

Overcoming Stand Loss



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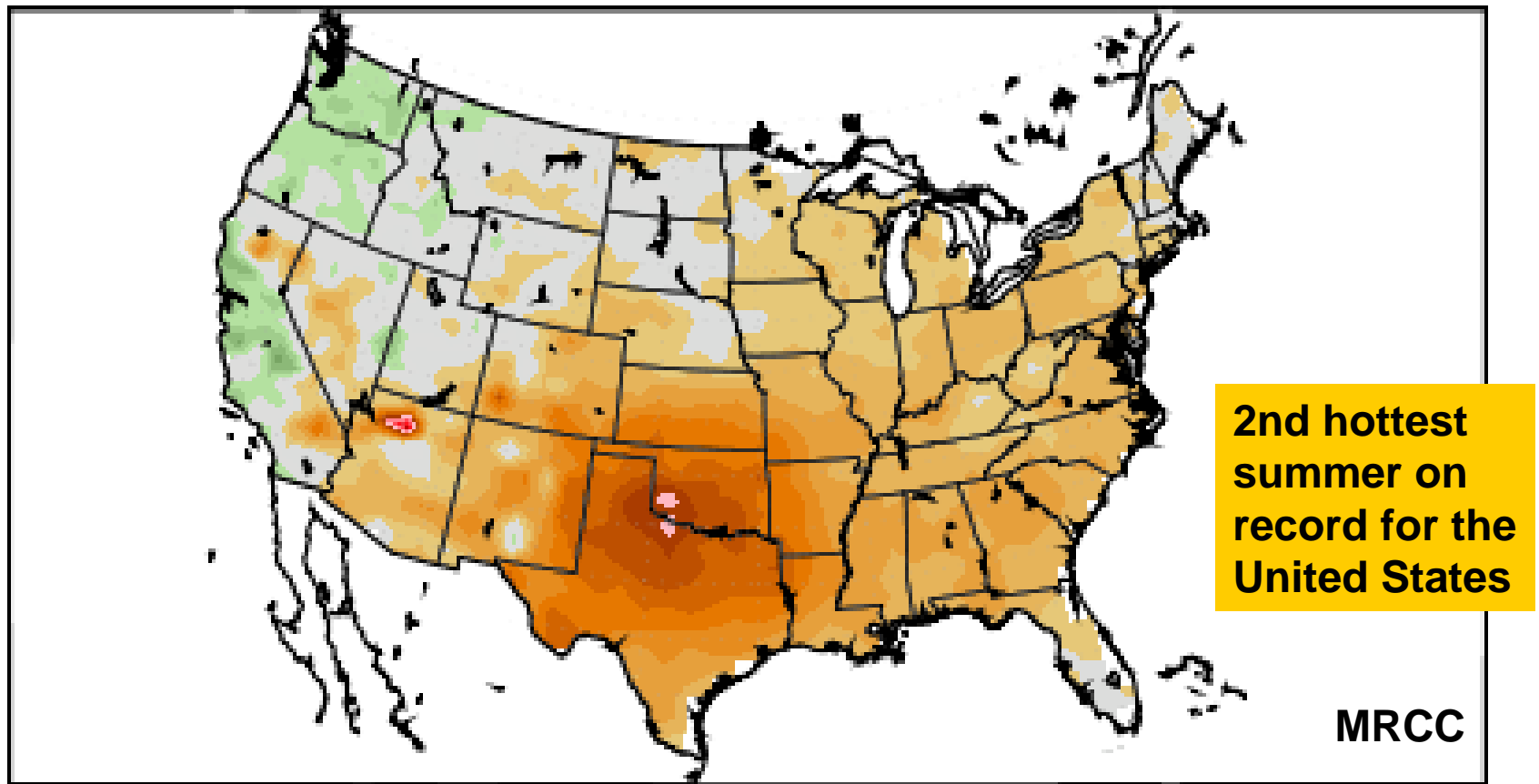
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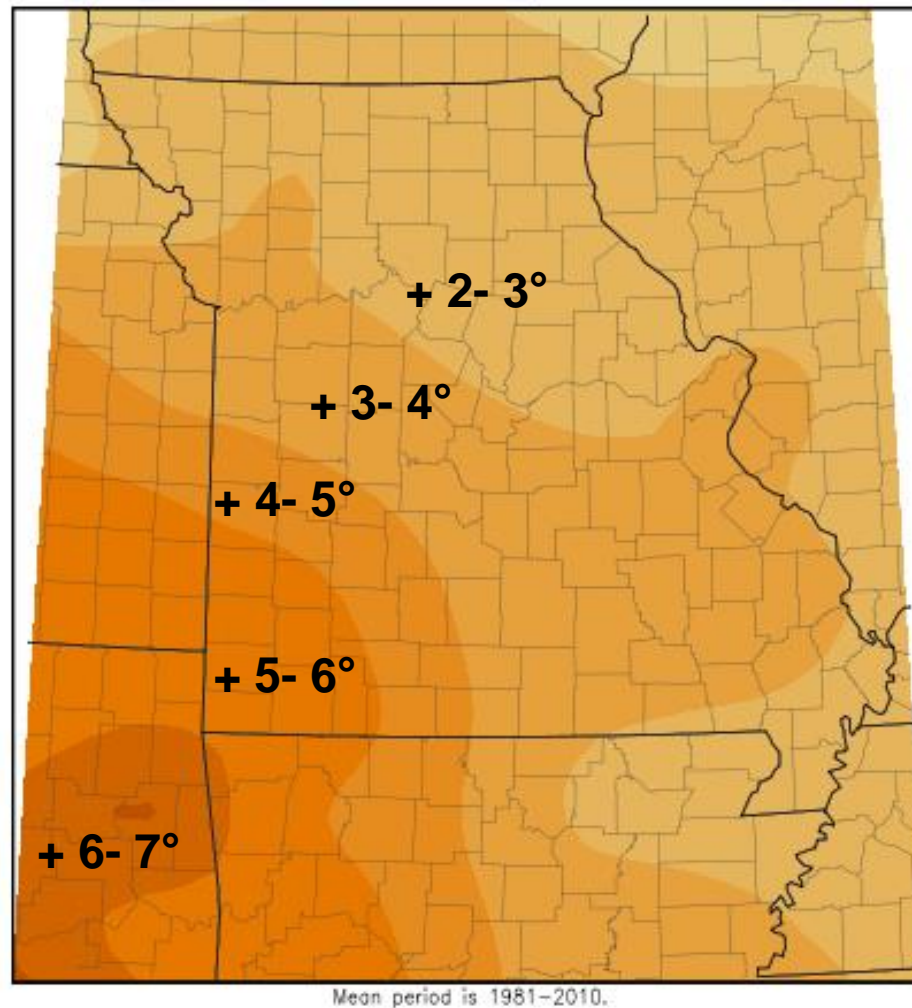
HOTTEST SUMMER IN 75 YEARS FOR THE U.S.

