Grazing & Perennial Crops

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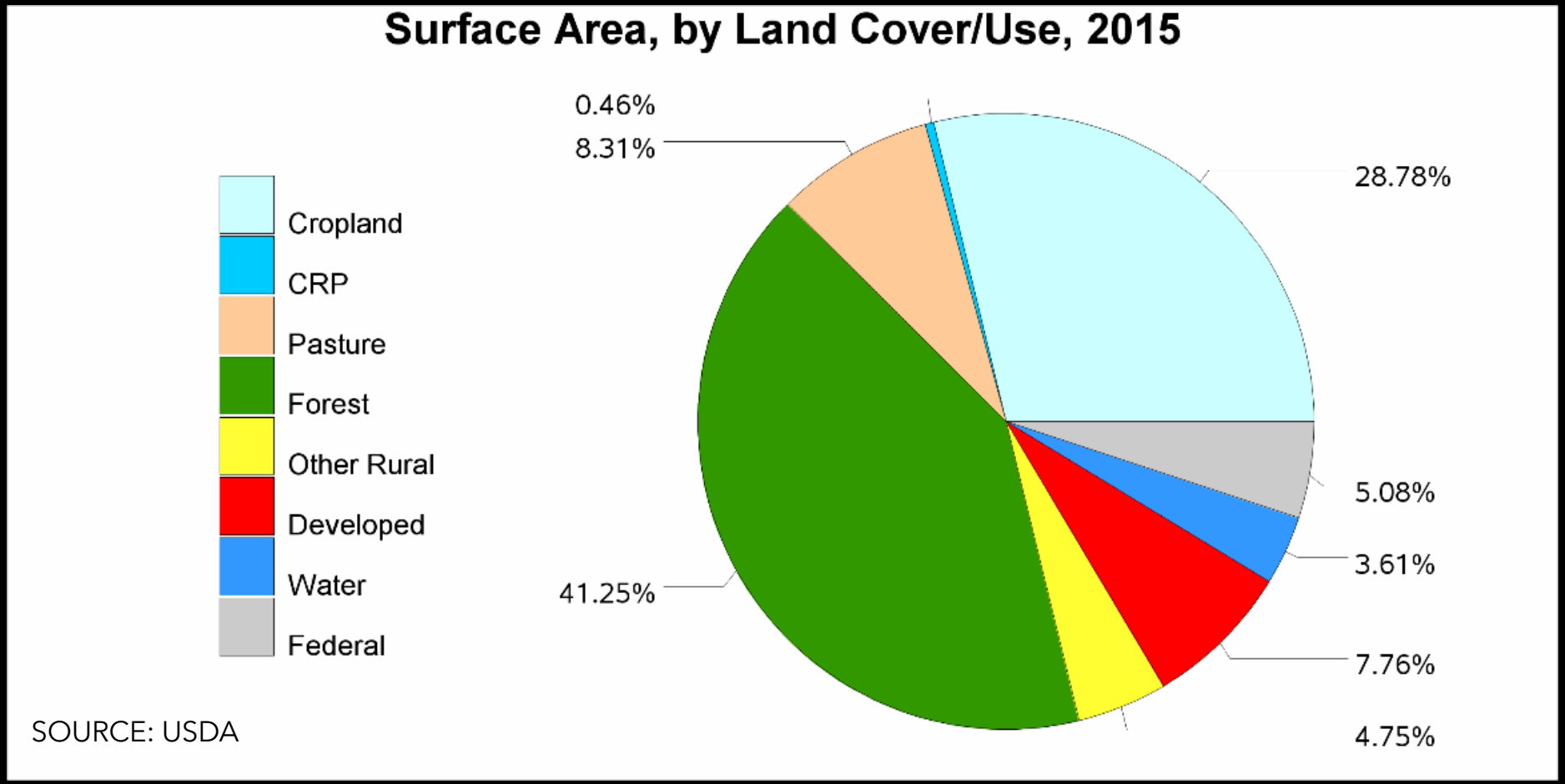
PHOTO: University of Wisconsin-Madison

How much farmland is there in Wisconsin?



