Pasture Management for Drought Recovery and Invasive Weeds

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Cox Conv. Ctr

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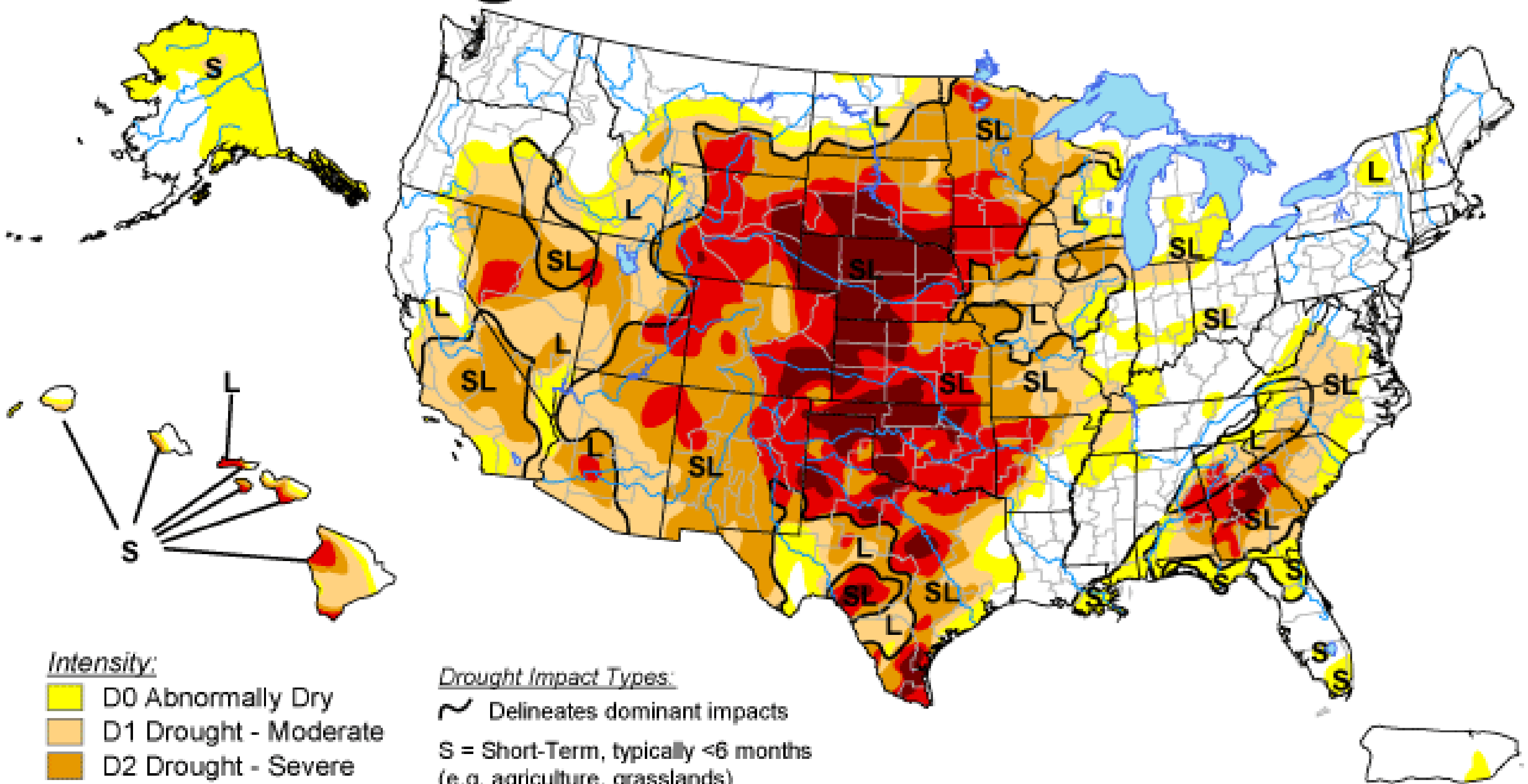
Oklahoma Range & Pasture Statistics

