# Weeds in pastures

## costs and options for management

Extension
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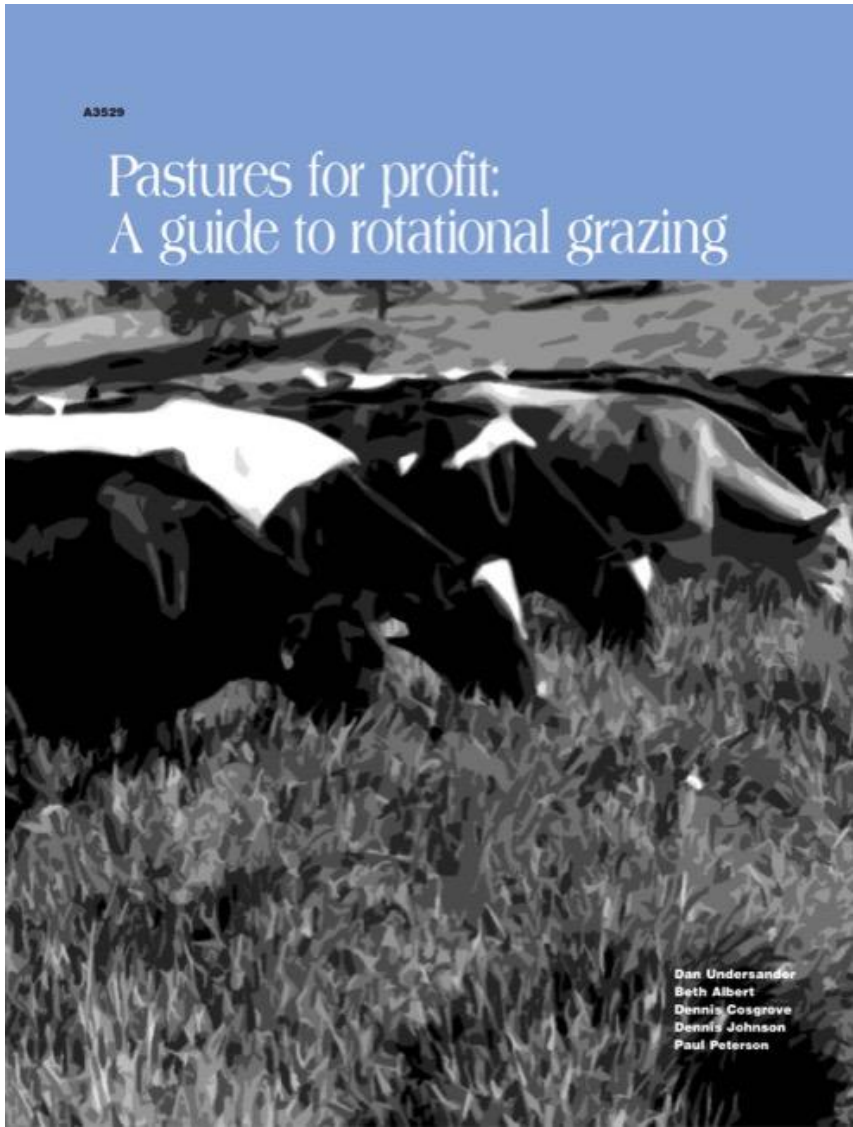
# Summary: Weeds can impact pastures

1. **Identify them**
   - Management and cost is specific to weed species
2. **Monitor them**
   - Many will be eaten, die from grazing, and/or competition
3. If problematic **Manage them**
   - Change grazing practices
   - Fertilize, renovate pastures
   - mowing, herbicides