Departure from Normal Summer Temperature (°F) Jun-Jul-Aug 2011

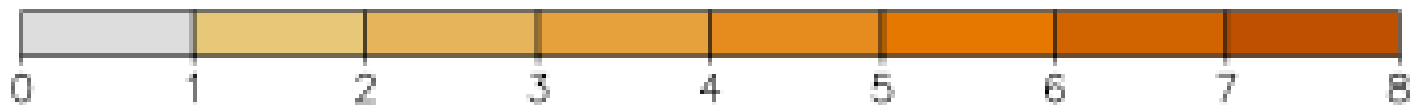


Departure from Normal Summer Temperature (°F) Jun-Jul-Aug 2011

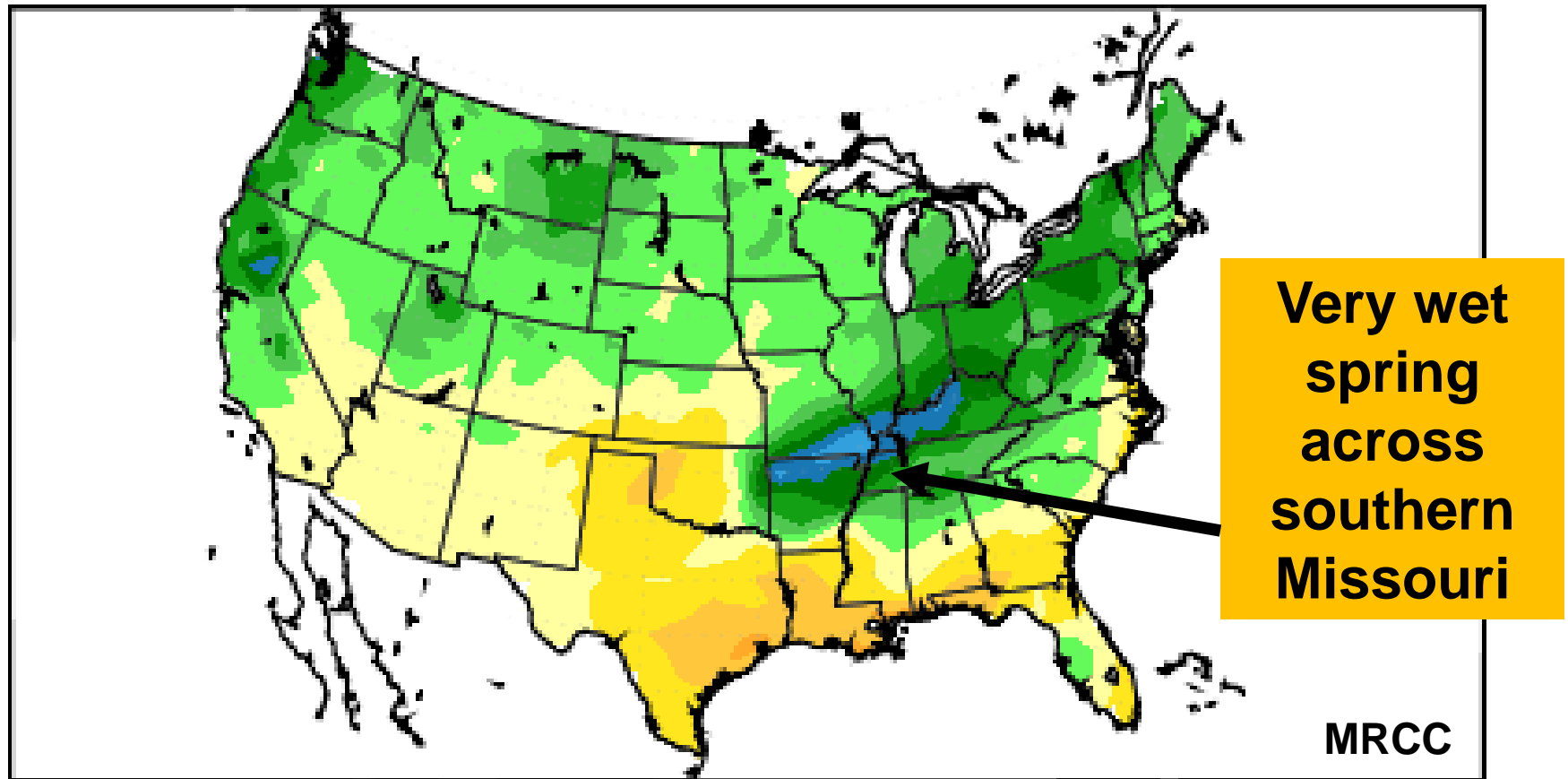
