

A person wearing a hat and light-colored clothing is herding a large flock of sheep in a grassy field. The sheep are gathered in a line, and the person is walking towards them. The background consists of a dense line of trees under a slightly overcast sky.

DROUGHT MANAGEMENT

Suggested Plan of Action

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ECONOMIC LO\$\$

- Decreased reproductive performance of both males and females
- Inability to maintain body condition score
- Decreased growth rate of off-spring
- Increased incidences of internal parasitism
- Suppressed immune system

DESTOCK EARLY

- More feed available for those individuals retained
- Sale prices are not yet depressed
- Opportunity to select and retain the most productive individuals in the mob
- Physical time to manage drought plan(s) extended
- Economic burden lessened

CULL - RUTHLESSLY

- Older individuals in the mob
- Unproductive - non-kidders / late kidders
- Poor motherability
- Poor milkability
- Unsound udder conformation
- Hoof problems
- Lethargic
- Re-occurring health problems

Major Effects of THERMAL STRESS on Nutrient Requirements

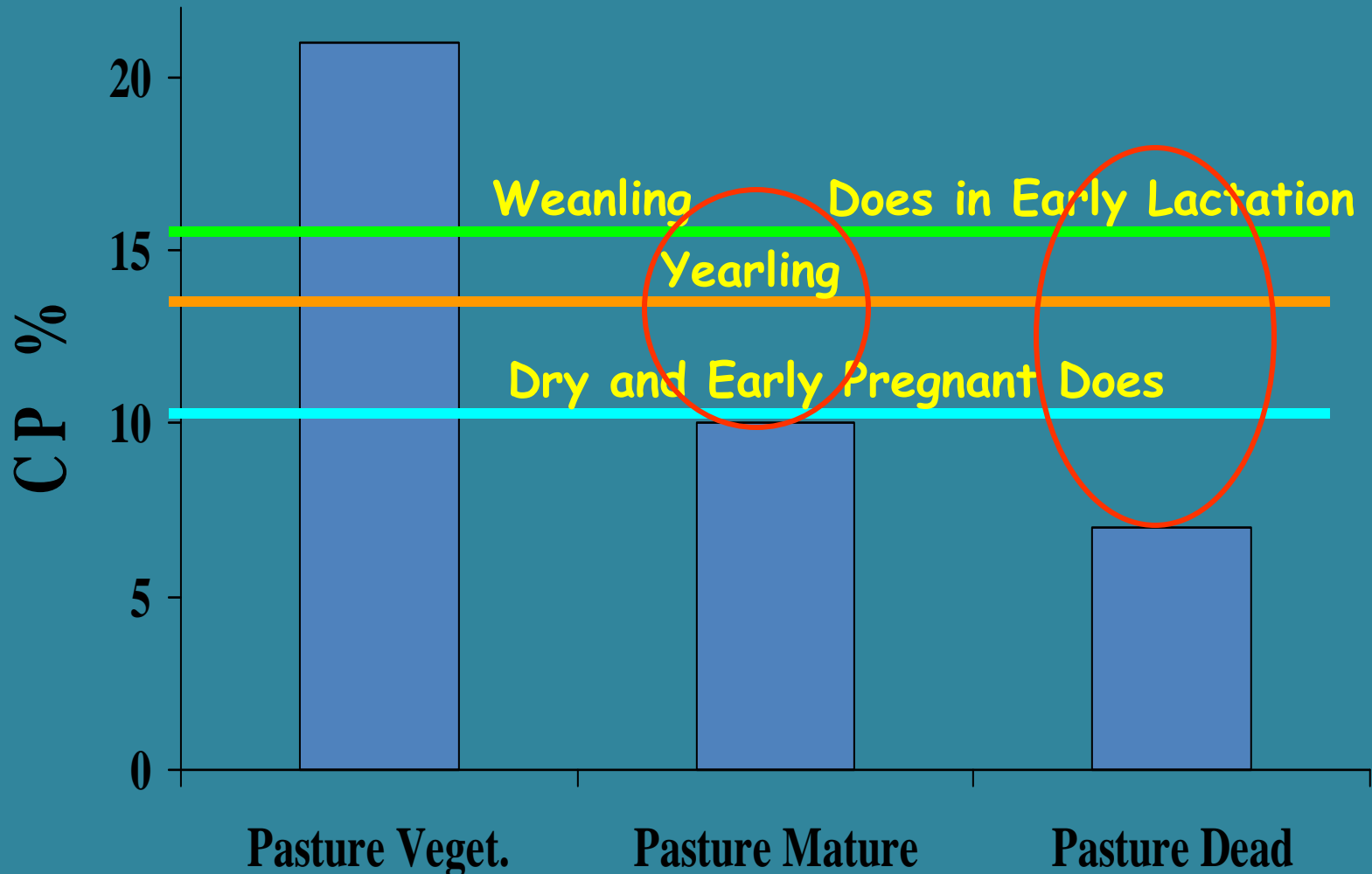
- Reduction in voluntary feed intake
- Digestibility and energy metabolism lowered
- Increased water consumption
- Mineral requirements shift - K and Na
- Forage quality decreases
- Desire to travel compromised