SOURCE: USDA

Annual cropping systems are “leaky”

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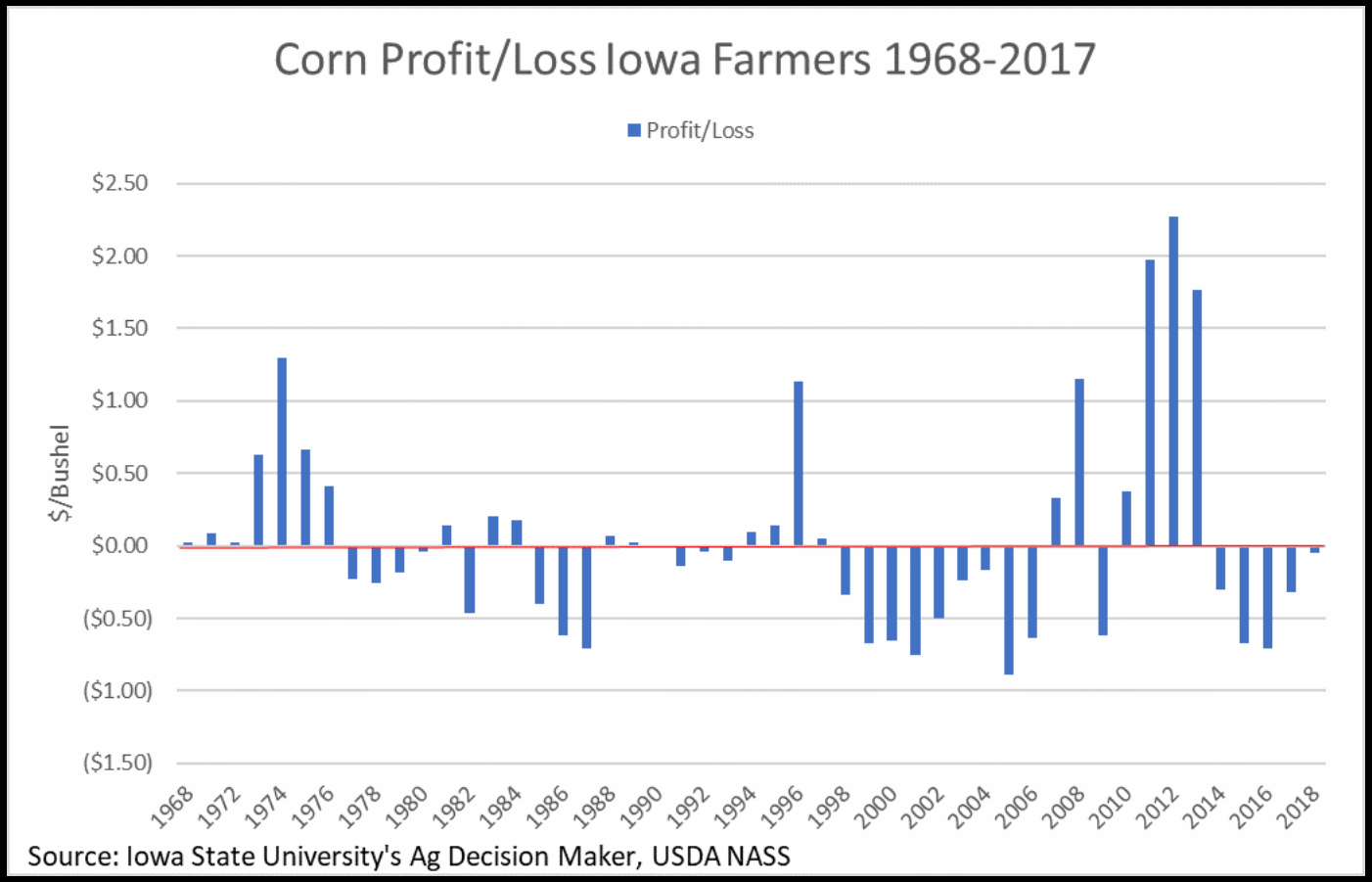


Annual monocultures → Perennial polycultures

→


Source: Jacob Grace

Examples of Perennial Farming

Perennial Forage

- Grazing
- Hay

Perennial Crops

- Perennial grains
- Bioenergy crops
- Agroforestry

Well-managed Grazing

…is not this.