**5th hottest
summer on
record for
southwest
Missouri...**



**... and
hottest
summer
since 1980.**

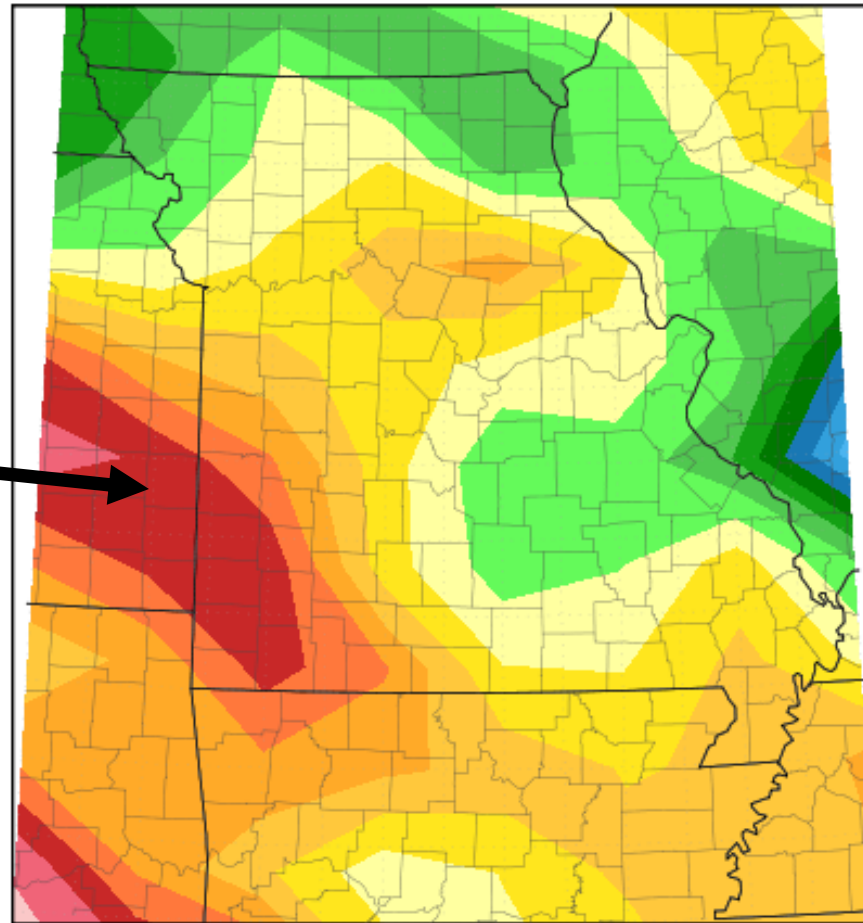
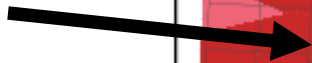