NUTRITION for MAINTENANCE

- Stockpiled standing forage is used for drought reserve
- Pasture rotation extremely critical
- Supplementation - purchased feed to improve quality of diet
- Substitution - purchased feed to increase quantity of feed available
- Free choice chelated mineral mix
- Sea kelp - maintains core body temperature and minimizes fescue toxicity

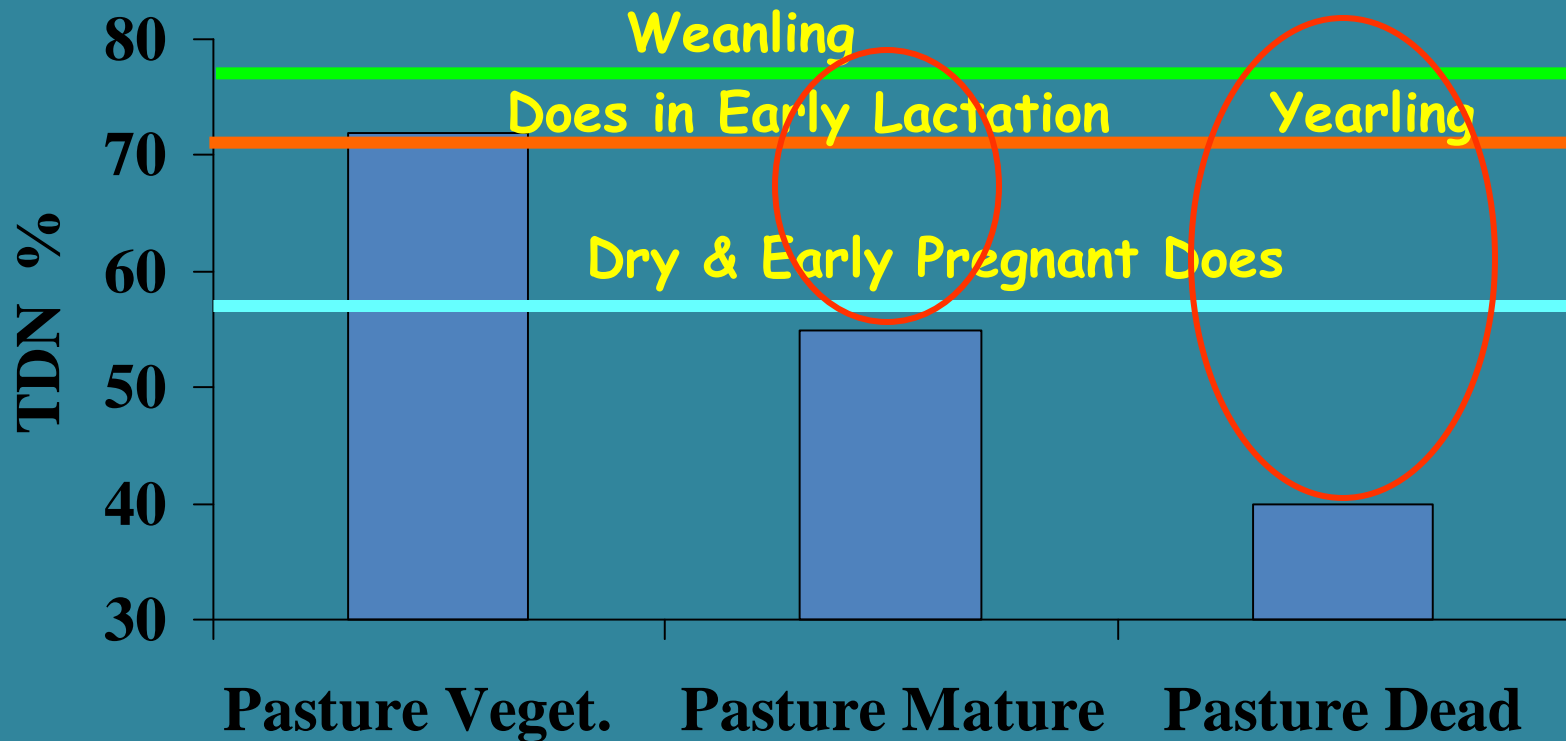
Forage Quality & Goat Requirements

PROTEIN



Forage Quality & Goat Requirements

TDN



Pounds of Dry Matter Consumed Daily

Pre-weaned Kids - 2.5% to 3% of body weight

Wean-off Kids - 3% of body weight

Yearlings - 3% - 4% of body weight

Does - 4% - 5% of body weight

Bucks - 5% - 6% of body weight

Ex: 120 pound doe X 0.4% = 4.8 pounds dry matter per day

FEEDSTUFFS to CONSIDER

Feedstuff	Dry Matter (%)	Total Digestible Nutrients (%)	Crude Protein (%)
Alfalfa hay	88	54	15 - 17
Alfalfa pellets	92	61	17
Grassy Alfalfa hay	88	53	13 - 15
Grassy Clover hay	88	53	13 - 15
Grass hay	88	58	10
Bermuda grass hay	89	53	10
Orchard grass hay	88	59	10

OPPORTUNITIES

- **Goats are:**
 - Environmentally adaptive
 - Gregarious
 - Athletic
 - Opportunistic
 - Biological land enhancers
 - Alternative enterprise creators
 - Value-added product providers

PRINCIPLES of BROWSING MANAGEMENT

1. **Rest Period** - depends on the recovery rate of plant(s)
2. **Animal Performance** - use shortest browse or graze period possible while maintaining adequate rest for the vegetation
3. **Stock Density** - use highest stock numbers possible to procure uniformity of utilization

PRINCIPLES of BROWSING MANAGEMENT

4. **Herd Effect** – impact - use the largest herd size possible consistent with good animal husbandry practices
5. **Stock Rate** - match animal numbers to changes in carrying capacity on an annual and seasonal basis

Principles in Action for Drought

- Increase the number of paddocks in use, therefore, the rest period is increased (uniformity of use)
- Increase the grazed period per paddock
- Combine (amalgamate) mobs
- Decrease the paddock size
- !! LOOK "next door" !!



Edging hedges / Cleaning windrows

A photograph of a field of Sericea Lespedeza grasses. The grasses are a mix of green and brown, indicating some dryness. In the background, there is a dense line of green trees under a clear blue sky.

Sericea Lespedeza - natural dewormer, especially valuable during a drought (deep rooted) and after a rainfall (larvae migration minimized)