Well-managed Grazing

…can go by many names:

- Managed grazing
- Rotational grazing
- Prescribed grazing
- Conservation grazing
- Adaptive grazing
- High intensity, short-duration grazing
- Management-intensive grazing
- Management-intensive rotational grazing (MIRG)

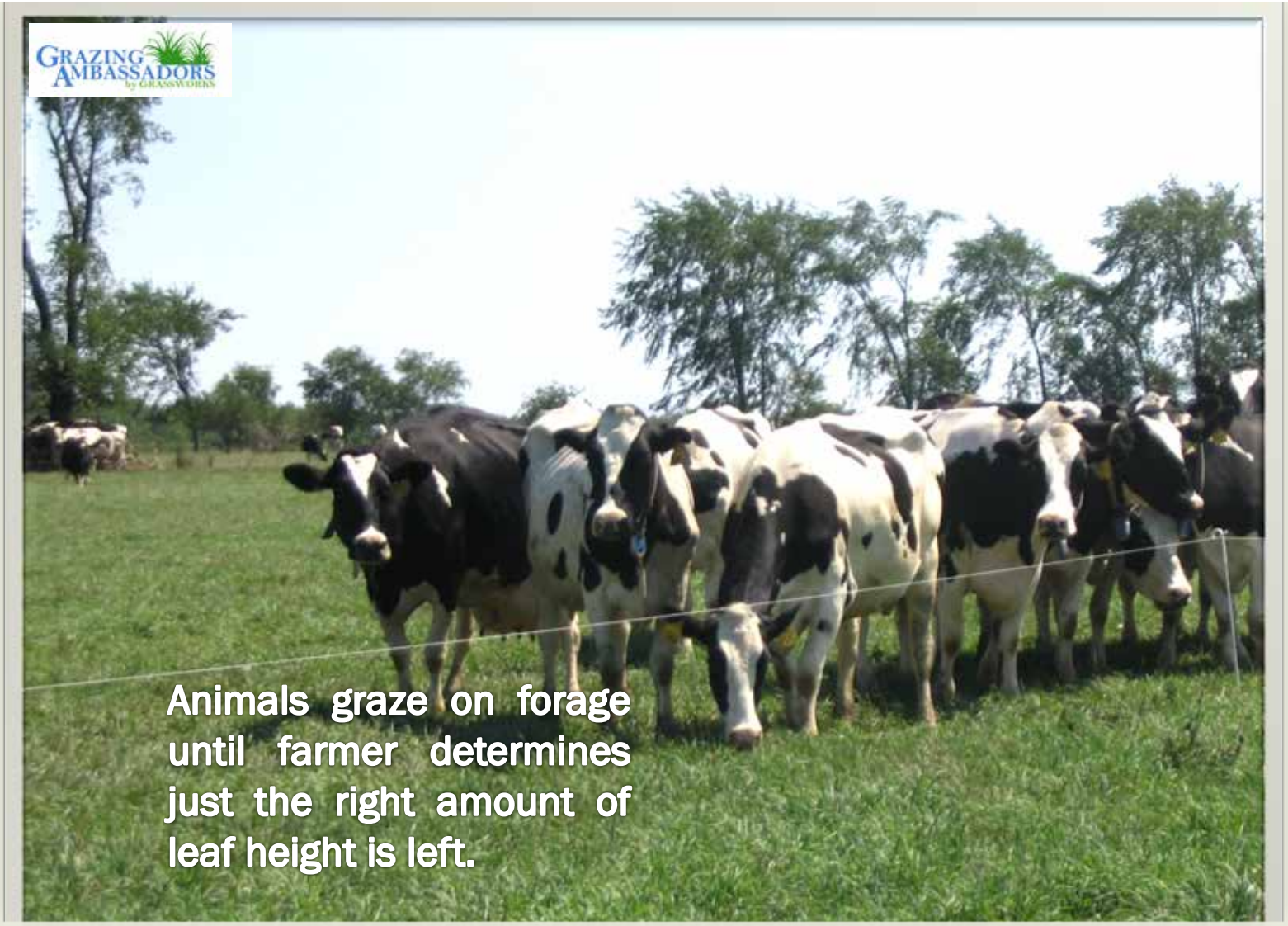
Well-managed Grazing
…has a long history in Wisconsin and beyond.

