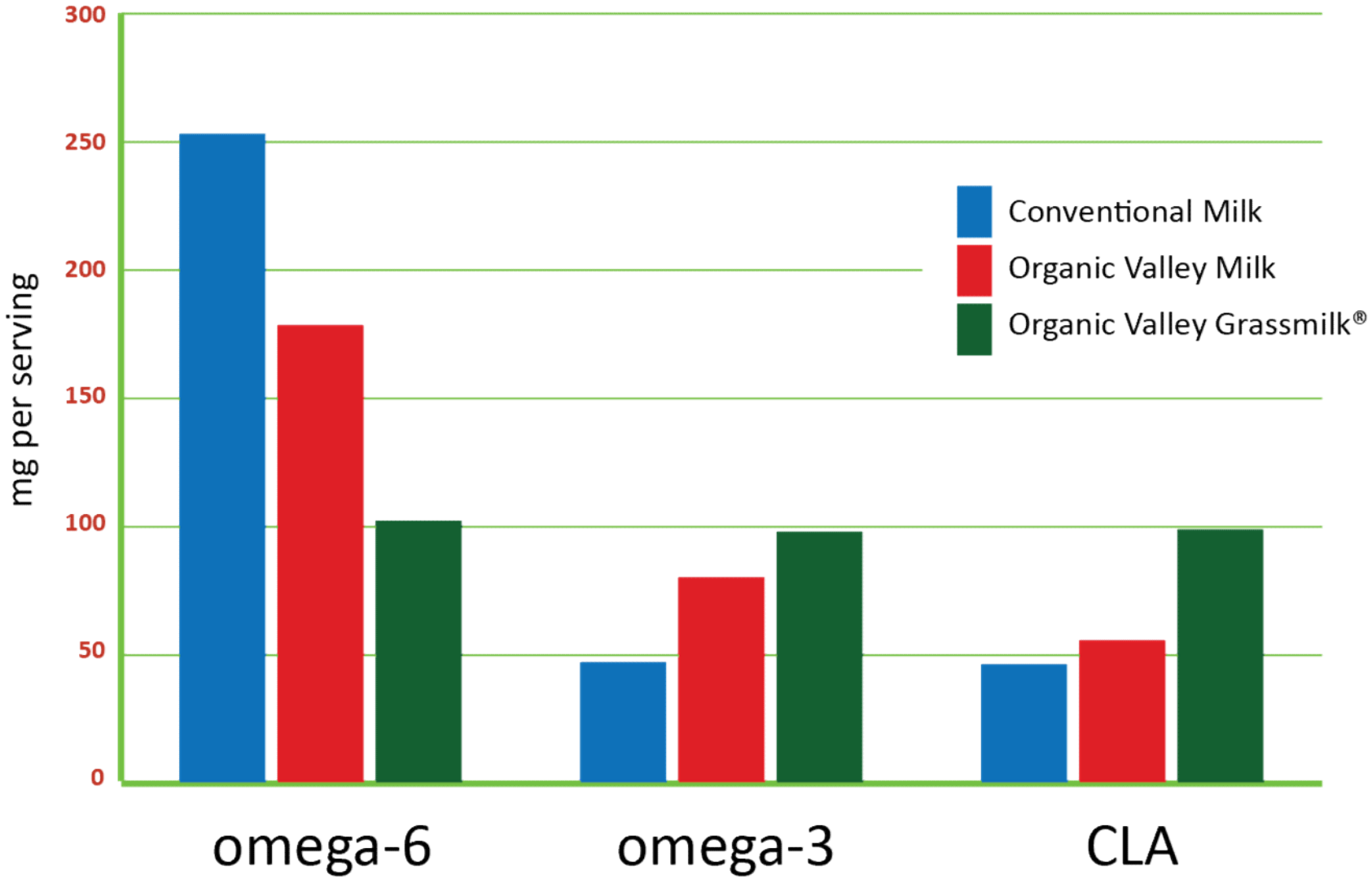
PESTICIDES

Organic crops have **4X** lower pesticide residues than conventional crops

#grassup

ORGANIC VALLEY

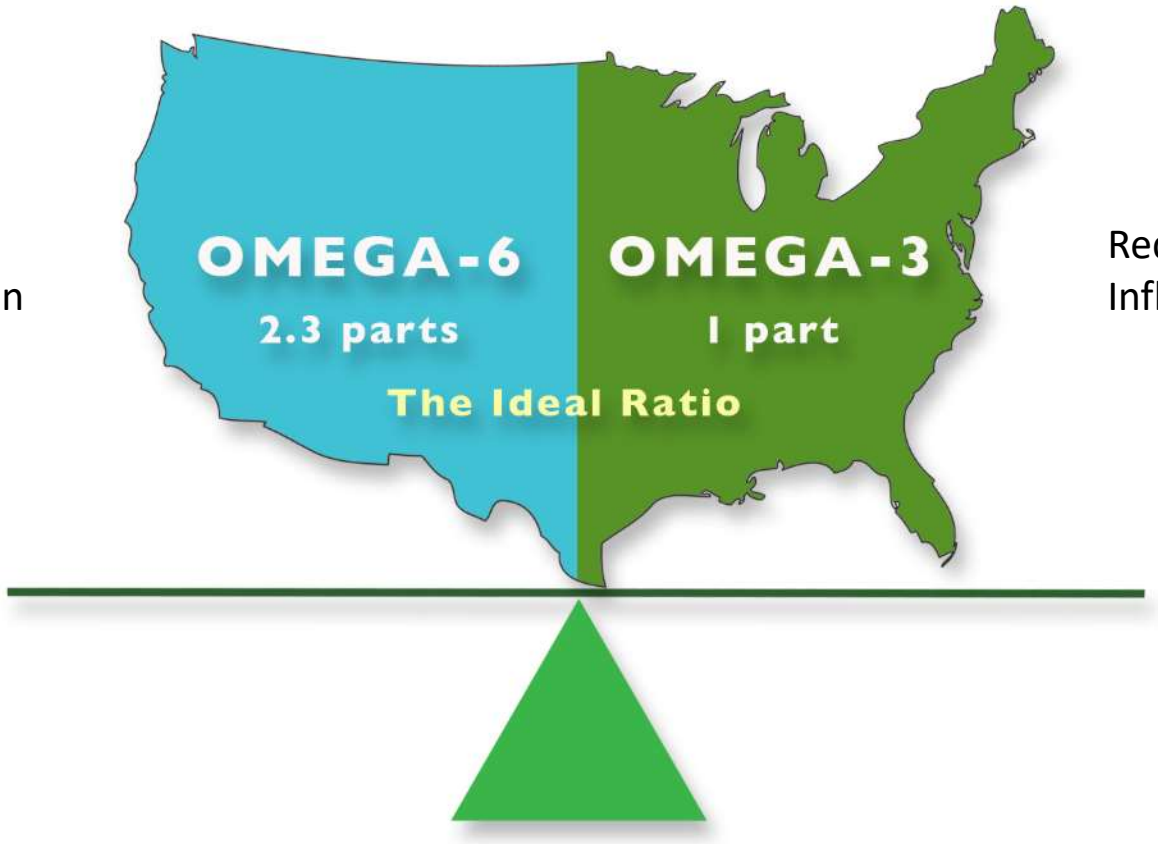
2011-12
Fatty Acid Comparison, Organic Valley vs. Conventional Milk



Science tells us

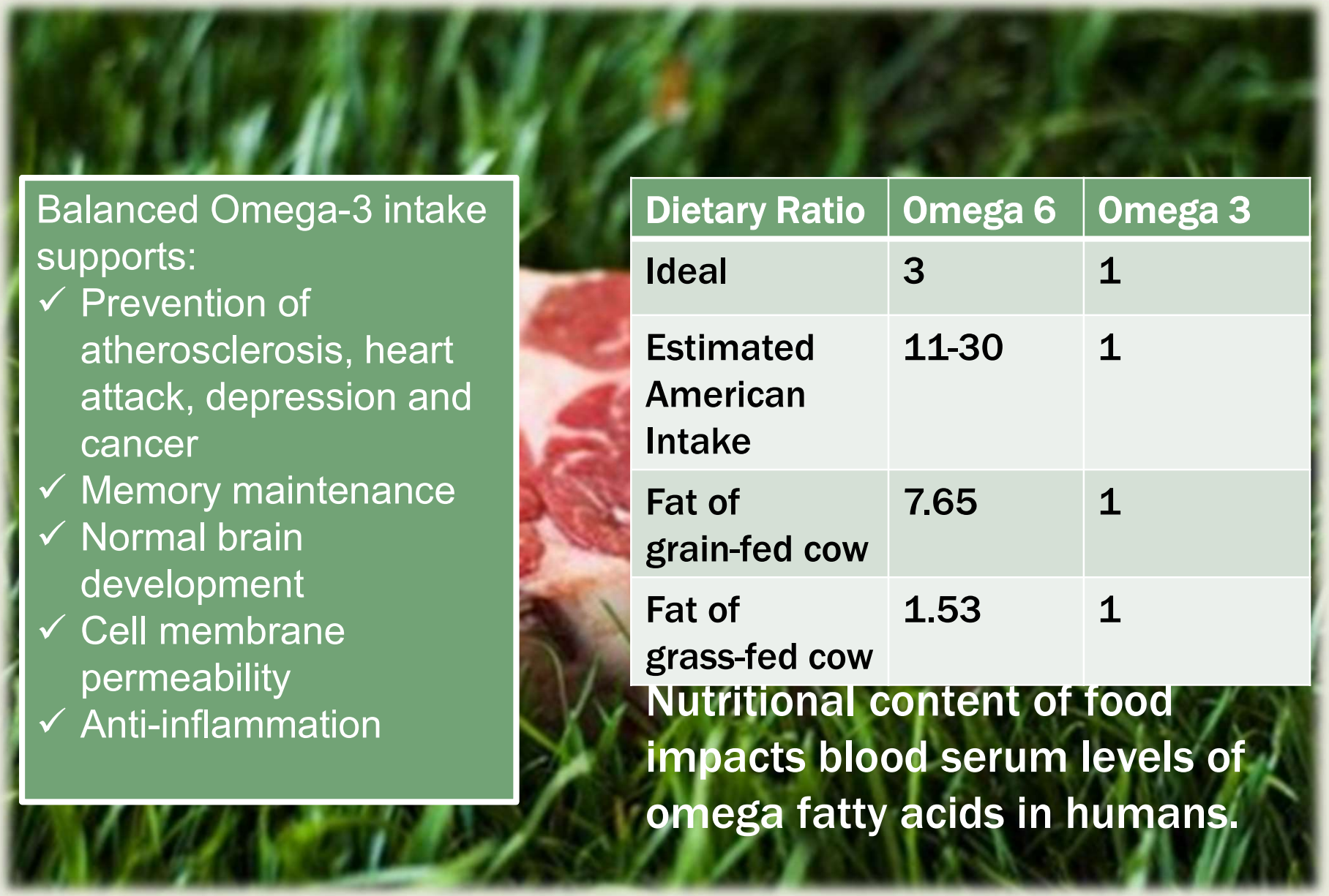
Good health = exercise, stress reduction, balanced **nutrition**