49.8 % of all land or 21,882,471 acres grazed.
8.4 million acres of pasture
5.5 million acres of Bermuda Grass
Beef cattle operations (2007): 47,000, #3 USA
Dairy operations (2007): 980, #17 USA
Dollar receipts on beef (2010): $2.985 Billion
Total livestock receipts (2010): $4.734 Billion

U.S. Drought Monitor

January 8, 2013
Valid 7 a.m. EST



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:

- Delineates dominant impacts

S = Short-Term, typically <6 months (e.g. agriculture, grasslands)

L = Long-Term, typically >6 months (e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/

Released Thursday, January 10, 2013

Author: David Simeral, Western Regional Climate Center

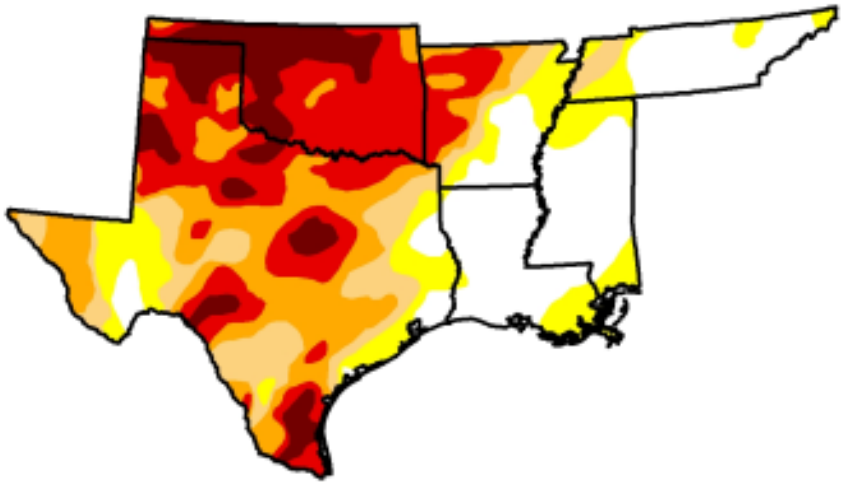
U.S. Drought Monitor

South

January 8, 2013
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	24.31	75.69	61.96	50.73	32.67	10.70
Last Week (01/01/2013 map)	21.18	78.82	63.69	50.50	32.80	10.98
3 Months Ago (10/09/2012 map)	30.52	69.48	57.14	37.67	23.10	6.58
Start of Calendar Year (01/01/2013 map)	21.18	78.82	63.69	50.50	32.80	10.98
Start of Water Year (09/25/2012 map)	24.13	75.87	66.61	51.50	29.86	9.11
One Year Ago (01/03/2012 map)	26.47	73.53	69.01	54.98	40.06	17.24



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USDA National Drought Mitigation Center