Departure from Normal Spring Precipitation (in.) Mar-Apr-May

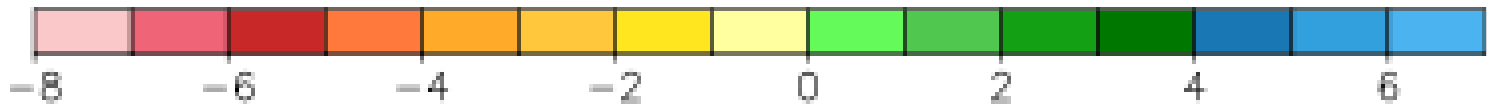


Departure from Normal Summer Rainfall (in.) Jun-Jul-Aug 2011

5-6 inches
below
normal



Mean period is 1981-2010.

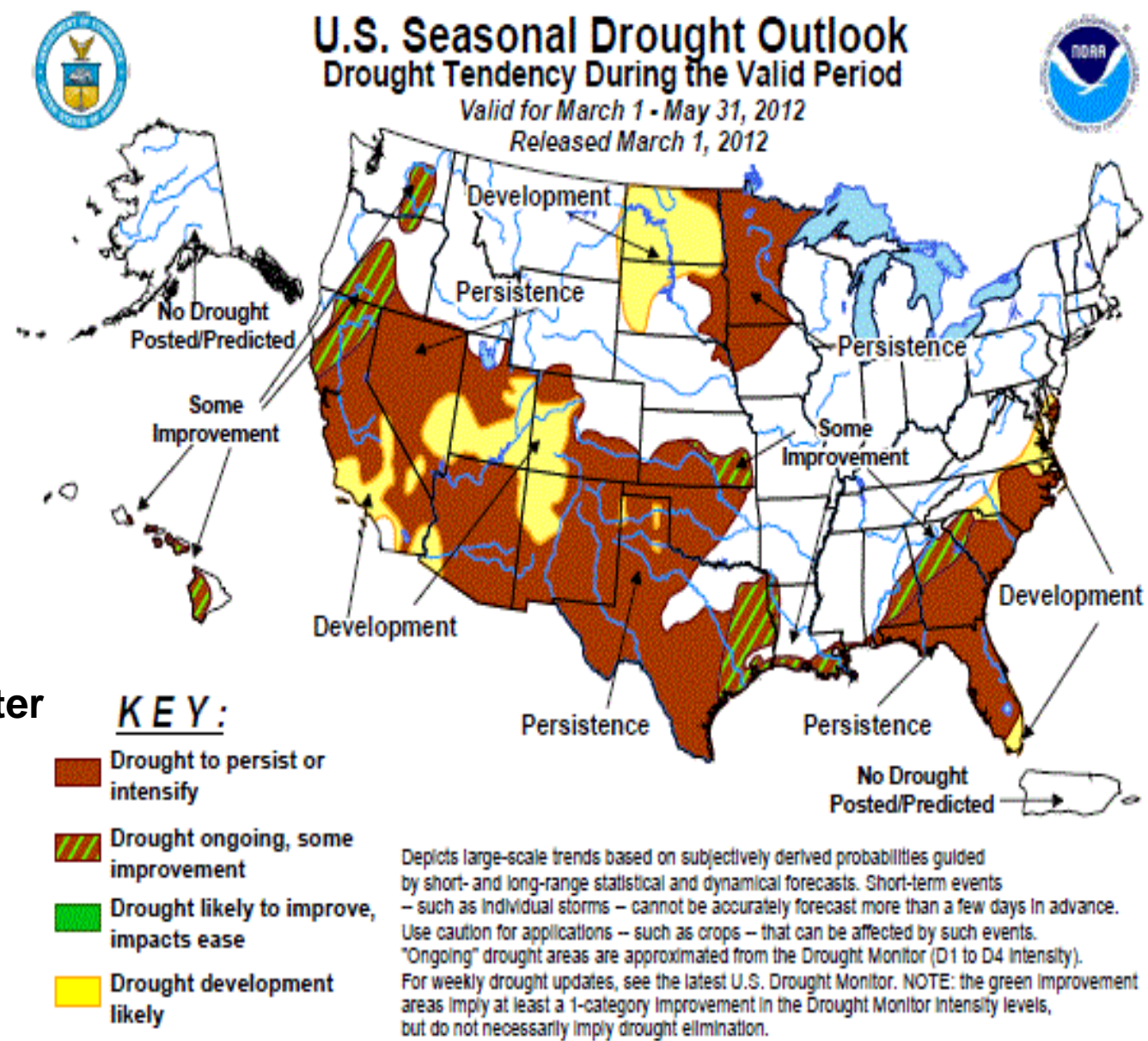


Springfield Precipitation Record - Inches

	Apr	May	Jun	Jul	Aug	Sept	Oct
2007	4.04	4.07	8.11	2.80	4.34	4.93	1.88
2008	4.74	5.20	13.41	2.66	0.60	8.15	2.38
2009	8.26	5.52	4.61	3.70	4.51	5.63	9.97
2010	3.99	7.14	2.33	6.37	1.53	11.65	1.01
2011	7.89	5.92	0.82	1.71	2.88	4.05	1.28
Average	5.78	5.57	5.86	3.45	2.77	6.88	3.39

Drought Outlook for Mar-Apr-May

Issued: March 1, 2012
Climate Prediction Center



Drought Effect on Forages



- **Short forage inventory**
 - **Weakened stands**
 - **Thin pastures**
 - **Weeds next year**
- ✓ Many “dead” pastures recover

So, How Bad Was It?

- **Drought effect is a function of:**
 - **Intensity and duration of the drought**
 - **Health and vigor of the stand prior to the drought**
- **Plants with healthy root systems and good carbohydrate reserves fare the best**
- **This can be traced to:**
 - **Soil type**
 - **Fertility levels**
 - **The intensity of grazing or haying pressure**

Orchardgrass Grazing Response

University of Kentucky Study

Dr. Ray Smith

Laura Schwer

Tom Keene

Methods