Promotes Inflammation



Reduces Inflammation

The American diet is very imbalanced.
Studies show as high as 20:1, omega-6 : omega-3



Balanced Omega-3 intake supports:

- ✓ Prevention of atherosclerosis, heart attack, depression and cancer
- ✓ Memory maintenance
- ✓ Normal brain development
- ✓ Cell membrane permeability
- ✓ Anti-inflammation

Dietary Ratio	Omega 6	Omega 3
Ideal	3	1
Estimated American Intake	11-30	1
Fat of grain-fed cow	7.65	1
Fat of grass-fed cow	1.53	1

Nutritional content of food impacts blood serum levels of omega fatty acids in humans.

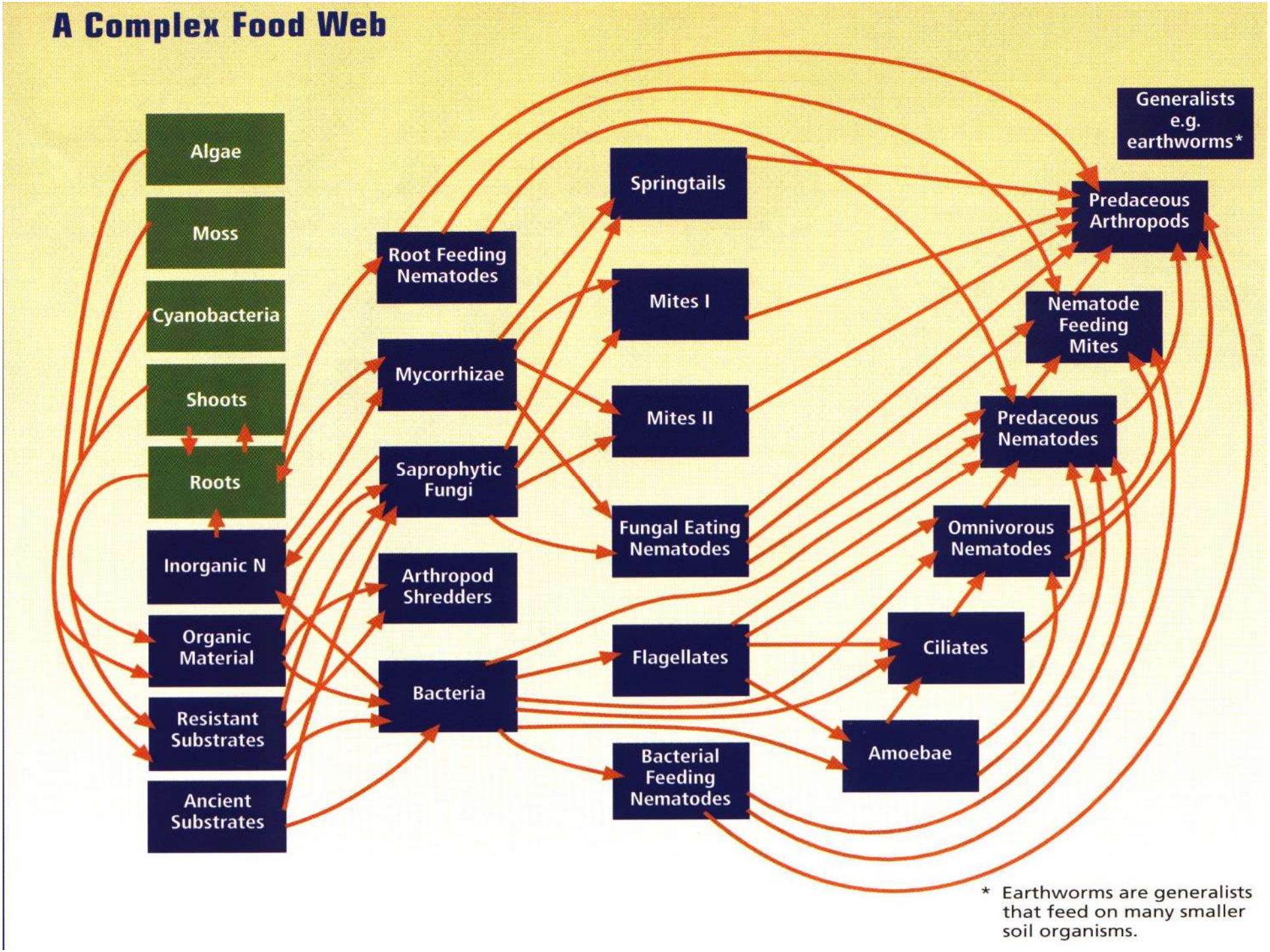
Mahalko Dairy

Holistic Management leads you toward the life you want to live

Why Graze?

Animal Health Benefits; improved cow comfort, lower stress, and better longevity.

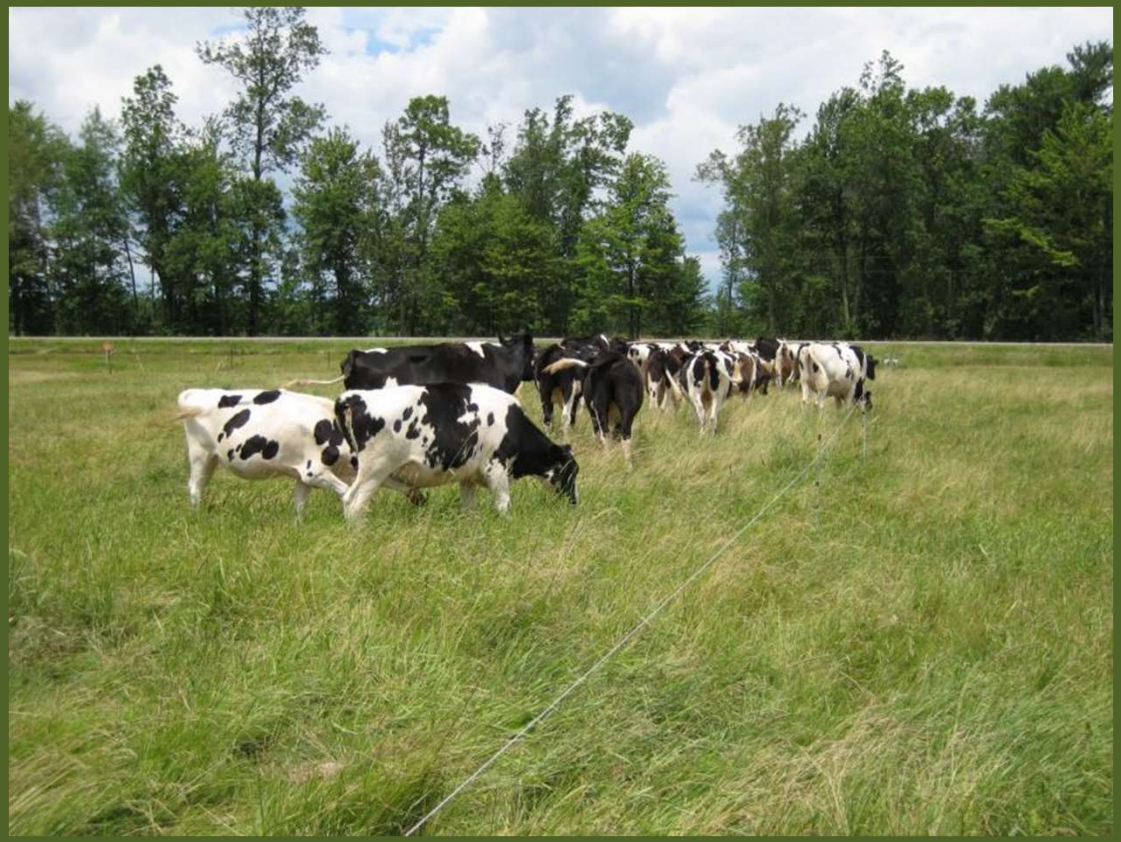
A Complex Food Web



* Earthworms are generalists that feed on many smaller soil organisms.

Top of the Food Chain Grazer of North America in Recent Past

The Future Impact of Grazing



True Management Intensive Grazing is a relatively new practice

Managed Grazing has the potential to bring about positive revolutionary

Agricultural impacts in the midwest are not new....