# Results can specific to your region

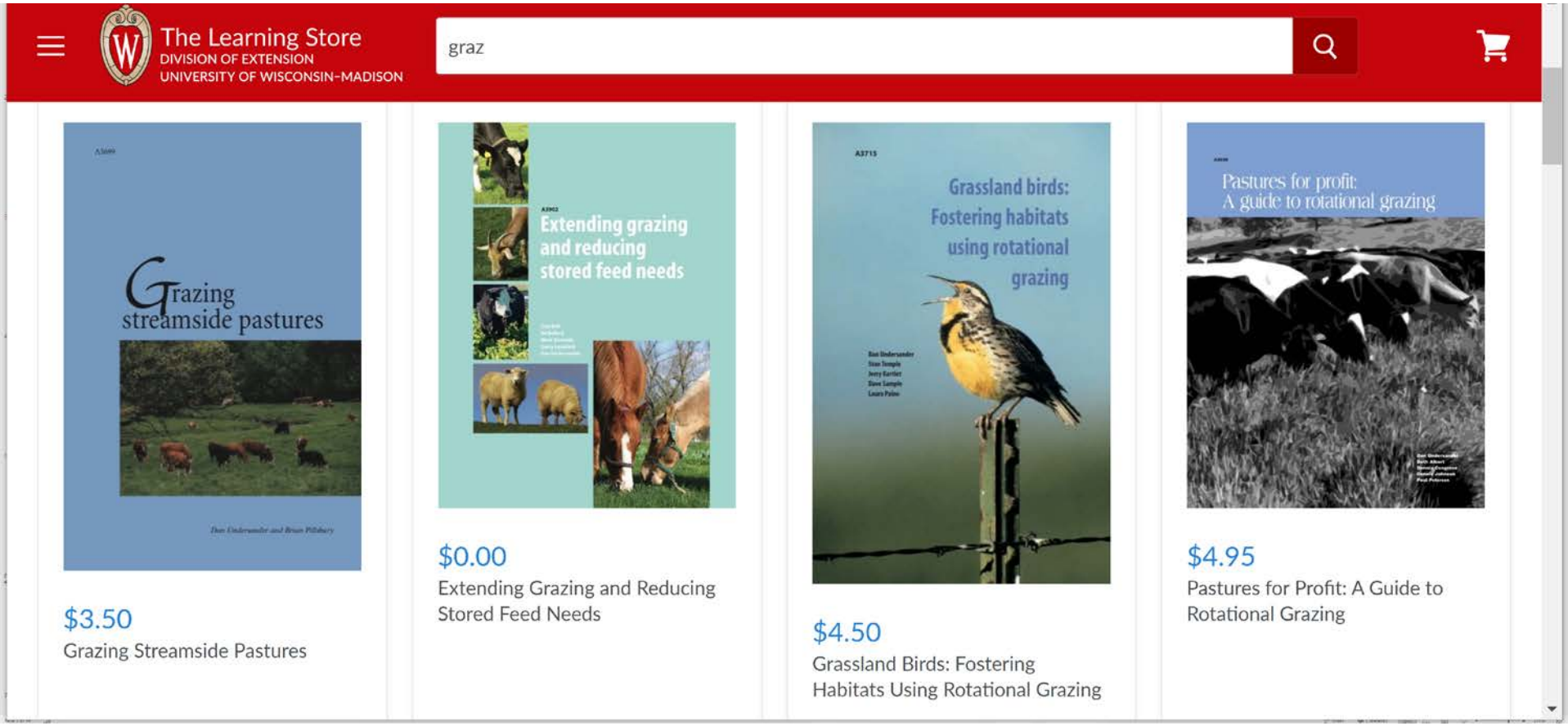
- Check with local experts to help
  - Extension
  - NRCS
  - RC&D
  - Industry