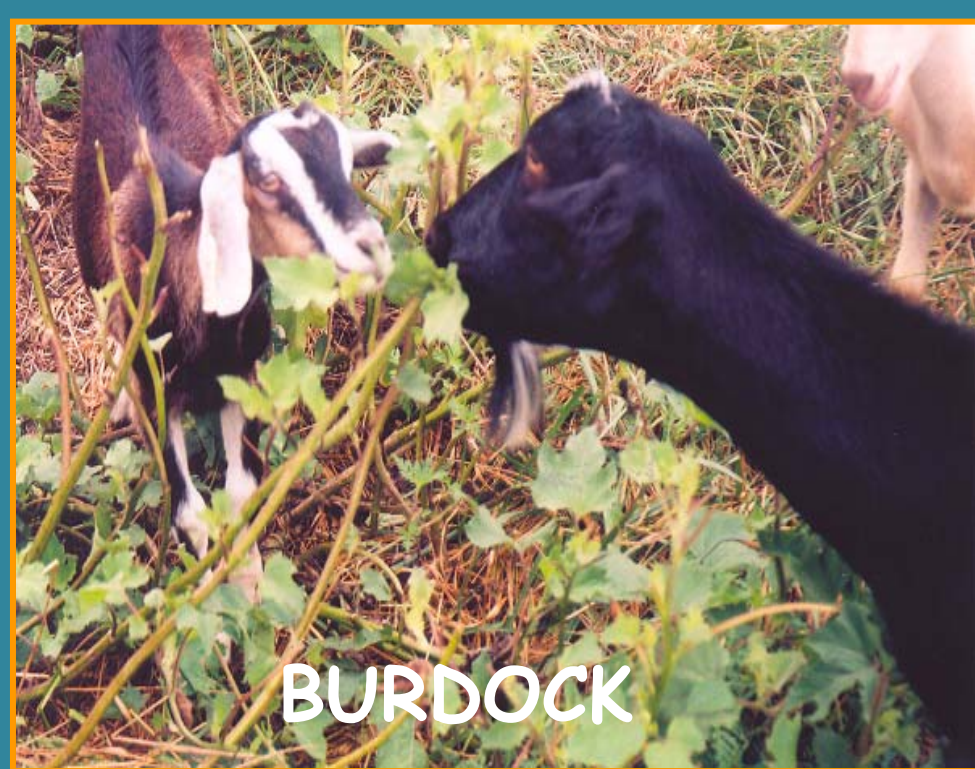
Enhancement of mismanaged hay fields

Riparian area and Stream bank restoration

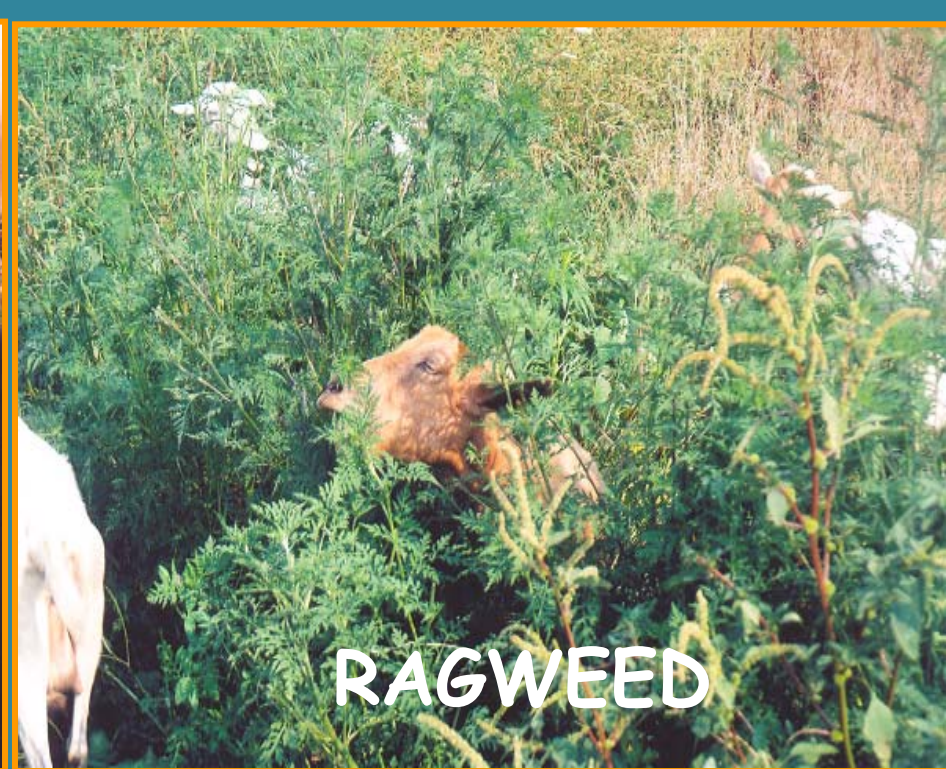




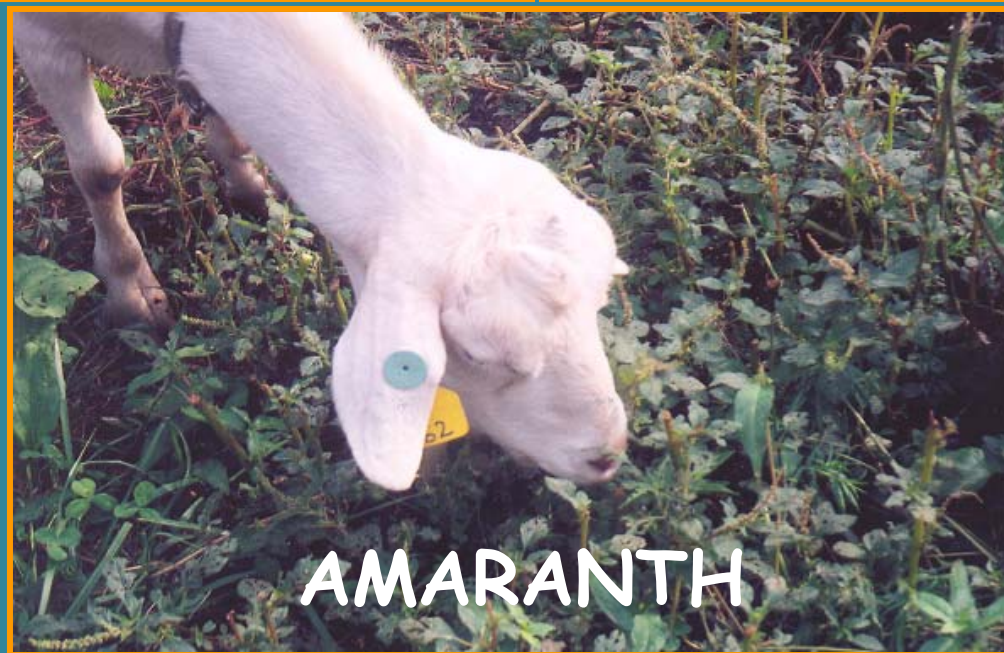
Overgrown brush/shrub areas



BURDOCK



RAGWEED



AMARANTH

Watch Out for Poisonous Plants

Plant Common Name	Plant Scientific Name	Toxin
Spiny Amaranth or Spiny Pigweed	<i>Amaranthus spinosus</i>	Nitrates
Trees Choke cherry Black cherry Laurel cherry	<i>Prunus virginiana</i> <i>Prunus serotina</i> <i>Prunus caroliniana</i>	Cyanide
Johnsongrass	<i>Sorghum halepense</i>	Nitrates Cyanide
Jimsonweed	<i>Datura stramonium</i>	Nitrates Atropine
Perilla mint	<i>Perilla frutescens</i>	Ketones