....and are far reaching

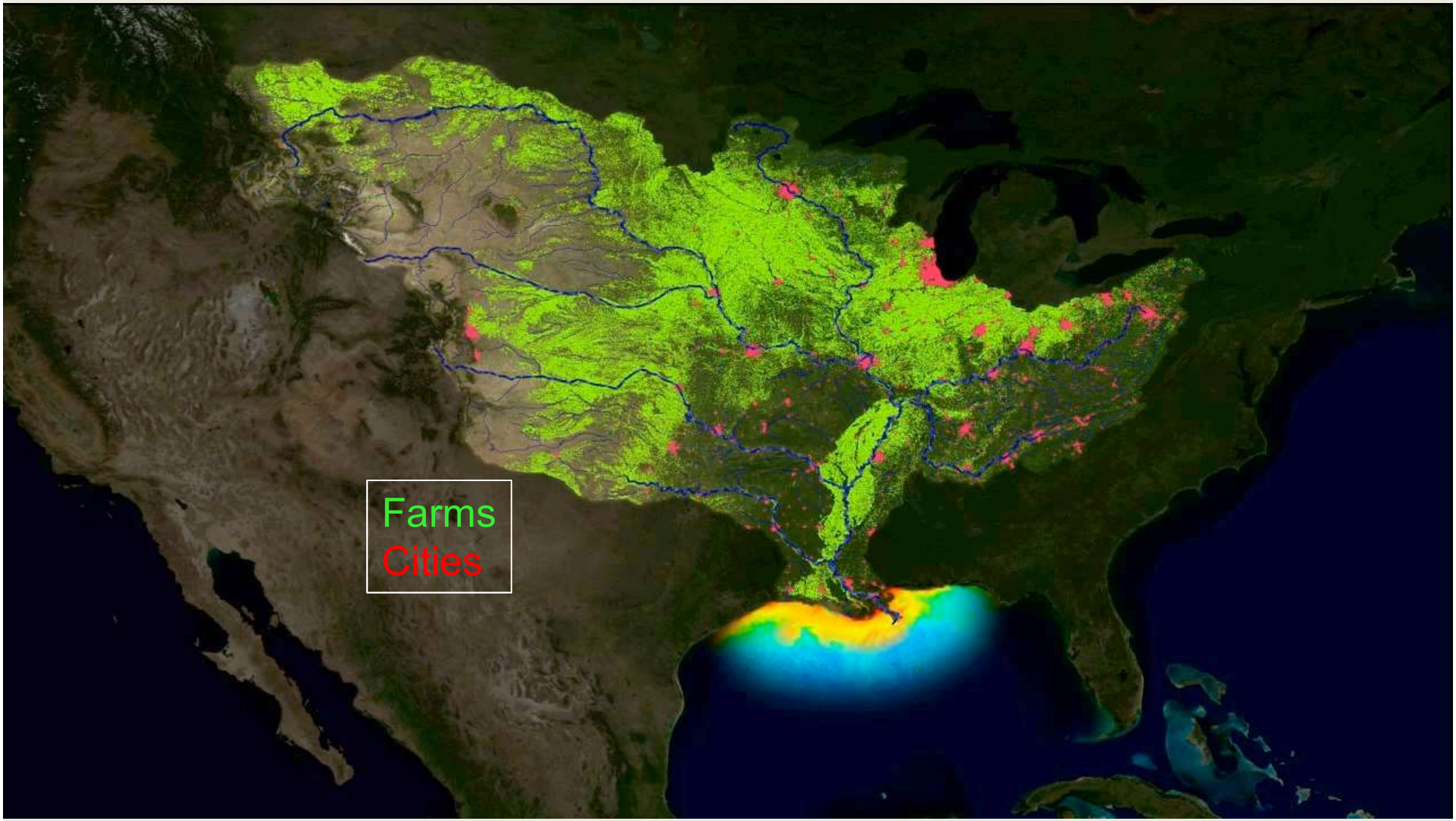


Photo: NOA

SeaWiFS image of sediments reaching the Gulf of Mexico from Mississippi River Delta

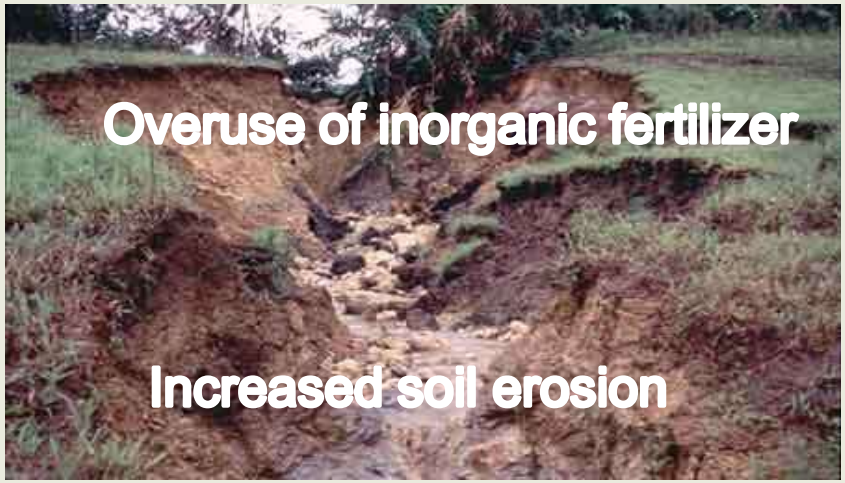
https://oceancolor.gsfc.nasa.gov/outreach/ocsciencefocus/CreepingDeadZones2.pdf

Sediment carried from rivers running into ocean waters

https://oceancolor.gsfc.nasa.gov/outreach/ocsciencefocus/CreepingDeadZones2.pdf

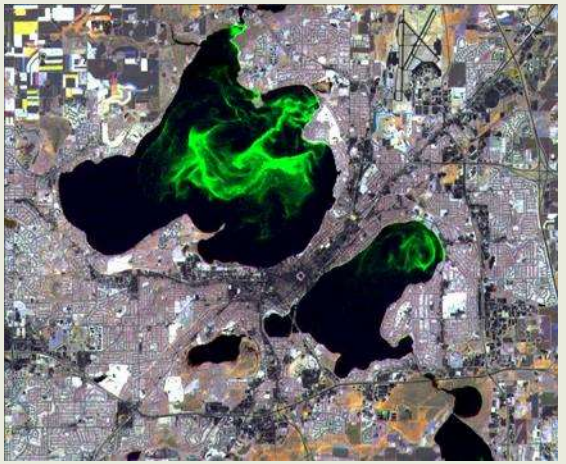
Increased greenhouse gas production (CO_2, N_2O)

Loss of nutrients



Loss of nutrients

Degradation of ground waters



WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON

Net Ecosystem Carbon Balance of Subhumid Pasture

MIRG lost significantly less carbon in year 1 than all other treatments, and in year 2, MIRG was the only treatment that had a positive NECB.

Oates & Jackson, 2014

Organic dairying…

- combines the requirement to graze – which reduces net emissions,
- prohibits the use of fossil fuel based applications to land, and
- promotes atmospheric CO2 sequestration.

Building Soil

How did nature make all that soil in the first place?

Dairyland Laboratories, Inc.

217 E Main St, Arcadia, WI - Phone: (608) 323-2123

858857

LAB NO.	
ST CTY	ACCT NO.
WI 55	928
DATE REC	DATE PROC
11/22/11	11/29/11

SUBMITTED BY:

Sheldon Cooperative
Soil Account
P.O. Box 98
Sheldon , WI 54560

GROWER:

KEN MAHALKS

, WI

FIELD	ACRES	SLOPE %	SOIL NAME (or subsoil group)	PLOW DEPTH
5	11.0		GROUP D	6.5

LABORATORY ANALYSIS

Sample No.	Text Code	Est CEC	Soil pH	O.M. %	P ppm	K ppm	Ca ppm	Mg ppm	B ppm	Mn ppm	Zn ppm	SO4-S ppm	SAI	Density	Buffer pH	60-69 Lime
1	2	15	7.0	4.7	24	167	1410	380	0.6		3.9	5.0	43	0.76	N.R.	0.0
2	2	16	6.7	5.7	42	132	1460	430	0.6		8.2	5.0	46	0.76	N.R.	0.0
Adj Avg:		16	6.8	5.2	33	150	1435	405	0.6		6.0	5.0	45	0.76	6.8	

Cropping Sequence	INTERPRETATION VL | L | OPT | H | VH | EH	SECONDARY & MICRONUTRIENT INTERPRETATIONS Ca	Mg	B	Mn	Zn	SAI
ALFALFA, SEEDING	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H
ALFALFA, ESTABLISHED	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H
PASTURE, LEG-GR(<30%)	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H
CORN, SILAGE	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H

Phosphorus-P Potassium-K VL- Very Low, L- Low, OPT- Optimum, H- High, VH- Very High, EH- Excessive

WISCONSIN NUTRIENT RECOMMENDATIONS

Cropping Sequence	Yield Goal	Nutrient Needs N	P2O5	K2O	Fertilizer Credits Leg. N	Man. N	P2O5	K2O	Nutrients to Apply N	P2O5	K2O
		--------lbs/A--------			-----------lbs/A------------				--------lbs/A--------		
ALFALFA, SEEDING	2.0			55							55
ALFALFA, ESTABLISHED	5.0			150							150
PASTURE, LEG-GR(<30%)	3.5	20		45	120						45
CORN, SILAGE	20.6	125		95	50				75		95

Lime required for this rotation to reach pH 6.8 is NO T/A of 60-69 lime or NO T/A 80-89 LIME.