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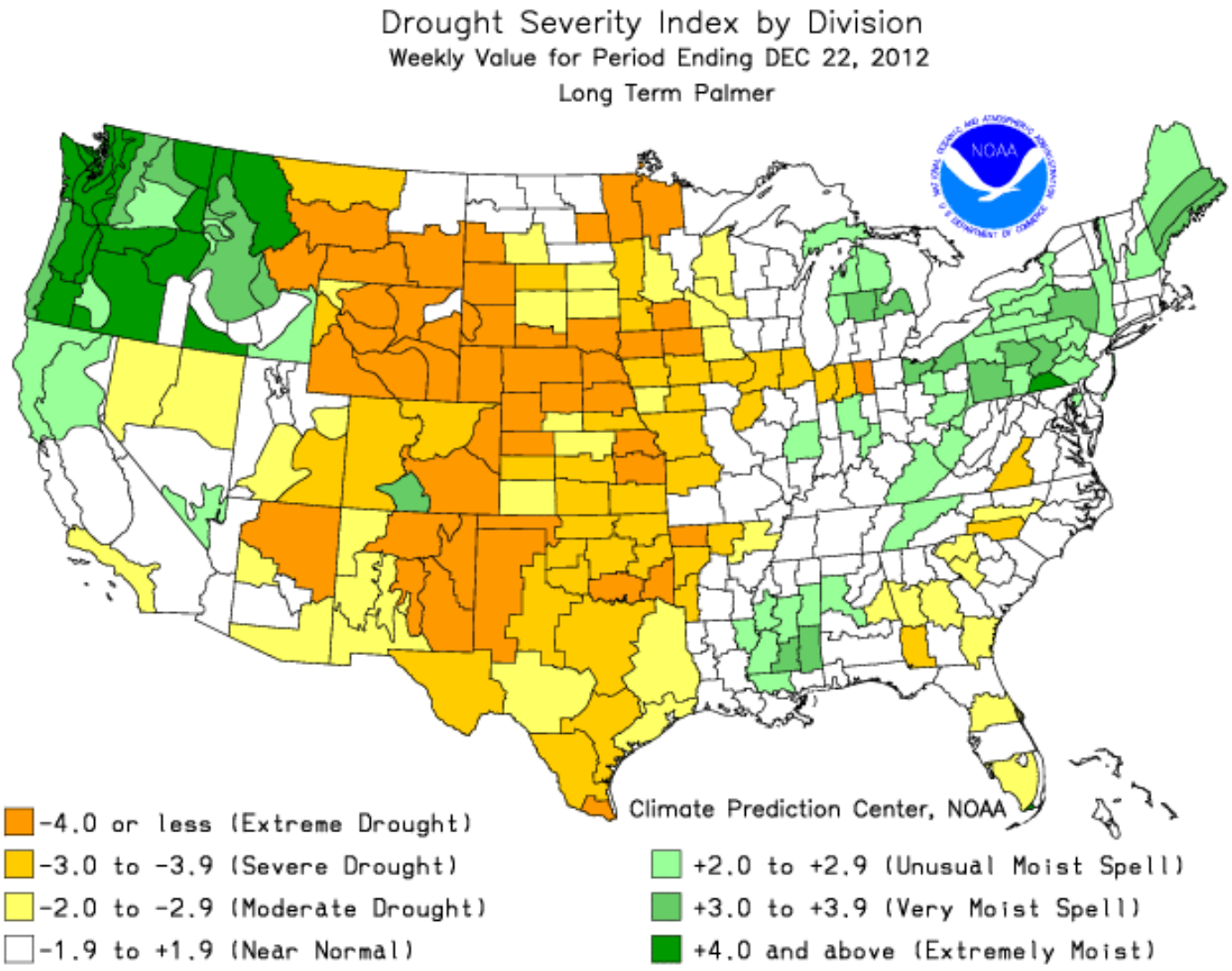

Drought Severity Index by Division
Weekly Value for Period Ending DEC 22, 2012
Long Term Palmer
NOAA
Climate Prediction Center, NOAA
-4.0 or less (Extreme Drought)
-3.0 to -3.9 (Severe Drought)
-2.0 to -2.9 (Moderate Drought)
-1.9 to +1.9 (Near Normal)
+2.0 to +2.9 (Unusual Moist Spell)
+3.0 to +3.9 (Very Moist Spell)
+4.0 and above (Extremely Moist)

When it Begins

To Rain

Rain Requirements for Forages

1.5 inches to begin growth

5-6 inches to produce adequate forage for grazing.

A ten foot tall mesquite tree uses 5-30 gallons of water per day. Root biomass is three times the size of visible growth.

Bermudagrass Pasture from Drought

Same Pasture After Recovery

Spring Weed Control:

Critical following drought

Bermudagrass has suffered

A few weeds are tolerable

You can count on a heavy infestation

Importing Hay from Other Areas to Feed Cattle

Bastard Cabbage

Blessed Milk Thistle

Perennial Ryegrass

Black Mustard

Last Winter I received some fair rain and was blessed with some good Winter forage such as Ryegrass, Little Barley, and Brome grasses.

But I noticed my Bermudagrass greenup was delayed and I didn’t seem to produce as much this past Summer.

It couldn’t just be moisture shortage could it?