- **Two similar orchardgrass plants were chosen from greenhouse.**
- **Both were managed the same for 6 months:**
 - **Clipped ~once per month**
 - **Supplied with good fertility (N,P, K) and water**

Methods

- **Left plant simulates continuous grazing.**
 - Initially clipped to a 1 inch height
 - Then clipped weekly for the next 4 weeks at a 1 inch height
- **Right plant simulates rotational grazing.**
 - Initially clipped to a 3.5 inch height
 - Then clipped again at 3.5 inches 4 weeks later
- **Time lapse photography started at the beginning of the fifth week (day 29) for both plants.**

Day 1

(24 hours after clipping)

1" Continuous 3.5" Rotational



Day 2

1" Continuous 3.5" Rotational



Day 3

1" Continuous 3.5" Rotational



Day 4

1" Continuous 3.5" Rotational



Day 5

1" Continuous 3.5" Rotational




Day 6

1" Continuous 3.5" Rotational



Opportunities Brought on by a Drought

- 
- **Thicken up a stand with desirable forages**
 - **Include more legumes in pastures**
 - **Convert about 10-25% of acres to a warm-season grass**
 - **Develop a simple rotational grazing program**
 - **Purchase (or keep) a reserve supply of feed when prices are favorable**

Short-Term Drought Response

- **Plant an emergency crop in the fall**
 - **Turnips**
 - **Wheat, Triticale, Rye, Ryegrass**