ADDITIONAL INFORMATION

% BASE SATURATION: CA: 63.9 MG: 30.0 K: 3.4 %ACID SATURATION: 2.7

CORN NITROGEN RECOMMENDATIONS

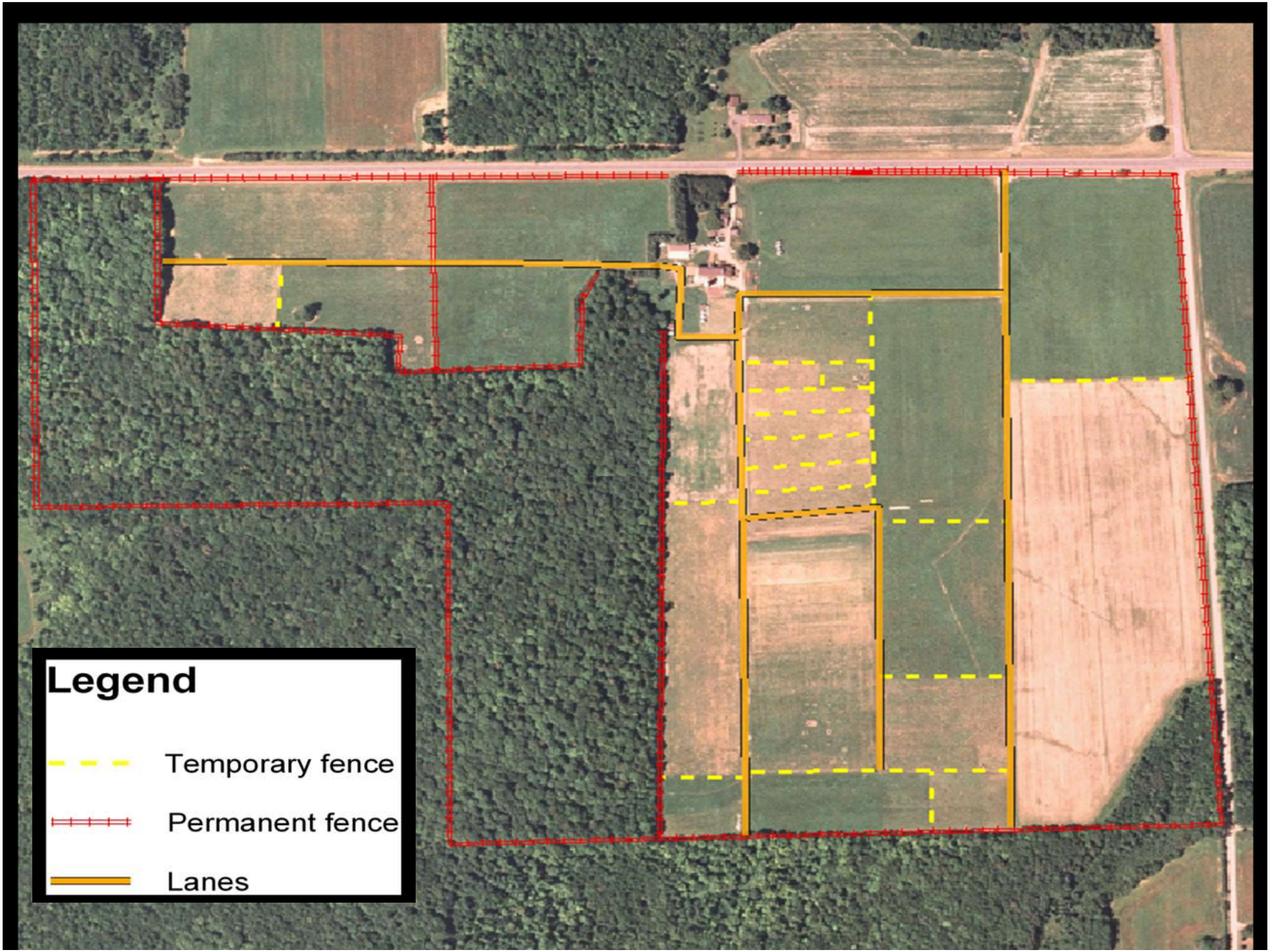
1) Your Nitrogen Recommendation was determined using a N:Corn price ratio of 0.15. Please consider using the attached guidelines to choose application rates from a range or to use a different price ratio.
(The corn silage nitrogen recommendation was based on a N:Corn price ratio of 0.05.)
2) For determining Nitrogen Application Rate, your yield potential code is Medium/Low.
3) If there is > 50% residue cover at planting, use the upper end of the range from Table 2 of the worksheet.
4) When small grains are the previous crop on medium and fine textured soils, use the mid to low end of the range from Table 2 of the worksheet.
5) If 100% of the N will come from organic sources, use the top end of the range from Table 2 of the worksheet. In addition, up to 20 lb N/a in starter fertilizer may be applied in this situation.
6) For medium and fine textured soils, use the low end of the range from Table 2 of the worksheet when O.M. is 10% or more or


790

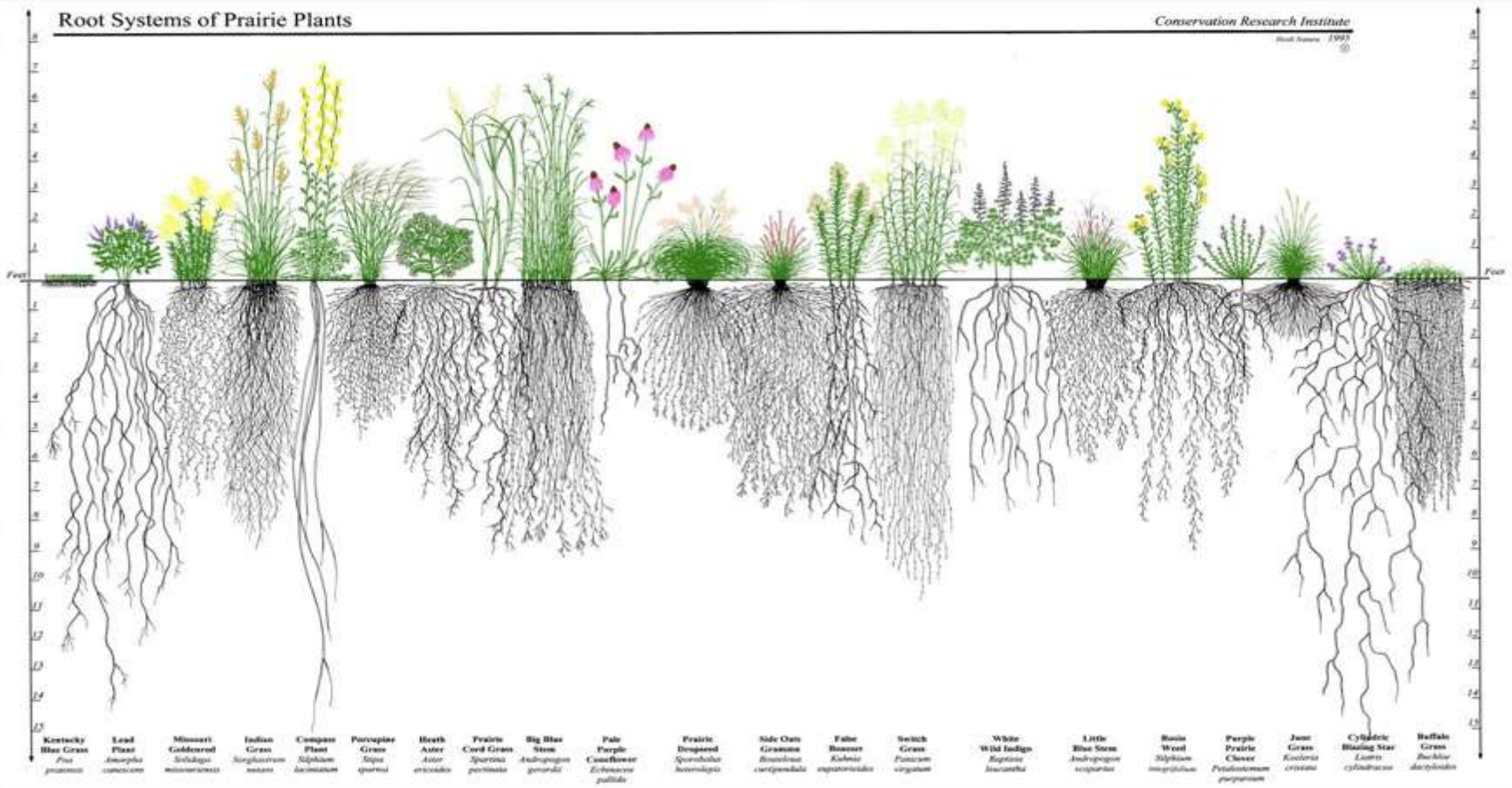
Grazing Plans and Education for the Beginning Grazier

1. Plan Must be Workable
2. Must Contribute to Good Grass Management
3. Must Include Realistic Production Expectations
4. Must be Adaptable to Changing Conditions

5. The “Grazing Community” can help keep you on track!


Legend
Temporary fence
Permanent fence
Lanes

Approximately 2/3 Of Your OM Increase Will Come From Roots!