The shading from the Winter forages reduced the surface soil temperature, thus delaying the dormancy break of the Summer perennial grasses, such as Bermudagrass and native grasses.

Ryegrass also has a toxin, which, in heavy enough doses will inhibit the early growth and spread of Bermudagrass

Spray or Fertilize First

Studies at Texas A & M (Bade & Baumann) show that weed control should be the first priority.

Drought conditions & Fertilizer costs

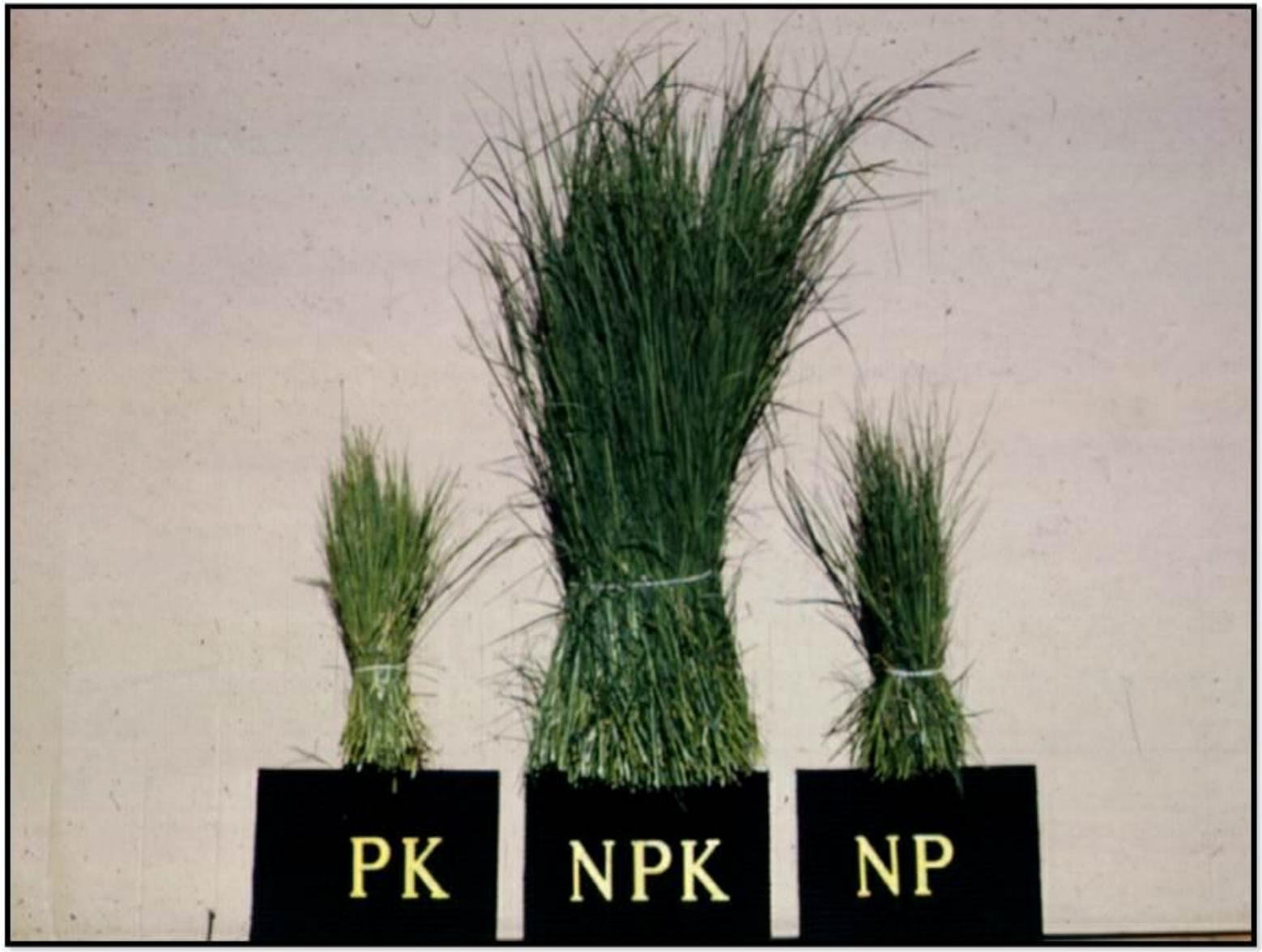
REQUIRE

Good soil testing more than ever before.