https://learningstore.extension.wisc.edu



# For example Wisconsin have over 25 extension publication about grazing

https://learningstore.extension.wisc.edu

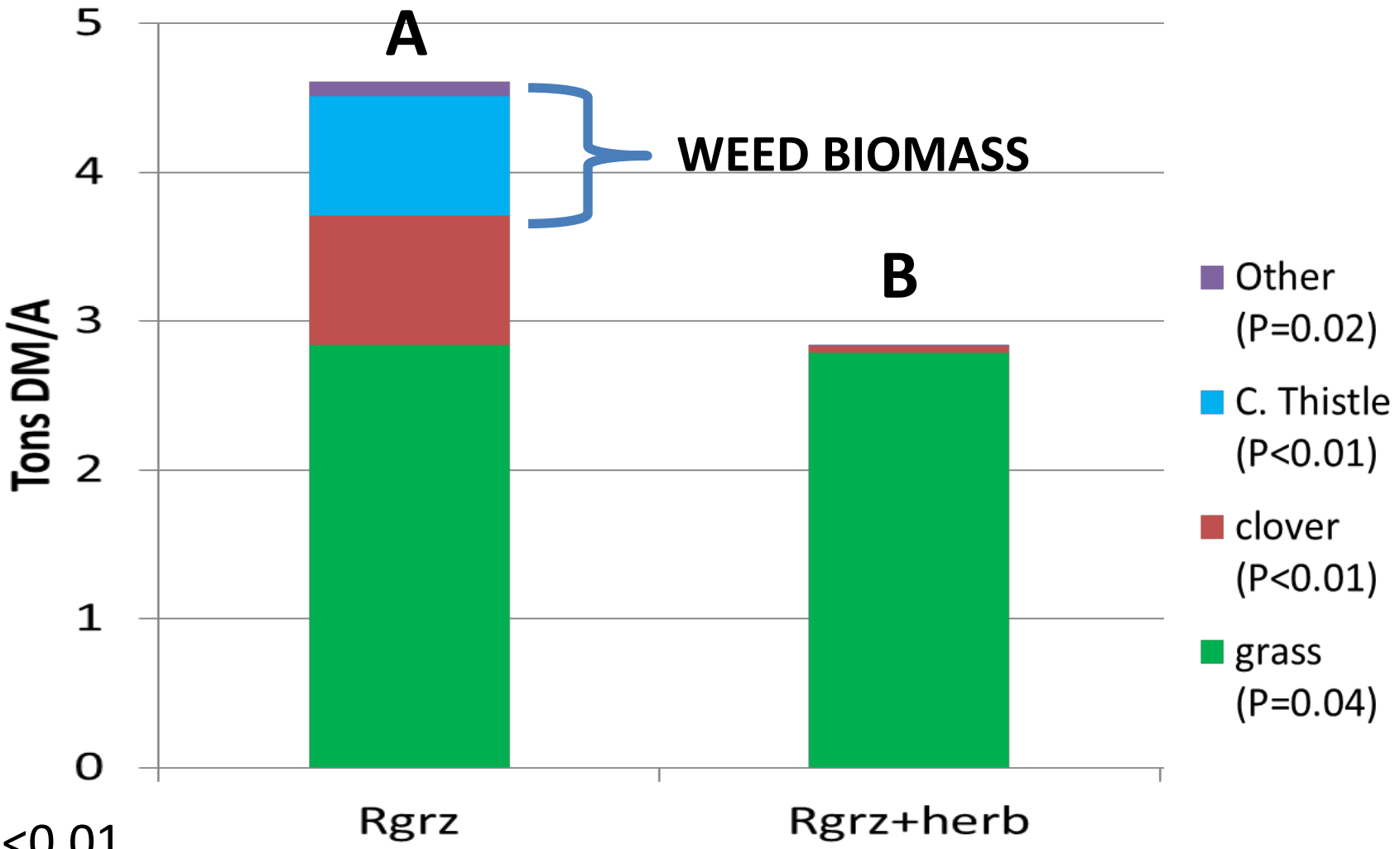


# Weeds in pastures CAN

1. Reduce **desirable forage**
2. Reduce **palatability/utilization** of forage
3. Reduce **animal health** and/or **performance**

NO WEEDS WEEDS

# Weeds rarely reduce total forage

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# Why am I considering weeds a forage?


# But don't weeds have low forage quality?

## Some weeds can have high forage quality

1. **"Canada thistle** has forage quality that is equal to superior than alfalfa"
   - Neil Martin, former director USDA-ARS Dairy Forage Research Center

2. "As long as alfalfa fields are well managed **dandelions** will not cause any decline in forage yield or quality"
   - Jerry Doll, Emeritus Weed Scientist, UW-Madison

# Forage quality of weeds

Species specific, but in general

- Annual weeds have high forage quality
  - Quality is highest when **<u>vegetative</u>**
  - Quality declines rapidly as they mature
  - Annual grasses have lower forage quality (Less protein)


- Many common perennial broadleaf weeds have high forage quality
  - Dandelions, plantain, white cockle

# Impact of weeds on forage palatability/utilization

- Reductions in forage biomass utilizationof up to 72% from spiny weeds in pastures
  - Weed + forage nearby
- Dependent on stage when weeds are grazed