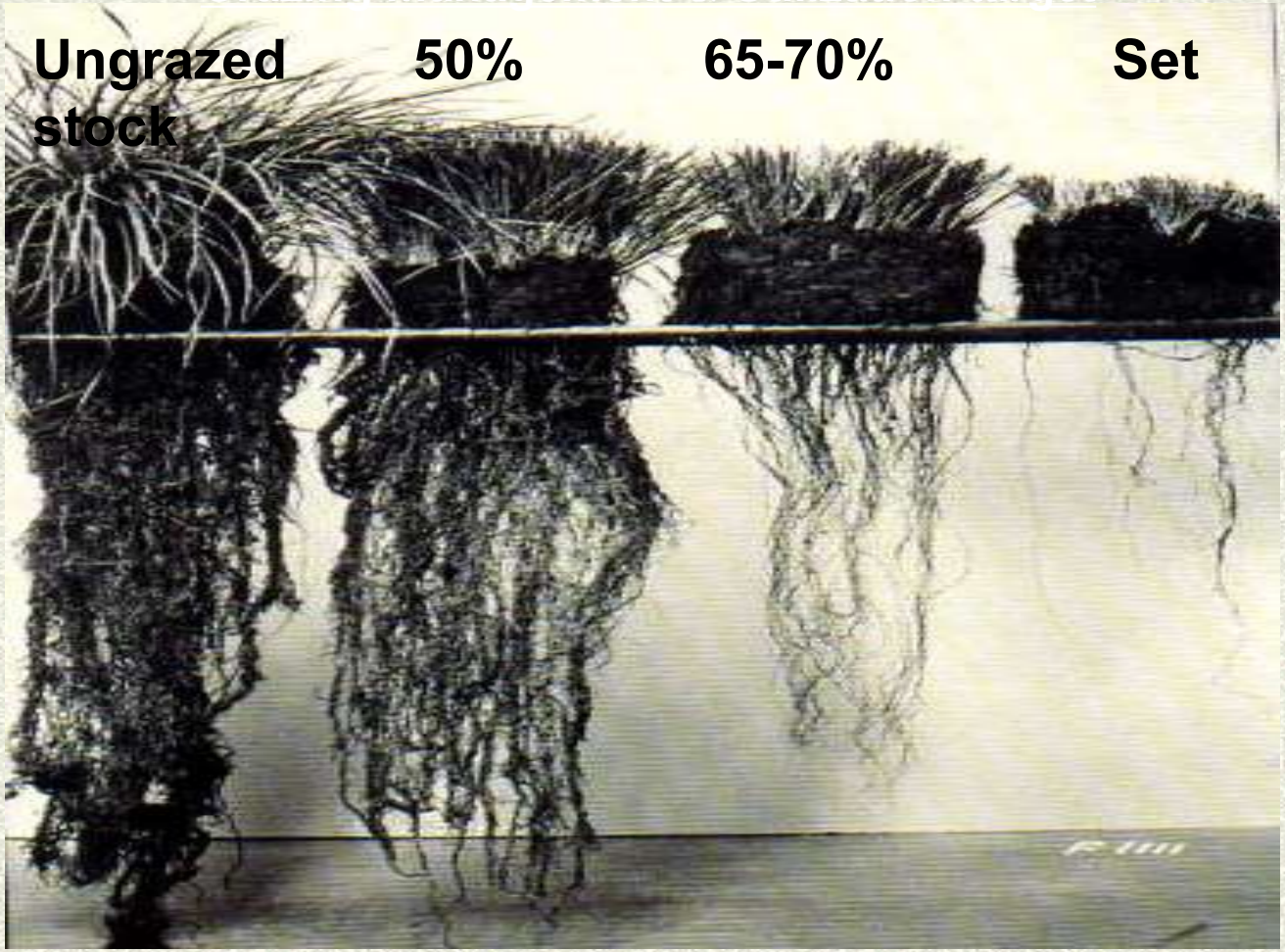


Plant Vigor-Leaves and Roots

Caring for the Green Zone, Riparian Areas and Grazing Management

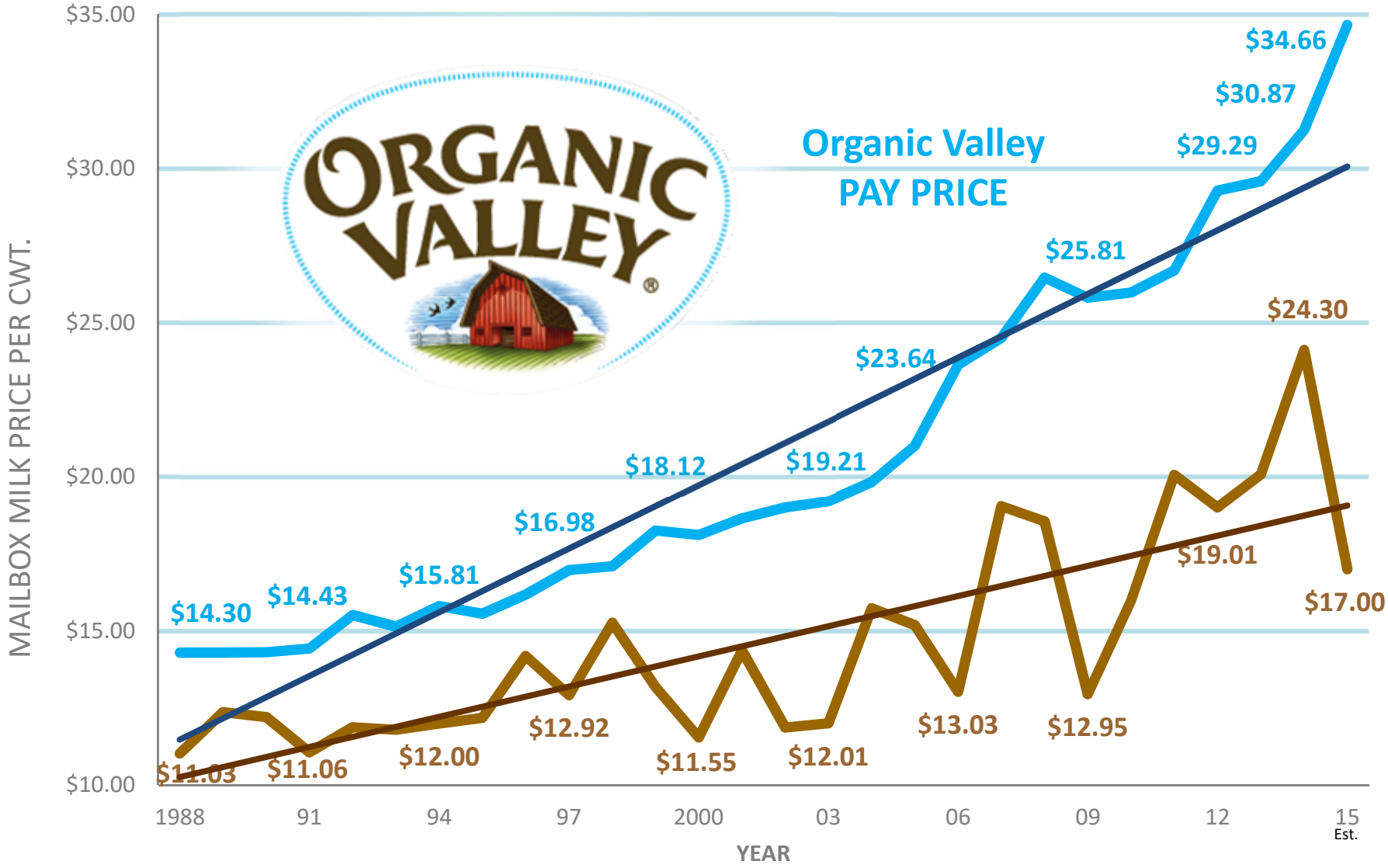
Alberta Riparian Habitat Management Project, "Cows and Fish Project"

Grazing management & Utilization target



Over 25 Years of Sustainable Farmer Pay

MIDWEST MAILBOX DAIRY PAY PRICE



Milk Cows Eating Grass with Snow


Sportsman
POLARIS
AUTOMATIC

Outwintering at Mahalko Dairy


POLARIS
PROX
PROX
POLARIS
2012

Corralling Dairy Cows on Cropland to Enhance Manure Management

J. Mark Powell and Michael P. Russelle, USDA-Agricultural Research Service, Dairy Forage Research Center, Madison WI and St.Paul MN

(Jmpowel2@wisc.edu; 608-264-5044)

INTRODUCTION

Recent measurements on fifty-four Wisconsin dairy farms show:

- Cows and heifers spend considerable time in outside areas, such as pastures, 'dirt lots' (PHOTO above), feed bunk areas and barnyards.
- Average annual deposition rates (kg/ha) in outside areas range from 340 to 5470 for manure nitrogen (N) and 80 to 1170 for manure phosphorus (P) .
- Some farmers rotate these outside areas with pasture and/or crops

OBJECTIVE

Determine impact on soil compaction, crop yields and N uptake of corralling dairy heifers on cropland.

HYPOTHESIS

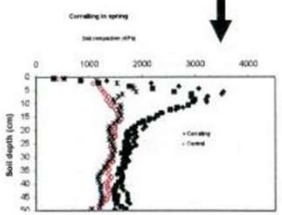
Substantial gains in manure N recycling through crops can accrue by corralling dairy cows & heifers on cropland

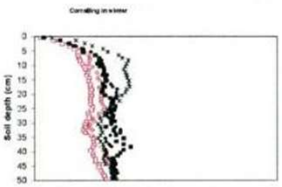
- Experimental units of four dairy heifers in 20'x20' portable corrals during the summer (PHOTO 1) and the winter (PHOTO 2).
- In addition to crop yields and N uptake, measurements are made of ammonia (via micro-met., masts as in photos), nitrate (via drainage lysimeters to 1.5 m soil depth) and soil inorganic and total N.

Photo 1. Corralling heifers on cropland during summer

Photo 2. Corralling heifers on cropland during winter

- Just prior to first crop planting after corralling, we measured soil compaction with a cone penetrometer in all plots.
- Corralling during the spring caused soil compaction.
- Corralling during the winter did not cause soil compaction.





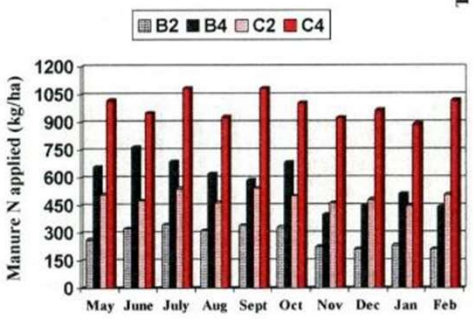
METHODS

A two-year field trial evaluates a factorial arrangement of two manure application methods, (1) corralling heifers on cropland to apply feces plus urine, and (2) land-applied manure from the barn; two manure application rates (1) manure deposited during 2 days of corralling or 2 days in the barn, and (2) manure deposited during 4 days of corralling or 4 days in the barn; two periods of manure application (1) spring-summer corresponding to April to September, and (2) fall-winter corresponding to October to March; two cropping patterns (1) wheat-sorghum-rye-corn silage-rye for plots manured during April to September; (2) corn silage-rye-corn silage-rye for plots manured during October to March.

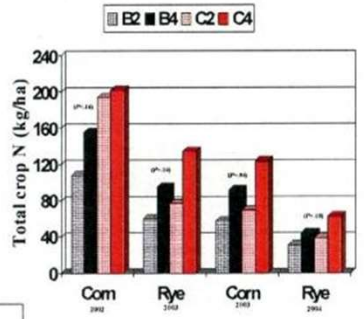
PRELIMINARY RESULTS

- From 50 to 150% more N is applied via corralling (due to urine) than via barn manure
- Difference between manure N applications via corralling (C2 and C4) and barn manure (B2 and B4) reflect in-barn manure N losses
- In-barn manure N losses appear to be lower during cooler months (Nov to Feb)
- Although manure N applications via B4 and C4 are higher than agronomic recommendations, they are well within range of on-farm deposition rates in outside areas.