Nutrient Uptake of Coastal Bermudagrass

	Nutrient	lbs/ton	lbs/2 tons
Primary	Nitrogen	50	100
	Phosphorus	14	28
	Potassium	42	84
Secondary	Calcium	8	15
	Magnesium	3	6
	Sulfur	4	8
Micro	Copper	0.03	0.05
	Manganese	0.03	0.05
	Zinc	0.05	0.10

Balance of Nutrition Effects



Managing for Recovery from Drought

Capture rainfall

Rest and rotate pastures

Use proper fertilization program

Timely weed control & clean hay

Balance herd numbers to forage and fences

Sacrifice or refuge a pasture if necessary


Re-establish from sprigs or seed?

Rainfall is very critical to sprigging. Kill **all** existing vegetation first, mechanically and chemically.

Maintain weed control until sprigs establish and provide cover.

Seeding: Seedbed is most critical factor. Native establishment may take three years from seeding operation.

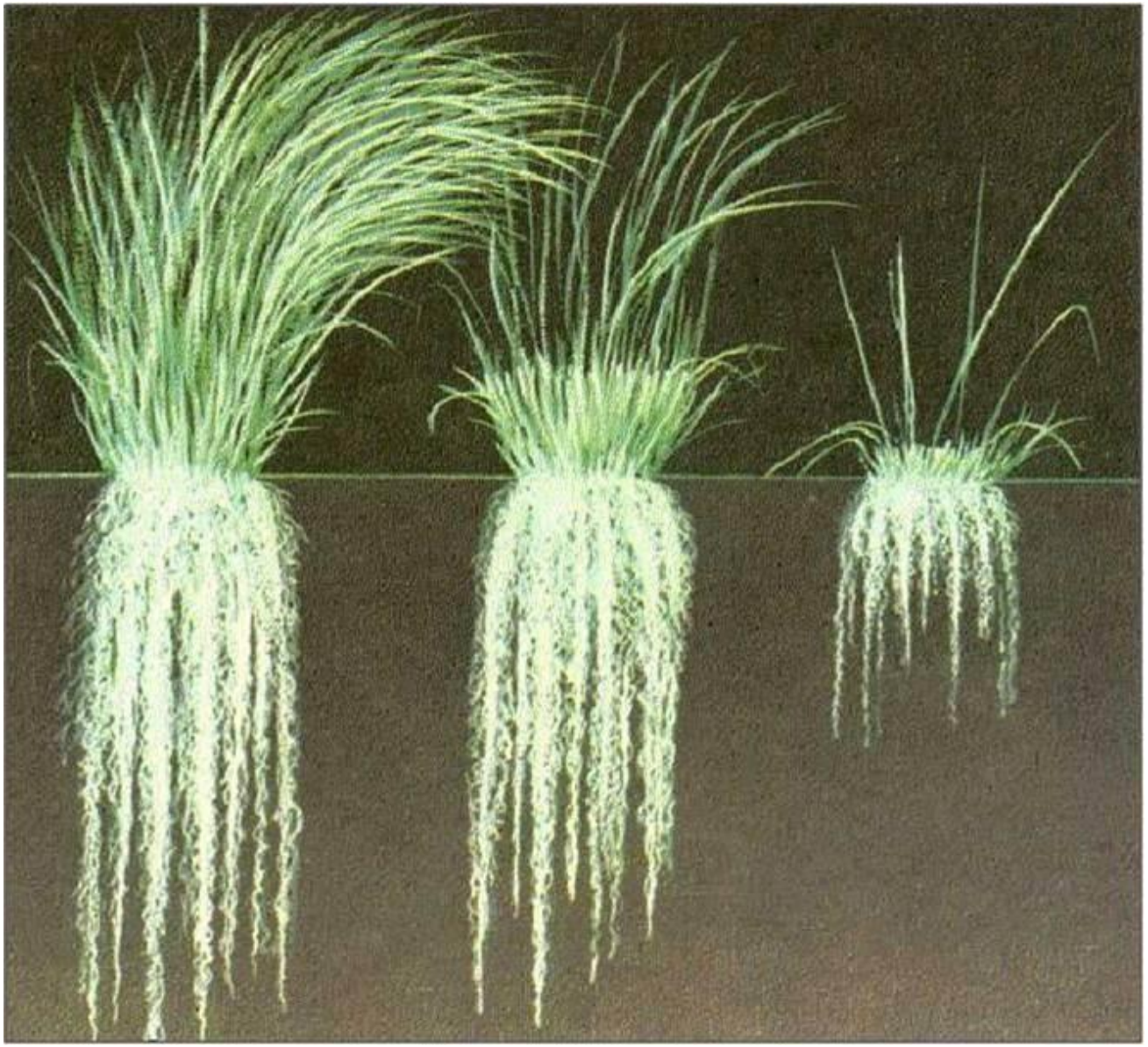
Indian Grass (Sorghastrum nutans) Oklahoma State Grass