# utilization of weeds

- Animals can be trained to eat spiny weeds
- Dependent on grazing methods
- Canada thistle research
  - Continual little to no utilization
  - Rotational grazing 40-60%
  - High stocking density 60-80% utilization

# If considering increasing stocking rate/grazing intensity make sure toxic plants are not present!

- Lack of selectivity may allow uptake and ingestion

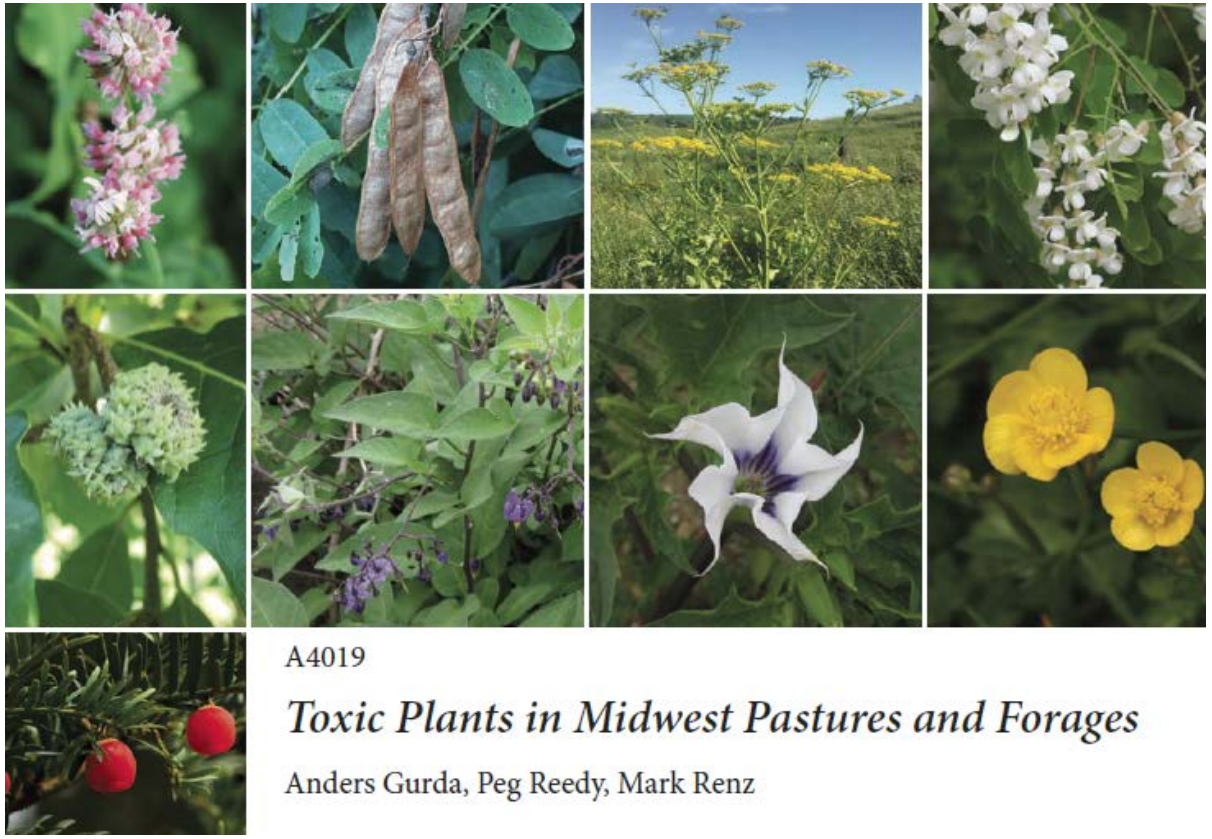
- EXAMPLE Whorled Milkweed
  - Never eaten in continuous or rotationally graze pastures
  - May be ingested in MOB grazing
    - Fatal if 0.1% to 0.5% of body weight ingested

# Weeds that affect animal health

- Poisonous plants (see guide)
- Plants that change or alter product
  - Bitter milk
  - Change flavor of meat
- Plants that injure animals
  - Yellow foxtail can increase prevalence of pink eye

# What poisonous plants are present in your area?

- Check local resources for more information



# If weeds are present in your pasture

1. Identify them and prioritize efforts
   - Are they poisonous?

2. Monitor populations over time
   - Are they expanding?

3. If they are expanding consider management
   - Manipulating pasture management
     - Grazing, fertilization
   - Apply specific management methods
     - herbicide applications, mowing