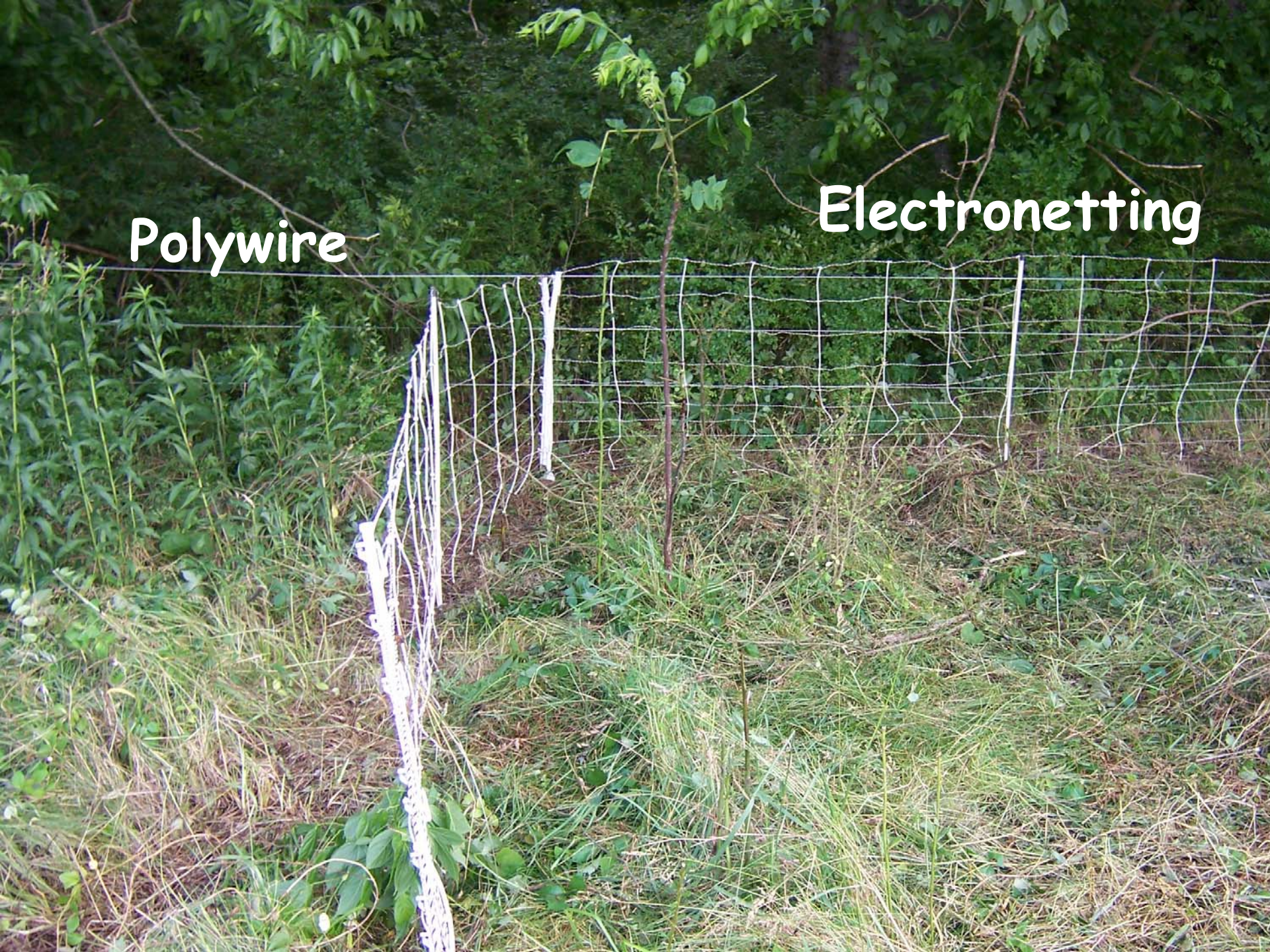
Portable solar powered electrofencing



Portable solar powered polywire and tread-in posts

Polywire

Electronetting



MANAGEMENT DETAILS

- **Shade** - trees
 - portable shelter with #70 - #90 shade cloth
 - limestone outcroppings
- **Ventilation** - open ended portable shelters
 - higher elevation ridge

MANAGEMENT DETAILS

- Water** - quality (not pond water - blue-green algae is toxic for goats)
- water temperature should be cool
 - clean troughs daily
- quantity - more than 2 gallons per head per day
- have twice as many troughs available
 - scatter troughs throughout paddock

LIVESTOCK GUARDIAN DOGS

- Water consumption increases
- Food consumption decreases - feed early AM
- Migrate toward shade and/or begin digging
- Great Pyreneans' fibre tends to become matted, they chew and create "hot spots"
- Ticks harbor in the dogs ears

ENVIRONMENTAL STRESS

- Heat and Cold
- Weather (precipitation and humidity)
 - Nutrient density
- Quality of feed on offer
 - Predation
- Travel (activity)
 - Topography

DEGREE of STRESS

(affected by)

- Breed of small ruminant
 - Physiological state
 - Age / Body size / Sex
 - Nutritional status
 - Social dominance
- Fight / Flight distance

**KEEP
AGRICULTURE
SUSTAINABLE
and
Livestock
Healthy
during
Drought**