What About Native Grass Recovery?

Graze Half

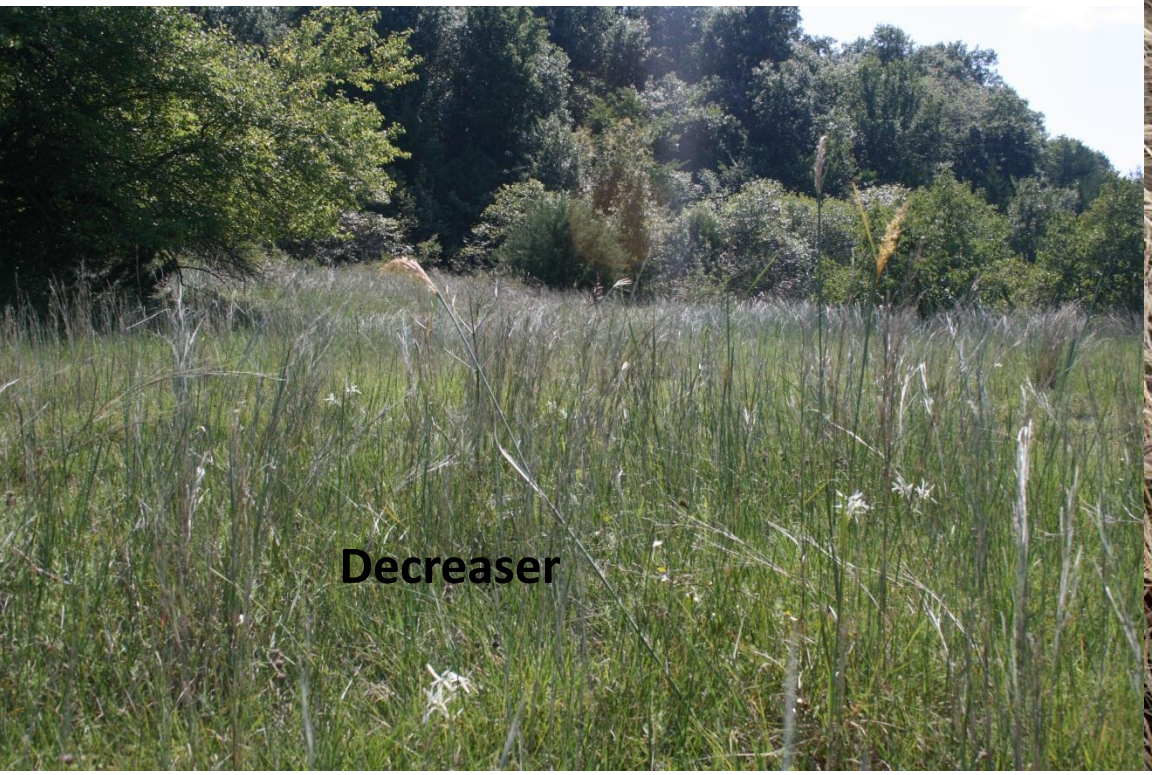
Leave Half

WHY?



