DROUGHT MANAGEMENT
Suggested Plan of Action

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ECONOMIC LOSS

- Decreased reproductive performance of both males and females
- Inability to maintain body condition score
- Decreased growth rate of offspring
- 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

CP %

Pasture Veget. Pasture Mature Pasture Dead

Weanling Does in Early Lactation
Yearling
Dry and Early Pregnant Does

J-M Luginbuhl
Forage Quality & Goat Requirements

TDN

Pasture Veget.  Pasture Mature  Pasture Dead

TDN %

Weanling

Does in Early Lactation

Yearling

Dry & Early Pregnant Does

J-M Luginbuhl
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

<table>
<thead>
<tr>
<th>Feedstuff</th>
<th>Dry Matter (%)</th>
<th>Total Digestible Nutrients (%)</th>
<th>Crude Protein (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa hay</td>
<td>88</td>
<td>54</td>
<td>15 - 17</td>
</tr>
<tr>
<td>Alfalfa pellets</td>
<td>92</td>
<td>61</td>
<td>17</td>
</tr>
<tr>
<td>Grassy Alfalfa hay</td>
<td>88</td>
<td>53</td>
<td>13 - 15</td>
</tr>
<tr>
<td>Grass hay</td>
<td>88</td>
<td>58</td>
<td>10</td>
</tr>
<tr>
<td>Grassy Clover hay</td>
<td>88</td>
<td>53</td>
<td>13 - 15</td>
</tr>
<tr>
<td>Bermuda grass hay</td>
<td>89</td>
<td>53</td>
<td>10</td>
</tr>
<tr>
<td>Orchard grass hay</td>
<td>88</td>
<td>59</td>
<td>10</td>
</tr>
</tbody>
</table>
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
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
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

<table>
<thead>
<tr>
<th>Plant Common Name</th>
<th>Plant Scientific Name</th>
<th>Toxin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiny Amaranth or Spiny Pigweed</td>
<td>Amaranthus spinosus</td>
<td>Nitrates</td>
</tr>
<tr>
<td>Trees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choke cherry</td>
<td>Prunus virginiana</td>
<td>Cyanide</td>
</tr>
<tr>
<td>Black cherry</td>
<td>Prunus serotina</td>
<td></td>
</tr>
<tr>
<td>Laurel cherry</td>
<td>Prunus caroliniana</td>
<td></td>
</tr>
<tr>
<td>Johnsongrass</td>
<td>Sorghum halepense</td>
<td>Nitrates, Cyanide</td>
</tr>
<tr>
<td>Jimsonweed</td>
<td>Datura stramonium</td>
<td>Nitrates, Atropine</td>
</tr>
<tr>
<td>Perilla mint</td>
<td>Perilla frutescens</td>
<td>Ketones</td>
</tr>
</tbody>
</table>
Portable solar powered electronetting
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