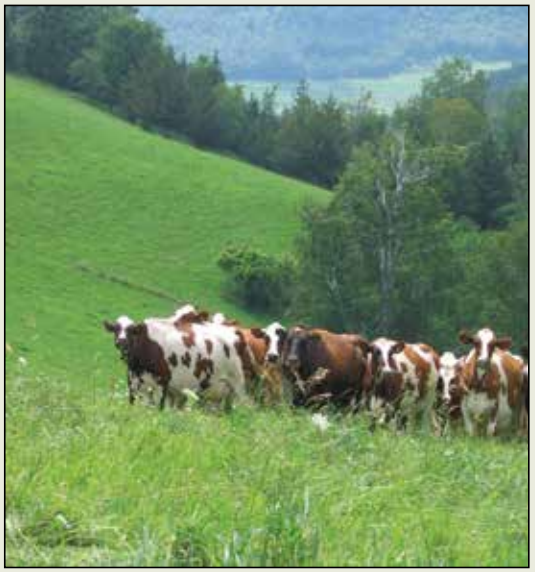

SOURCE: Grassworks


SOURCE: Wikipedia


GRAZING AMBASSADORS
by GRASSWORKS
Managed Grazing is...
...a flexible strategy that keeps animals on the land to manage and improve grasslands.


GRAZING AMBASSADORS
by GRASSWORKS
Land is divided into paddocks with portable fencing
Gene Schriefer


GRAZING AMBASSADORS
by GRASSWORKS
Animals graze on forage until farmer determines just the right amount of leaf height is left.