Nitrogen applications via corralling and barn manure applications



First year and residual crop N uptake after November manure applications

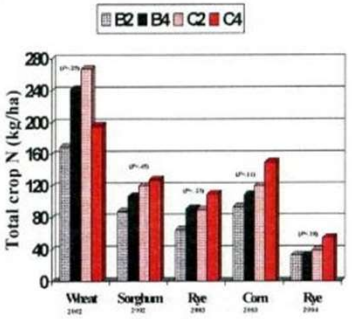


Crop N uptake in plots where heifers were corralled were higher than where barn manure was applied

Greater crop N uptake in corralled plots continued for two complete corn silage-rye rotations

Positive effects of winter corralling on crop N uptake may last for more than two years

First year and residual crop N uptake after August manure applications



Lack of response by wheat to corralling may have been due to high manure N application and subsequent crop lodging

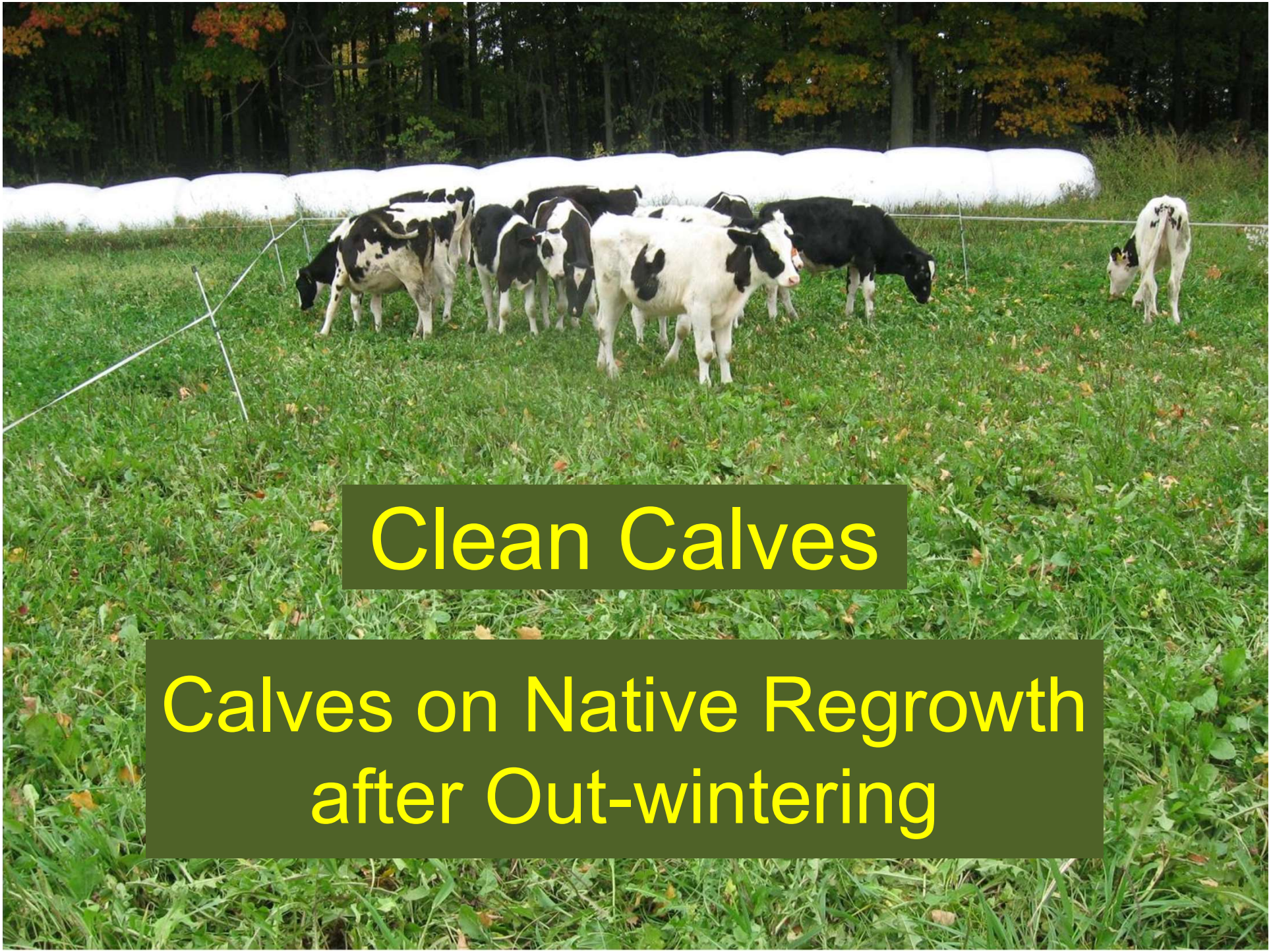
The four crops after wheat each had higher crop N uptake in plots where heifers were corralled than in plots that received barn manure

Positive effects of summer corralling on crop N uptake may last for more than two years

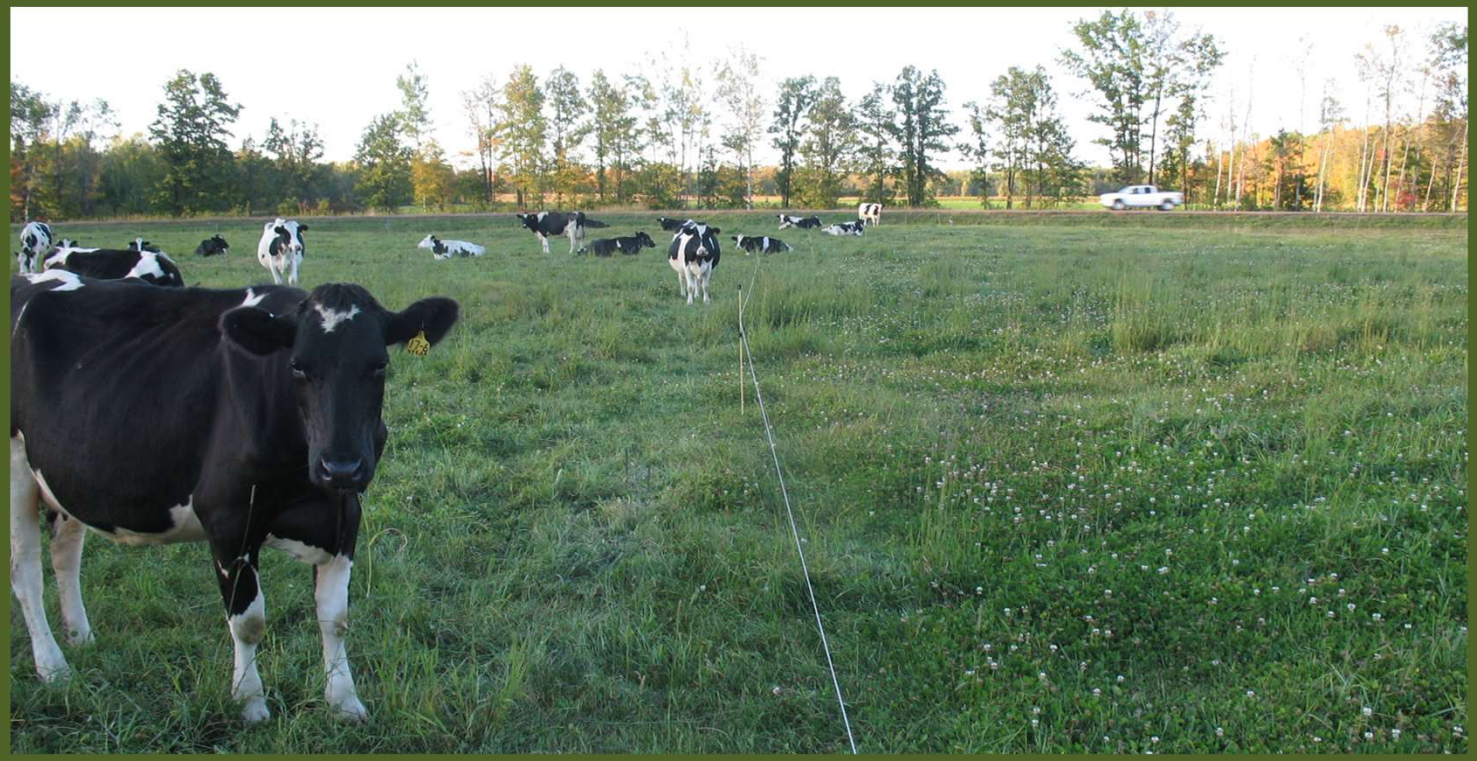
Next steps: Corn silage yields and N uptake for 2004 will complete crop data component of experiment;

Larger-scale on-farm trials and economic analysis of manure management practices will be initiated