Has there been a shift in Species?

Mix of Bluestems, Gramas, and Yellow Indiangrass



Purple Threeawns

Weed Control Measures

Controlled Burn-Fuel
Biological-More Feed Need
Mechanical-Soil Effects & Brush Growth
Chemical-Timing Critical

Prescribed Burning as Fuel Permits

Biological Control of Brush

Mechanical Control of Weeds & Brush

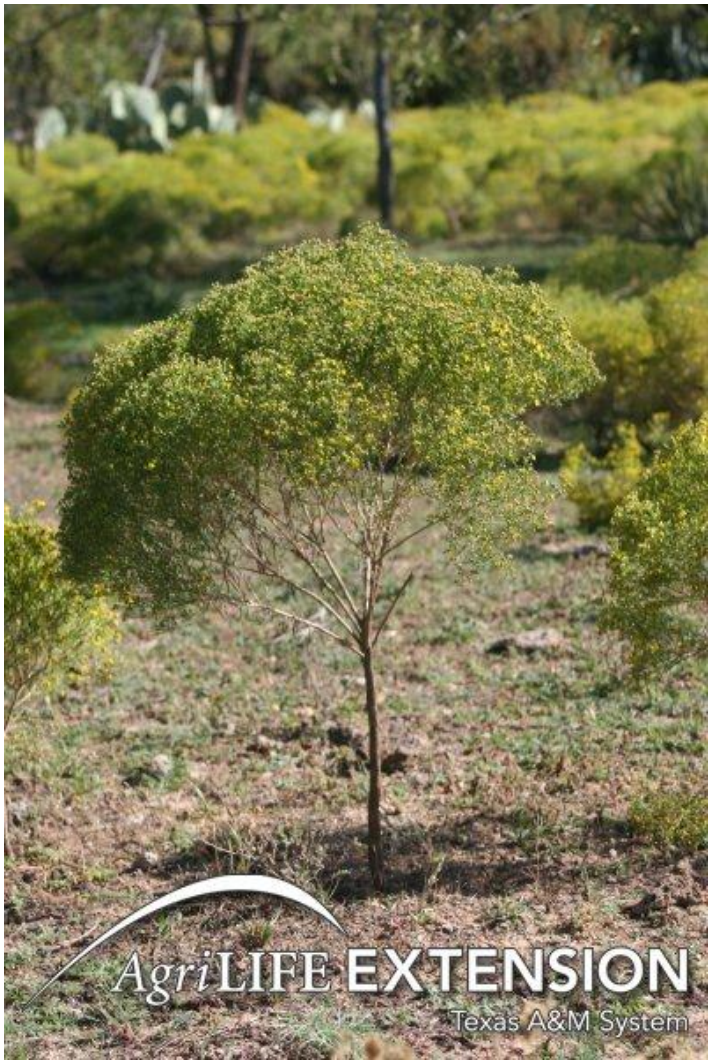
Chemical Control of Weeds and Brush


AgriLIFE EXTENSION
Texas A&M System

Annual Broomweed Seedlings

(Amphiachyris dracunculoides)

Mature Broomweed



Woolly Croton or also

Doveweed & Goatweed

(Croton capitatus)

(Euphorbia marginata & bicolor) → Snow on the Prairie

↓

Snow on the Mountain

Devil's Claw (Proboscidea louisianica)

Mare’s Tail (Conyza canadensis)

Camphorweed (Heterotheca sp.)