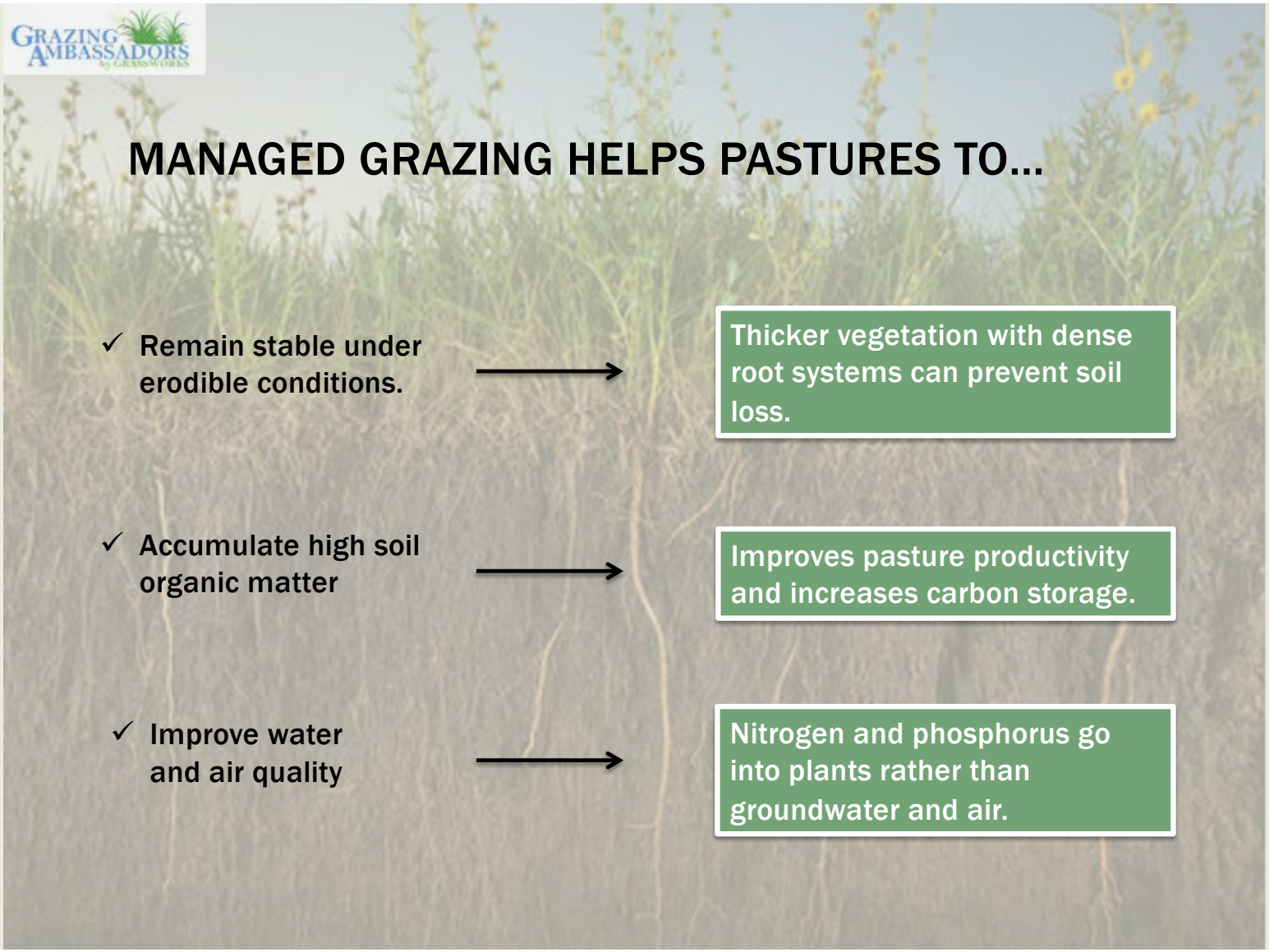
The herd gets moved to next paddock for more food and to allow for grass regrowth.

The herd rotates through paddocks until they circle back around to the first one.

By then, the forage has had time to regrow.

Walker Century Farm

Management is our most important tool for productivity and conservation


GRAZING AMBASSADORS
MANAGED GRAZING HELPS PASTURES TO…
✓ Remain stable under erodible conditions.
Thicker vegetation with dense root systems can prevent soil loss.
✓ Accumulate high soil organic matter
Improves pasture productivity and increases carbon storage.
✓ Improve water and air quality
Nitrogen and phosphorus go into plants rather than groundwater and air.

Rotational grazing can be more profitable

Wisconsin Integrated Cropping Systems Trial

Table 3. Economic mean returns under alternative scenarios in the Year 2000.

System	Arlington			Elkhorn		
	No government payment or organic premium (Scenario 1)	Government payment only (Scenario 2)	Government payment + organic premium (Scenario 3)	No government payment or organic premium (Scenario 1)	Government payment only (Scenario 2)	Government payment + organic premium (Scenario 3)
	$ ha^{-1}					
S1 Continuous corn	365d†	540c	540b	69d	199d	199c
S2 No-till corn-soybean	465c	574b	574b	361b	416b	416b
S3 Organic grain corn-soybean-wheat	335d	423d	784a	212c	275d	581a
S4 Intensive alfalfa	535b	535c	535b	212c	212d	212c
S5 Organic forage	528bc	528c	717a	376b	376c	528a
S6 Rotational grazing	735a	735a	735a	592a	592a	592a

† Within a scenario (column), numbers followed by a different letter are significantly different at the 0.05 level.