Out-wintering Area: one month regrowth


Clean Calves
Calves on Native Regrowth after Out-wintering

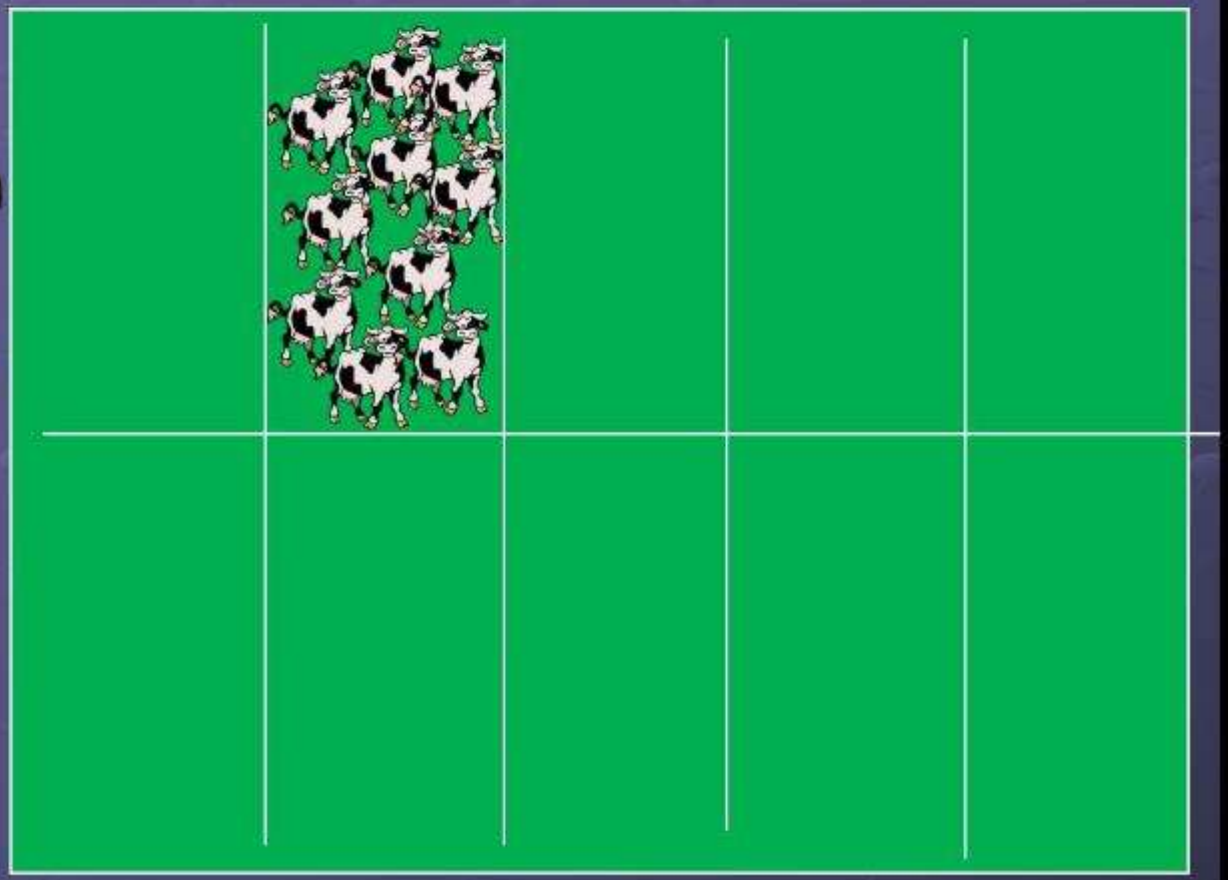
Holistic Management



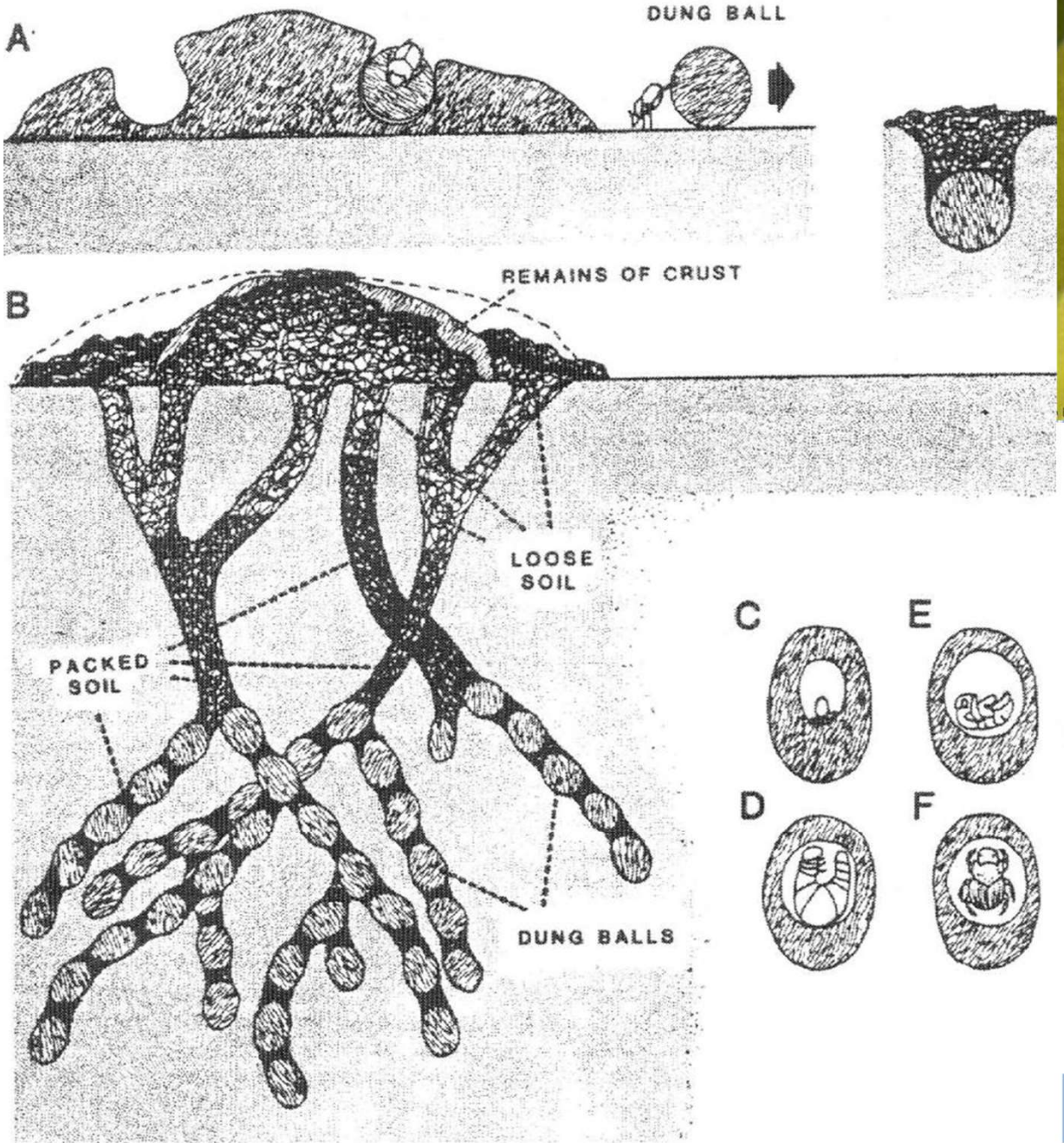
- Takes a Big Picture Approach
- Grazing is a Fundamental Tool
- Helps you Monitor Results
- Allows Flexibility to Change

Pasture subdivision and stock density

- Each level of subdivision results in higher stock density
- Stock density is now 12,000 lb/acre



'Classical Biological Control in the Southern United States



Organic nitrogen sources
(60 lb N/acre application rate)

- Manure: 3 to 5 lb N per ton (dairy/beef)
  - Need ~12 to 20 tons/acre
- Compost:
  - 12 lb per ton (dairy) = 5 t/a
  - 17 lb/ton (poultry) = 3.5 t/a
- Fish based fertilizers: 5-0-0
  - Need ~1200 lb per acre
- *These are all slow release nitrogen sources—results may differ.*

Dairyland Laboratories, Inc.

217 E Main St, Arcadia, WI - Phone: (608) 323-2123

888857

LAB NO.	
ST CTY	ACCT NO.
WI 55	928
DATE REC	DATE PROC
11/22/11	11/29/11

SUBMITTED BY:

Sheldon Cooperative
Soil Account
P.O. Box 98
Sheldon , WI 54560

GROWER:

KEN MAHALKS

, WI

FIELD	ACRES	SLOPE %	SOIL NAME (or subsoil group)	PLOW DEPTH
5	11.0		GROUP D	6.5

LABORATORY ANALYSIS

Sample No.	Text Code	Est CEC	Soil pH	O.M. %	P ppm	K ppm	Ca ppm	Mg ppm	B ppm	Mn ppm	Zn ppm	SO4-S ppm	SAI	Density	Buffer pH	60-69 Lime
1	2	15	7.0	4.7	24	167	1410	380	0.6		3.9	5.0	43	0.76	N.R.	0.0
2	2	16	6.7	5.7	42	132	1460	430	0.6		8.2	5.0	46	0.76	N.R.	0.0
Adj Avg:		16	6.8	5.2	33	150	1435	405	0.6		6.0	5.0	45	0.76	6.8	

Cropping Sequence	INTERPRETATION (VL | L | OPT | H | VH | EH)	Ca	Mg	B	Mn	Zn	SAI
ALFALFA, SEEDING	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H
ALFALFA, ESTABLISHED	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H
PASTURE, LEG-GR(<30%)	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H
CORN, SILAGE	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	H	OPT	L		OPT	H

Phosphorus-P Potassium-K VL- Very Low, L- Low, OPT- Optimum, H- High, VH- Very High, EH- Excessive

WISCONSIN NUTRIENT RECOMMENDATIONS

Cropping Sequence	Yield Goal	Nutrient Needs N	Nutrient Needs P2O5	Nutrient Needs K2O	Fertilizer Credits Leg. N	Fertilizer Credits Man. N	Fertilizer Credits P2O5	Fertilizer Credits K2O	Nutrients to Apply N	Nutrients to Apply P2O5	Nutrients to Apply K2O
		lbs/A	lbs/A	lbs/A	lbs/A	lbs/A	lbs/A	lbs/A	lbs/A	lbs/A	lbs/A
ALFALFA, SEEDING	2.0			55							55
ALFALFA, ESTABLISHED	5.0			150							150
PASTURE, LEG-GR(<30%)	3.5	20		45	120						45
CORN, SILAGE	20.6	125		95	50				75		95

Lime required for this rotation to reach pH 6.8 is NO T/A of 60-69 lime or NO T/A 80-89 LIME.