# How to identify weeds in your pasture


- Local resources/guides
- Searchable databases
  - http://weedid/wisc.edu (ca, co, wi)
  - https://weedid.cals.vt.edu/ (wv)
  - https://weedid.missouri.edu/ (mo)
- Apps
- Experts
  - UWEX, Local expert

# It helps to understand their lifecycle

- Annual weeds (common lambsquarter)
  - Common in overgrazed or highly disturbed areas
- Biennial weeds (wild carrot/Queen Anne's lace)
  - Common in areas that have been disturbed (once)
- Simple perennial weeds (dandelions)
  - most readily eaten, and have high forage quality
- Creeping perennial weeds (Canada thistle)
  - Most difficult to control,mob grazing or herbicides

# How to prioritize weed management efforts?

## HIGH PRIORITY WEEDS

1. Toxic Plants
2. Plants the are not palatable
   - Animals won't eat
3. Plants that have low forage quality
4. Plants that reduce the productivity of the desired forage
5. Invasive or aggressive weeds that may impact nearby farms but not your pasture

# Costs will vary depending on grazing strategies

- Large Impacts in **continuously grazed systems**
  - Animals rarely feed on weeds which allows them to become large and not palatable resulting in competition with desirable forages.
    - Impacts to forage biomass and utilization.
- Limited impact in **rotationally grazed systems**
  - If proper grazing methods are used (grazed when young and vegetative) most herbaceous weeds become a  part of the forage
    - Wild carrot, common lambsquarter, Canada thistle

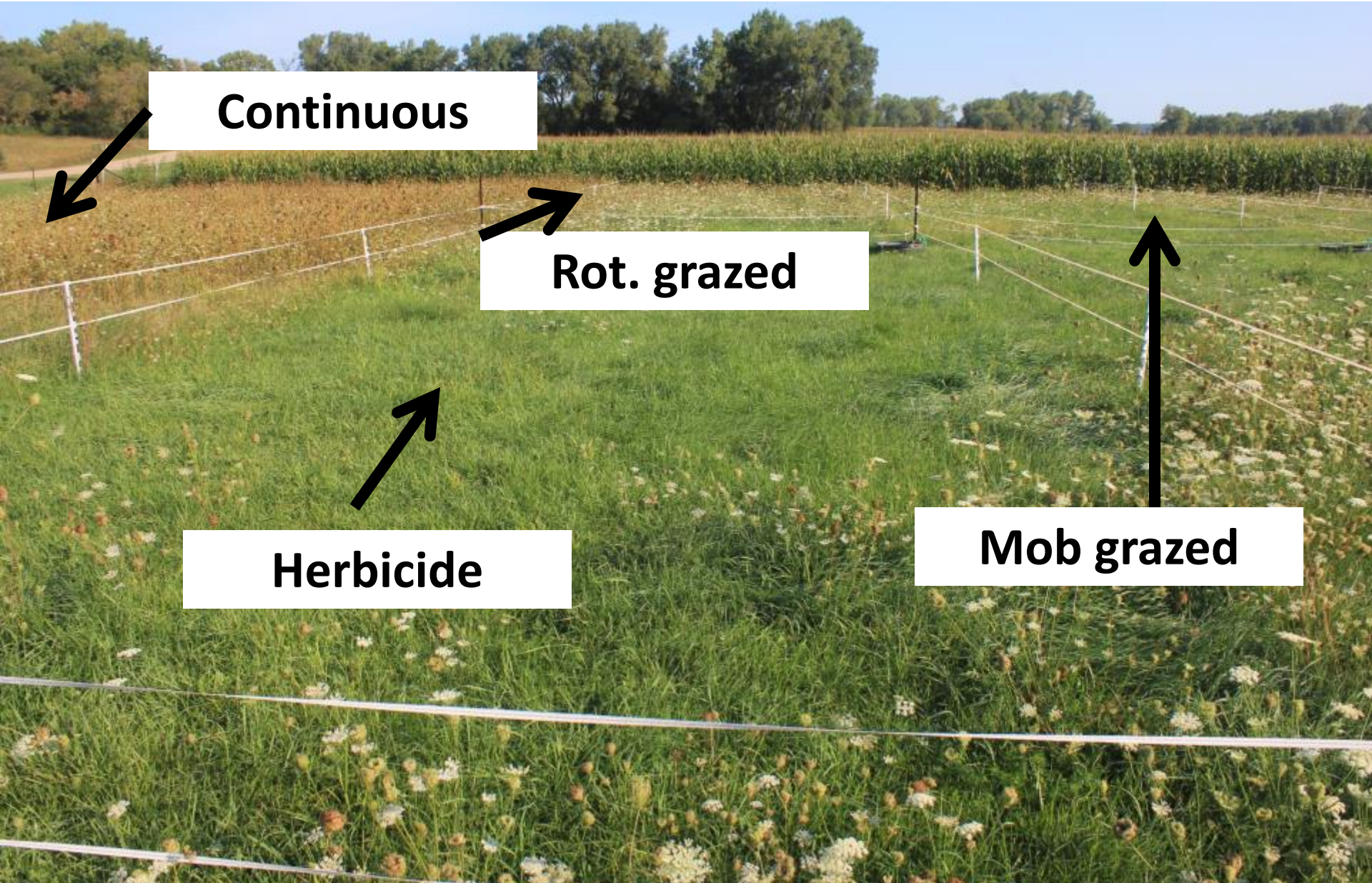
# If we decide we want to manage weeds present in the pasture what tools are available?