Western Ragweed
AgriLIFE EXTENSION
Texas A&M System

Antelopehorn Milkweed

Carolina Horse Nettle

Bull Nettle

Musk Thistle

Silverleaf Nightshade

Heath Aster

Baldwin’s Ironweed

Blue Wild Indigo

Baptisia genus

Wild Indigo

Blue Vervain

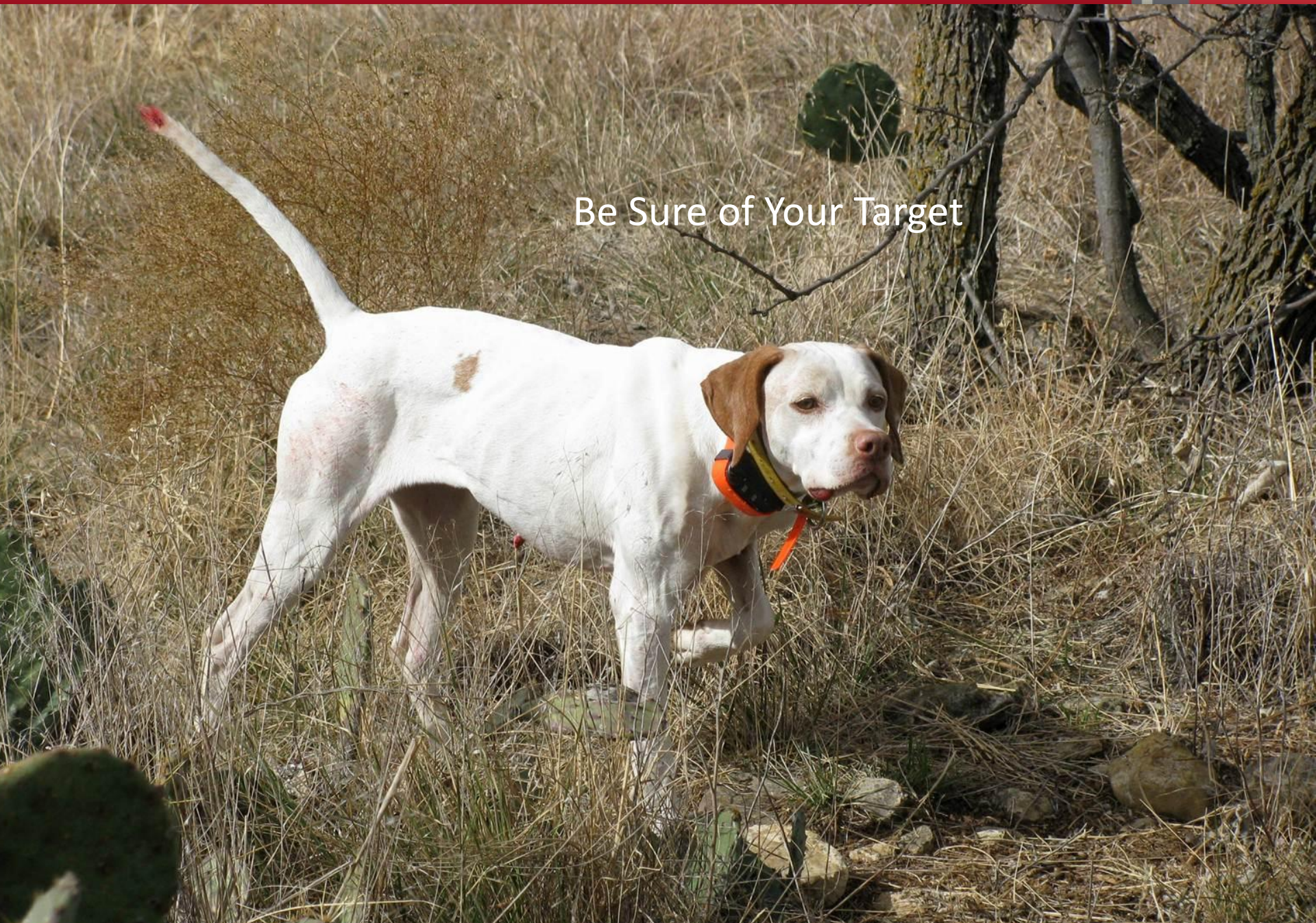
Brazilian Vervain

Cimarron Plus

Cimarron Max

Velpar L for Brush

Pastora Selective Grass and Broadleaf Herbicide


Be Sure of Your Target

Take Action!

Questions?