


Johnsongrass
The Good, The Bad and The Ugly

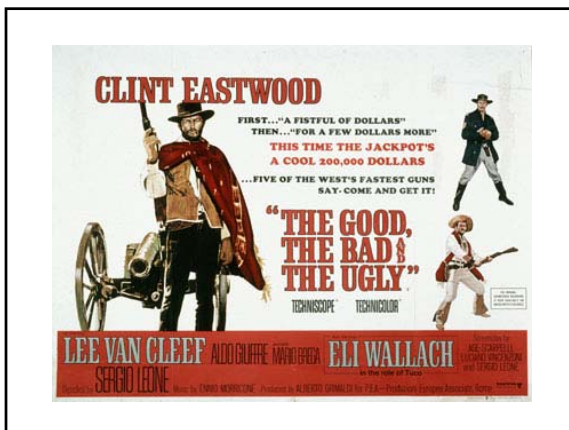
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Johnsongrass
Sorghum halepense




- Perennial that grows 6-8 ft tall
- Warm season grass
- Prolific rhizome producer
- Introduced as a forage from Turkey into S. Carolina about 1830
 - William Johnson – Farmer propagated it in Alabama about 1840



The Good

Forage	Yield Range Ton/Acre	Crude Protein %	TDN %
Johnsongrass	2-5	10-14	55-60
Pearl Millet	2-6	8-12	50-58
Tall Fescue	2-5	10-15	55-60
Hybrid Bermuda	5-8	10-14	55-60

Source: Ball et al., 2007 Southern Forages, 4th Edition



- Quality
- Tonnage
- Persistence
- Drought Tolerance

Palatability of Johnsongrass
 Noble Foundation

- Palatability Study (1999-2001)
 - Averaged 11.6% Crude Protein; 58% TDN
 - Among 16 grasses studied, Johnsongrass ranked 1st for CP and 2nd for TDN, slightly lower than bermudagrass
- Grazing Preference During AM Grazing (2007)
 - Yearling steers had access to 14 species
 - 1st Place - 9,200 bites from Alamo Switchgrass
 - 2nd Place - 6,000 bites from Johnsongrass

Johnsongrass Paper?


- Mimi Aumann – Silver Dollar City paper maker

“Johnsongrass makes a great green paper that rattles, making it strong and long-lasting”

- Next....kudzu paper

The Bad

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- Reproduces from seed and rhizomes
- Rhizomes have been found 5 ft deep
- Rhizomes can develop within 19 days of seedling emergence
- 275 ft of rhizomes from one plant
- 80,000 seeds from one plant that can remain viable for 10 years.
- Robs desirable species of light, nutrients and water

White Sugarcane Aphid Host



Feeding Hay



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Johnsongrass and Missouri State Law

- Noxious status in Missouri
- Prohibitive status in Missouri for seed
- Some counties have special rules
 - e.g. Pettis, Morgan
- Upon petition of 100 landowners and approval by a county-wide election, the county may form a weed control board. The board may levy a property tax to help conduct a Johnsongrass eradication program.

The Ugly

- Prussic Acid
- Nitrate Toxicity
- Sorghum Cystitis

Prussic Acid Poisoning



- Caused by cyanide in immature or frost damaged leaves
- Avoid grazing until plant reaches 24", especially during dry weather
- Avoid for 14 days after killing frost
- Present only in johnsongrass and some sorghum lines.
- No problem for pearl millet.
- Not an issue in cured hay.

Nitrate Poisoning



- Accumulates in lower stalks during dry weather
- Avoid high rates of nitrates
- Test for grazing safety if a concern arises

- Present mainly in sorghums, millets and Johnsongrass
- Remains toxic in hay; Dissipates around 50% in silage

Sorghum Cystitis

- A problem with horses, though only a small percentage are affected
- A loss of control of the rear legs and bladder resulting from permanent damage to the spinal cord
- The agent that causes the condition is unknown



Controlling Johnsongrass



Mowing – Seed Distribution



Chemical Control

- Poast Plus, Assure II, Select max , Assure & Fusilade in Soybeans
- Accent Q, Steadfast Q, Option, Halex GT & Beacon in Corn
- Roundup-Ready in Corn, Soybeans and Alfalfa
 - When will resistance hit Missouri?
- Glufosinate on Liberty-Link Corn (2 applns)
 - Weaker than glyphosate
- No options for Grain Sorghum
- Select in Conventional Alfalfa

Control Options in Forages

- Heavy Grazing / Low Mowing
 - Reduced seed production
 - Depletes carbohydrates in rootstocks; The growing point sits 4-8” above ground; Rhizome development reduced if plant height is kept below 12-15”
- Weed Wiper, Spot Treatment or Full Renovation using Glyphosate or Glyphosate/Select Combination
 - Effective but will not eliminate it with one pass.
- Herbicide (expect stunting)
 - Outrider (*sulfosulfuron*)-Bermudagrass, Native Grass, Fescue
 - Pastora (*nicosulfuron*)-Bermudagrass
 - Panoramic / Impose (*imazapic*)-Bermudagrass, Native Grass



Outrider

- Sulfosulfuron active ingredient; Now sold by Valent
- Works well on Johnsongrass, nutsedge, cheat and downy brome
- Most effective with first growth Johnsongrass prior to seedhead development
- Can be injurious to fescue and other cool season grasses; Calibration is imperative
- Apply 0.75-1.0 oz/acre. Use a non-ionic surfactant (90% ai) at 1-2 qt/100 gallons of spray solution
- There is no grazing restriction but it's recommended to not mow or graze for 2 weeks before or after application

Glyphosate



Rotation / Renovation

- Rotation to Roundup-Ready crops or crops with registered herbicides
- Renovation out of infested fescue
 - Spray-Smother-Spray



“When life gives you lemons, make lemonade”

- Grazing Management
 - Graze at 12-18” (higher if in a drought)
 - Pull off at 6-8”
 - Good grazing or an occasional clipping can keep seed from developing
- Hay Management
 - Be cautious of nitrate rates (40-50 lbs max.)
 - Harvest in the boot stage or before
 - A hay conditioner is necessary

Comments / Questions?

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