- Manipulating management
  - Grazing frequency
  - Stocking rate
  - Fertilization
- Mowing options
- Herbicide options

# Manipulating pasture management

- Weeds can invade pastures for multiple reasons
  - Lack of precipitation
  - Poor fertility
  - Overgrazing/ improper time of grazing
  - Non-competitive forages present

# Different Grazing Practices



# How to maximize grazing for weed control?

- Use rotational grazing
- Identify weed species of concern
  - If annual/biannual weed species graze prior to producing viable seed
  - If perennial graze prior to flowering
- Repeat grazing as needed
  - Annual/biannual to prevent seed production
  - Perennial when resprouts
- If palatability is low consider increasing stocking density

# Avoid overgrazing (minimize bareground present)

- Reduces competitive advantages of established forage species
  - Allows established weeds to thrive
  - Promotes germination of seeds from the soil
- Need to consider
  - When you are overgrazing
  - When weed species present germinate

# Weed emergence can be reduced by leaving residual forage

- Fall residual of ≥ 6 inches can reduce weed emergence up to 75%
  - Plumeless thistle
  - Burdock
  - Canada thistle seedlings
- Avoid grazing low just prior to weed emergence

# Mowing for weed management

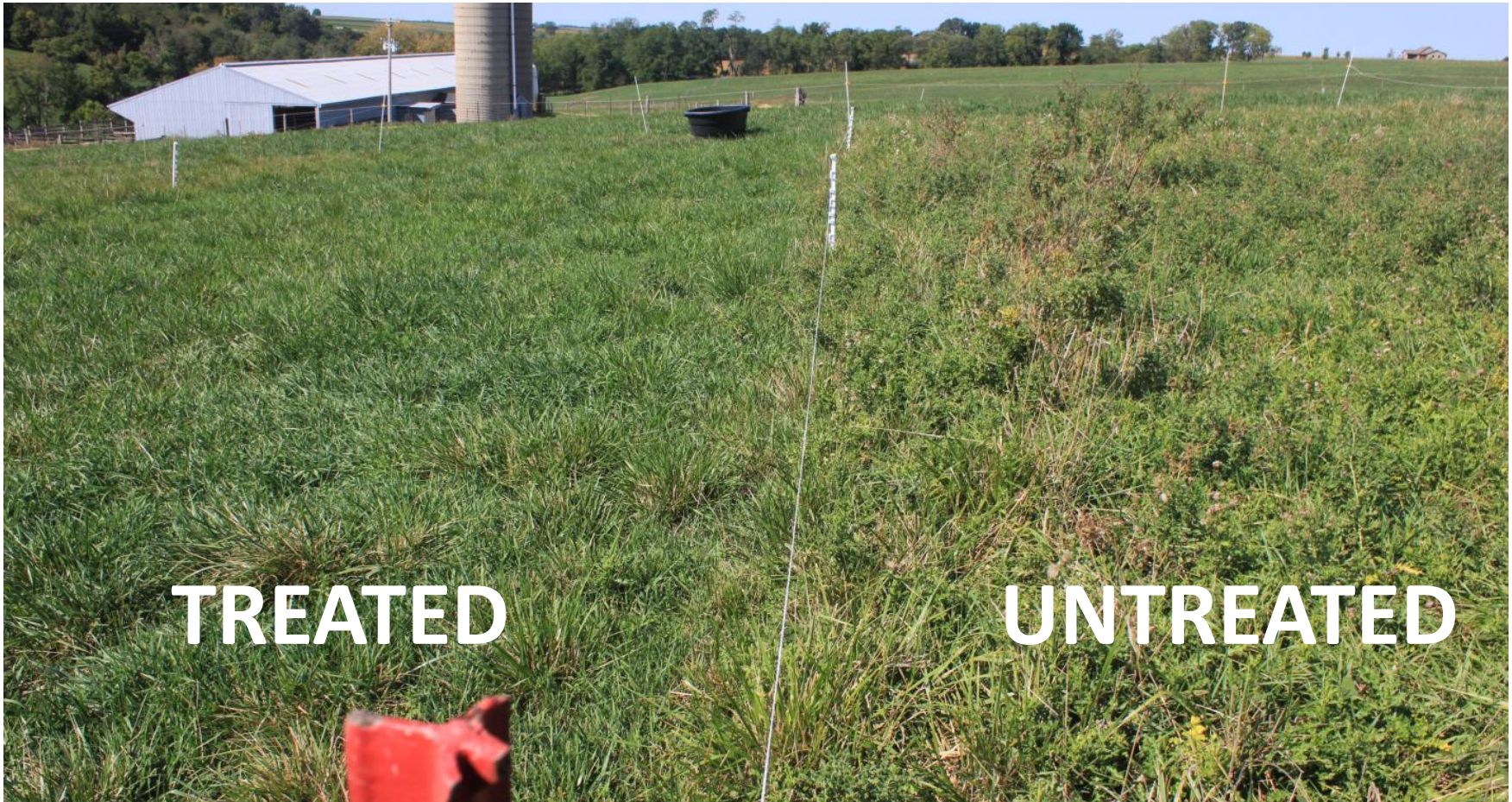
- Effective if repeated for multiple years on biennial and annual weeds
  - Mow just prior to seed production (first flowers)
- Not very effective on perennials
- Integrates well with
  - Rotational grazing
  - Seed-head clipping
  - Herbicide applications

# Pasture renovation can reduce weeds

- Forages can be effective competitors
  - **Forage grasses** are the best at suppressing weeds
  - Select the best adapted forage grass
    - More important than combining multiple species
  - Legumes are not as effective

# Benefits of Herbicides

- Effective on a wide range of species
- Cheap ($15-25/A)



# Costs of Herbicides

- Will eliminate legumes for at least 1 year
    - Some methods can minimize injury
- **May** have restrictions on where manure can be spread (milestone/forefront/grazonNext)

# What happens to clovers when we control broadleaf weeds?

# If weeds are present in your pasture

1. Identify them
   - Management and cost is specific to weed species
2. Monitor closely
   - Many will be eaten, die from grazing, and/or competition
3. Manage
   - Proper pasture management often favors pasture species over weeds
     - Fertilization, rotational grazing, proper resting periods