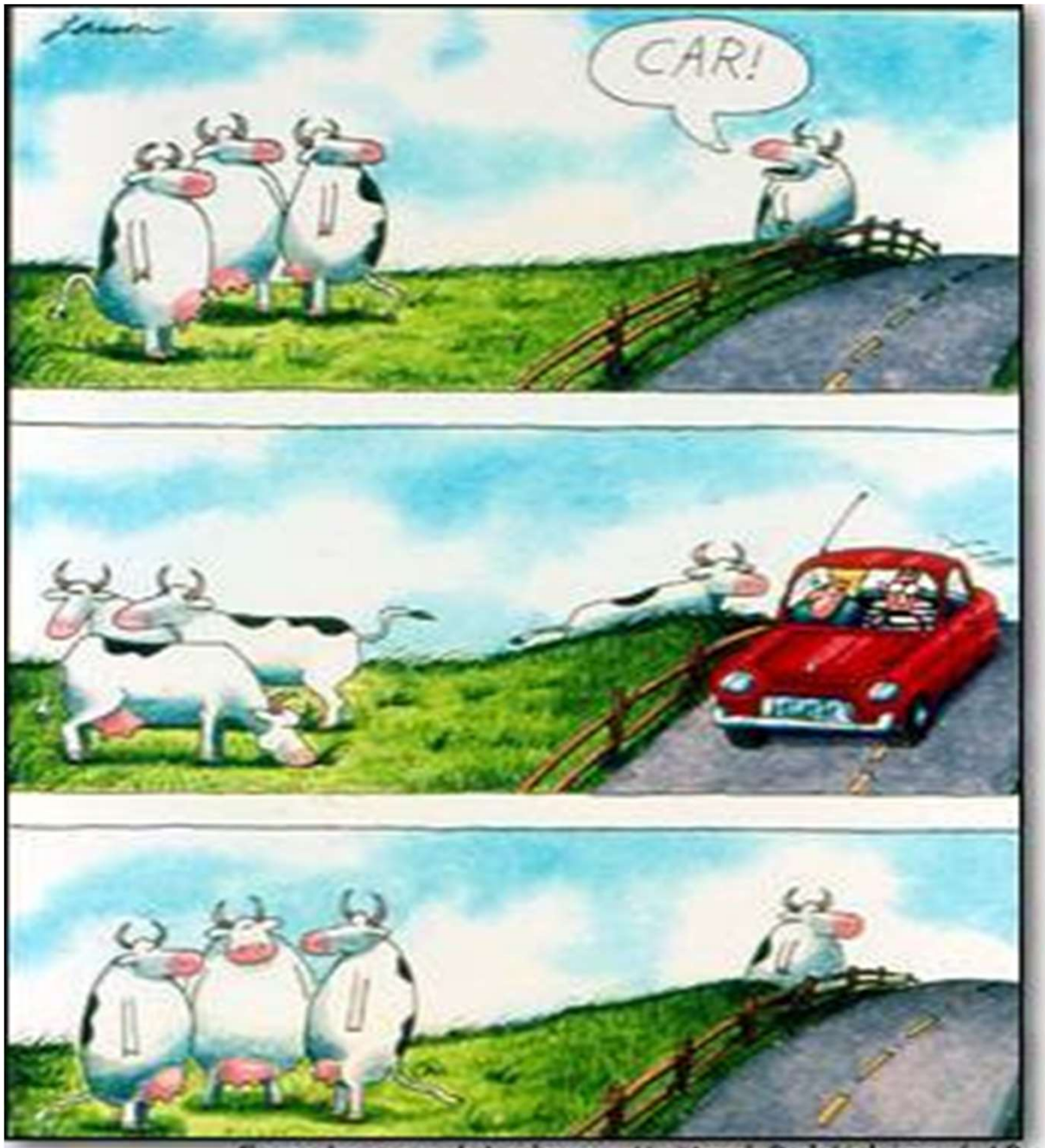
ADDITIONAL INFORMATION

% BASE SATURATION: CA: 63.9 MG: 30.0 K: 3.4 %ACID SATURATION: 2.7

CORN NITROGEN RECOMMENDATIONS

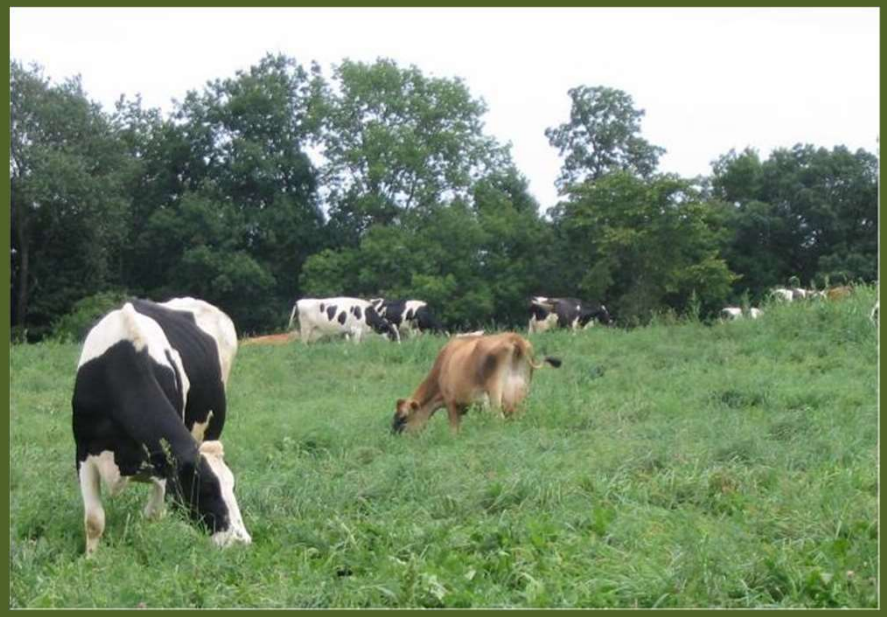
1) Your Nitrogen Recommendation was determined using a N:Corn price ratio of 0.15. Please consider using the attached guidelines to choose application rates from a range or to use a different price ratio. (The corn silage nitrogen recommendation was based on a N:Corn price ratio of 0.05.)
2) For determining Nitrogen Application Rate, your yield potential code is Medium/Low.
3) If there is > 50% residue cover at planting, use the upper end of the range from Table 2 of the worksheet.
4) When small grains are the previous crop on medium and fine textured soils, use the mid to low end of the range from Table 2 of the worksheet.
5) If 100% of the N will come from organic sources, use the top end of the range from Table 2 of the worksheet. In addition, up to 20 lb N/a in starter fertilizer may be applied in this situation.
6) For medium and fine textured soils, use the low end of the range from Table 2 of the worksheet when O.M. is 10% or more or


POLARIS
SPORTSMAN
500
AWD



Gary Larson / Andrews McMeel Publishing / AP

Organic Pasture Rule



- No less than 30% of dry matter intake from pasture during the grazing season
- Grazing season up to 365 days, but no less than 120 days per year
- Year-round access for all animals to the outdoors, shade, shelter, exercise areas, fresh air, clean water for drinking, and direct sunlight, suitable to the species, its stage of life, the climate, and the environment.

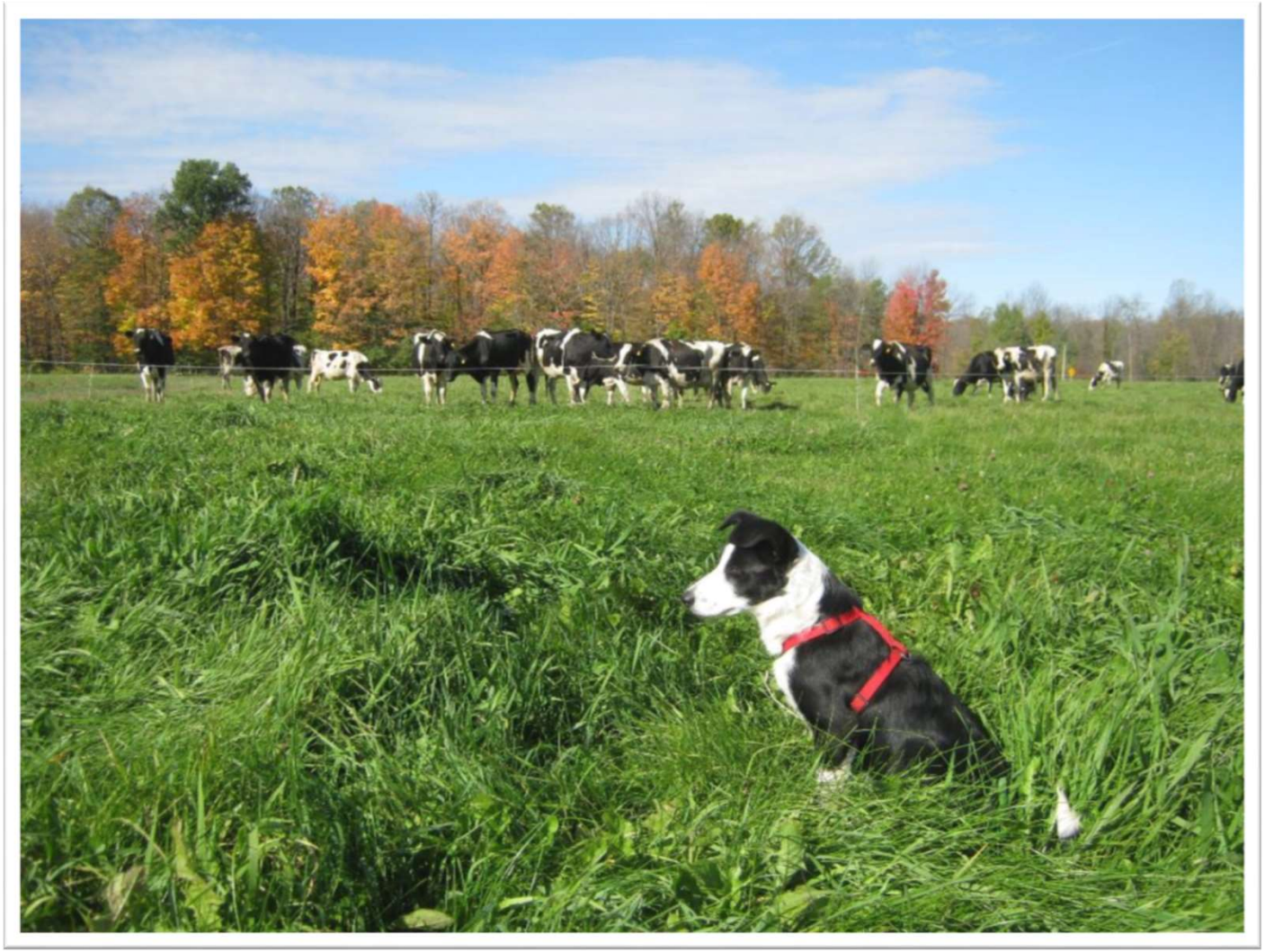

You can graze even if it sometimes feels like you're herding cats.
HI
LO
OFF
SPEEDO/
REVERSE
OVERRIDE
POLARIS

WI Grazing and Organic Contact Organizations

- RIVER COUNTRY RC&D
  www.rivercountryrcd.org
- GRASSWORKS INC.
  www.grassworks.org
- ORGANIC VALLEY CROPP COOP
  www.organicvalley.coop
- DAIRY GRAZING APPRENTICESHIP
  www.dga-national.org

Questions & Answers

Please type your Q's!



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January 10: How to Plan, Promote & Host a Pasture Walk
February 14: Farm Bill for Livestock Farmers & Ranchers
February 20: Managed Grazing for Healthy Soils

Register at foodanimalconcernstrust.org/webinars/

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Applications due by December 4, 2017!