Chavas J-PP, Posner JL, Hedtcke JL (2009) Organic and Conventional Production Systems in the Wisconsin Integrated Cropping Systems Trial: II. Economic and Risk Analysis 1993–2006. ***Agronomy Journal*** 101: 288-295

Grazing can be more economically viable

SOURCE: Savanna Institute

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Hay

SOURCE: Hay & Forage Grower

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Perennial Grains

Kernza®

Kernza®

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Bioenergy Production

E: USDA

SOURCE: Roeslein Alternative Energy

Bioenergy Production

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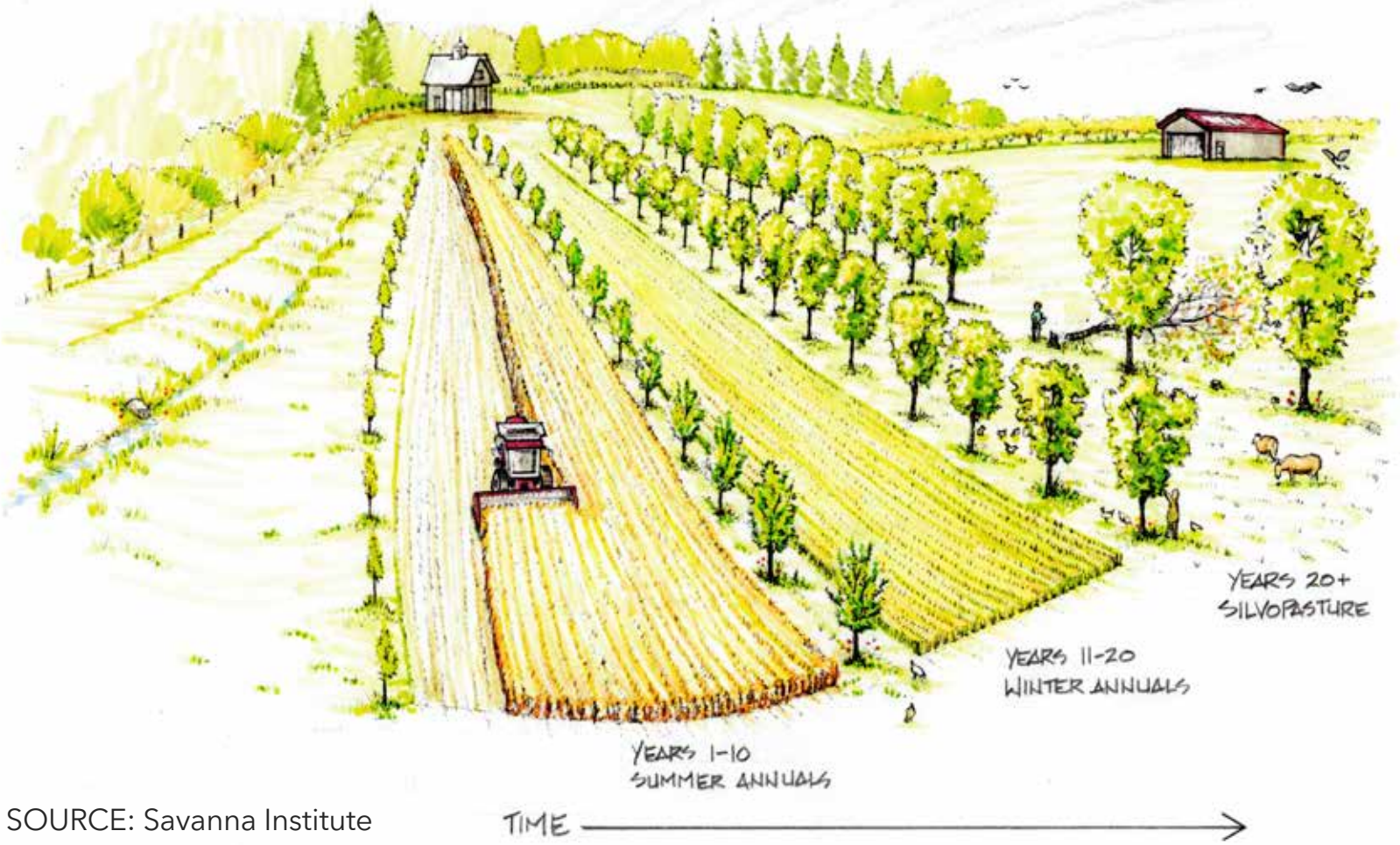
Agroforestry – 5 Key Practices:

- Alley Cropping
- Forest Farming
- Riparian Buffers
- Silvopasture
- Windbreaks

Alley Cropping



SOURCE: Savanna Institute

Alley Cropping

SOURCE: Savanna Institute

Forest Farming

SOURCE: Savanna Institute

Forest Farming

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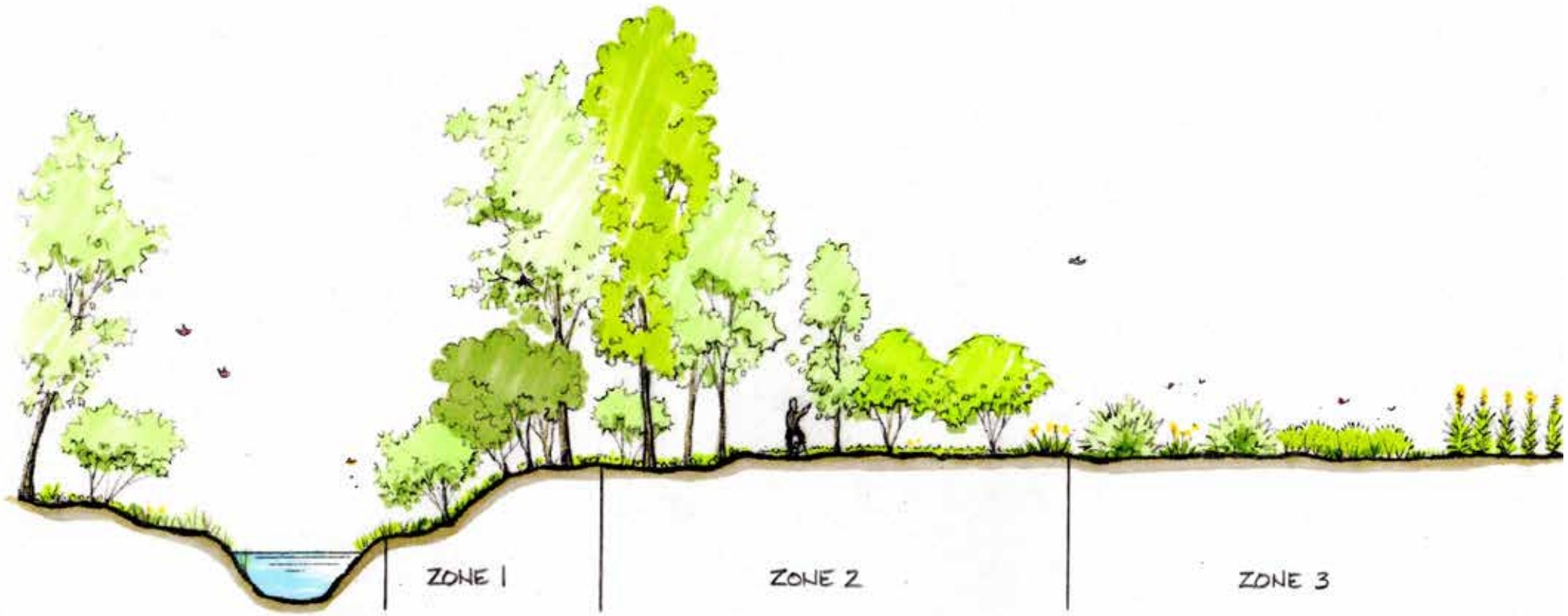
Riparian Buffers



SOURCE: Savanna Institute

Silvopasture

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Silvopasture

SOURCE: Savanna Institute

Windbreaks

SOURCE: Savanna Institute

Promising Midwest agroforestry crops:

- Chestnuts
- Hazelnuts
- Elderberries

SOURCE: Savanna Institute

Farmers need the support of their communities to survive.

SOURCE: Savanna Institute

Farmers need the support of their communities to survive.

grassLAND 2.0

SAVANNA INSTITUTE

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CENTER *for* INTEGRATED AGRICULTURAL SYSTEMS

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