# Let’s look at some examples provided

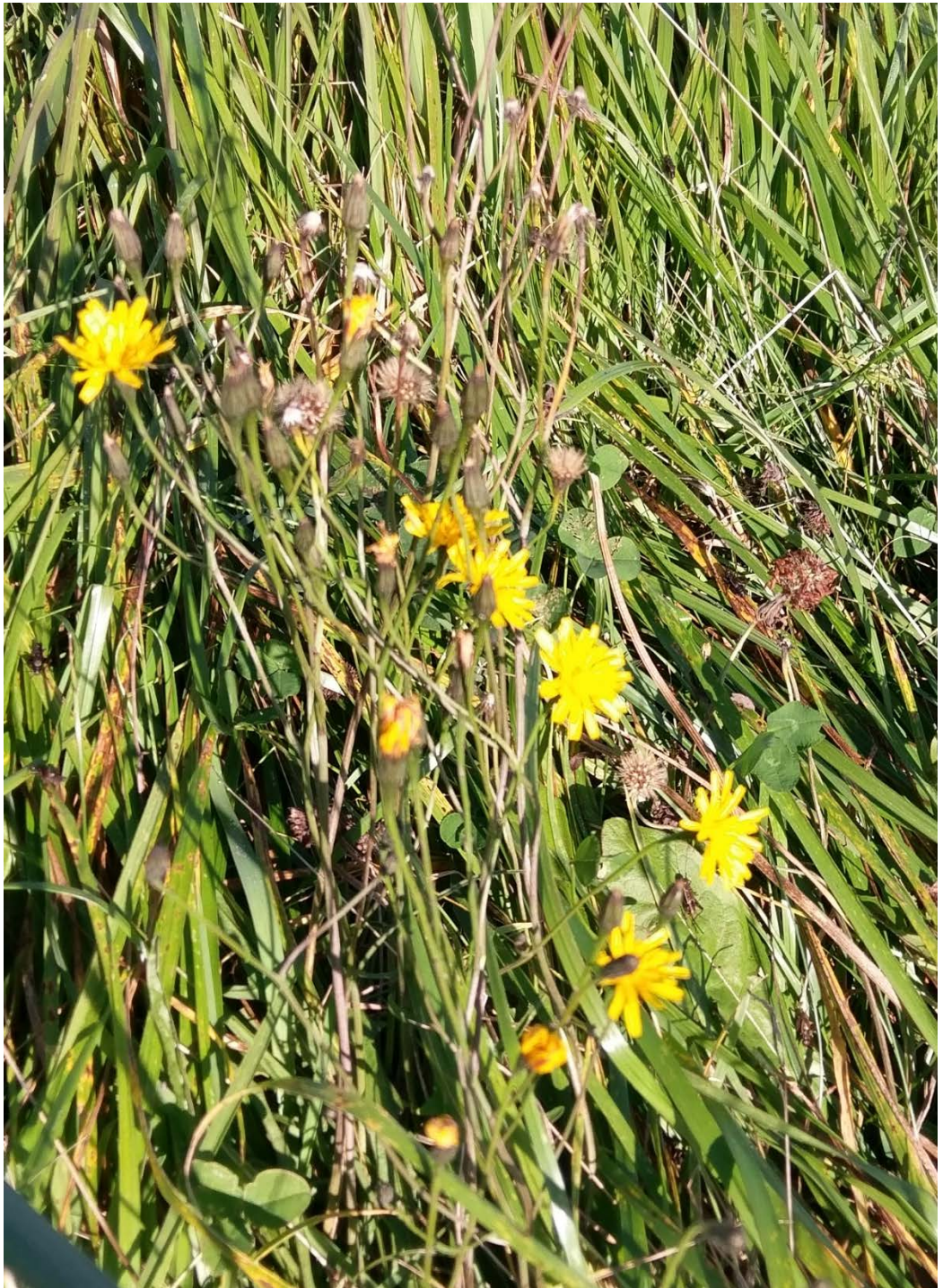
# Vermont

- Intensively managed rotational grazing. Medium stocking density

Chicory (Cichorium intybus)

- In the genus ambrosia:
- Likely common ragweed

- Could be in the genus Lactuca
  - Prickly lettuce
- Could be nipplewort



# West Virginia

- found a small patch of this weed in our yard several years ago, spread to all pastures: 25% weed and 75% grass.
- Every year the % of weed increases while the % of grass decreases.
- We raise 100% New Zealand Kikos, 5 to 7 goats per pasture which includes does with their kids.
- Because of the drought this year the weed as well as grass has been greatly diminished.

# West Virginia

- Creeping Charlie/ ground ivy
  - Creeping perennial
- Common lawn weed

# North Carolina

We raise Kikos and use a rotational grazing program. Approximately 3 weeks then rotate to a clean field that has set at least 3 weeks sometimes 6.

goats won’t eat either of these items and they are choking out the grasses.

# North Carolina

A smartweed

I don’t know

| Canada | Bull | Musk | Plumeless |
| --- | --- | --- | --- |
| Perennial | Biennial | | |