Turnips, Radishes, Swedes, Kale



Short-Term Drought Response

- **Plant an emergency crop in the fall**
 - Turnips
 - Wheat, Triticale, Rye, Ryegrass
- **Plant an emergency crop in the spring**
 - Spring Oats
 - Cereal Rye



Spring Oats

- **Last-ditch attempt to get some spring forage out of a failed perennial field**
- **Spring oats are typically 10 days – 2 weeks later in maturity than winter wheat.**
- **Quality is comparable to wheat**
- **Tonnage is about 2/3 of wheat**
- **Seed 2.5-3 bu/ac for a solid stand**
 - **Cost - \$14-23/acre**
- **Drill February - early March**
- **Producers often have trouble getting adequate growth when no-tilled into an existing cool season sod**



**No-tilling a cereal grain crop
into a good stand of fescue is
challenging at best!**

- **Overseed clover or lespedeza**
- **Thicken up the stand in the spring or next fall (cool season grasses)**
- **Later in season (May) plant annual sudan or millet, then address a permanent stand in the fall**
- **Convert to a warm season grass**
- **Insure fertility is up to par**
- **Controlled grazing**

Clover

- **Of 37 pasture systems compared, 7 of the 10 most profitable systems involved legumes. (Alburn Univ. Study)**
- **Cheaper than topdressing Nitrogen**
- **For each pound of N fertilizer, 3-5 pounds of lime is needed to offset the acidity created.**

Goal → 25-30% legume component in pastures

Annual Lespedeza

- **Tolerates low pH & drought**
- **Most growth after late June**
- **Must reseed itself**
- **Mixes well with cool season grasses**
- **Less N fixation than clovers**



Spring Cool Season Grass Establishment

- **Spring is second-best time**
 - 5-6 months behind fall seedings
 - Dry season ahead
 - Weed competition is great
- **Drill February - early March**
 - Avoid tillage
- **Can sow with spring
oats**



Fall Cool Season Grass Establishment

- **Best time**
 - True beginning of the CSG growing season
 - Roots get well established before the dry summer
- **Drill late August – early September**



Fall Grass Options



- **KY 31 Fescue**
- **Friendly Endophyte Fescue**
- **Orchardgrass**
- **Annual Ryegrass**

Annual Ryegrass



- **A good fit for thin fescue**
- **Rapid fall growth**
- **Retains green tissue nearly all winter**
- **Remains vegetative through May**
- **Reproduces by seed**



Annual Ryegrass Cultivars



- **Diploid**
 - Most common
 - May be more winter-hardy than tetraploids
- **Tetraploid**
 - Wider leaves, more robust
- **Italian**
 - Requires chilling to seed
- **Westervold**
 - Does not require chilling to seed

Annual Ryegrass Cultivars



- **Marshall (Westervold Diploid)**
- **DH3 (Italian Tetraploid)**
- **Passerel (Westervold Diploid)**
- **Abundant (Tetraploid)**
- **Tetrastar (Tetraploid)**

Forage Establishment



Grass Establishment Techniques

**Method 1: overgraze →
fertilize without N →
seed early → flash graze
early grass growth**



**Method 2: retard or kill
pasture growth with
chemicals (Gramoxone
or glyphosate) → fertilize
without N → seed early**



Controlling Competition



**Grazing can be
useful or detrimental**



No-till – A Reliable Choice

- **Able to keep existing sod**
- **Conserves moisture**
- **Sod competes against weeds**
- **Greater success than broadcasting**
- **Less cost and erosion than conventional tillage**
- **Don't plant too deep**



Many Seeds Planted Too Deep



- **Most small seeded grasses and legumes should be planted at 1/8-1/4 inch below the soil surface**
- **Depth control on many no-till drills is poor**
- **Seeds planted too shallow have a better chance than those planted too deeply**

Rental Drills



Recommended Seeding Rates

Forage	Renovation (lbs PLS / Ac)		Typical Cost / Acre For Interseeding (\$)
	Interseeding into Grass Pastures	Solid Stand Rates No-till Drilled	
Fescue / Orchardgrass	6-12	15	6.50 – 8.00
Ann. Ryegrass	10-15	25-30	6.00 – 9.00
Cereal Rye	30-60	110-140	11.40-22.80
Wheat	30-60	100-130	7.20 – 14.40
Turnips	2	2-4	4.00-5.00

Alternative Establishment Methods





General Weed Control

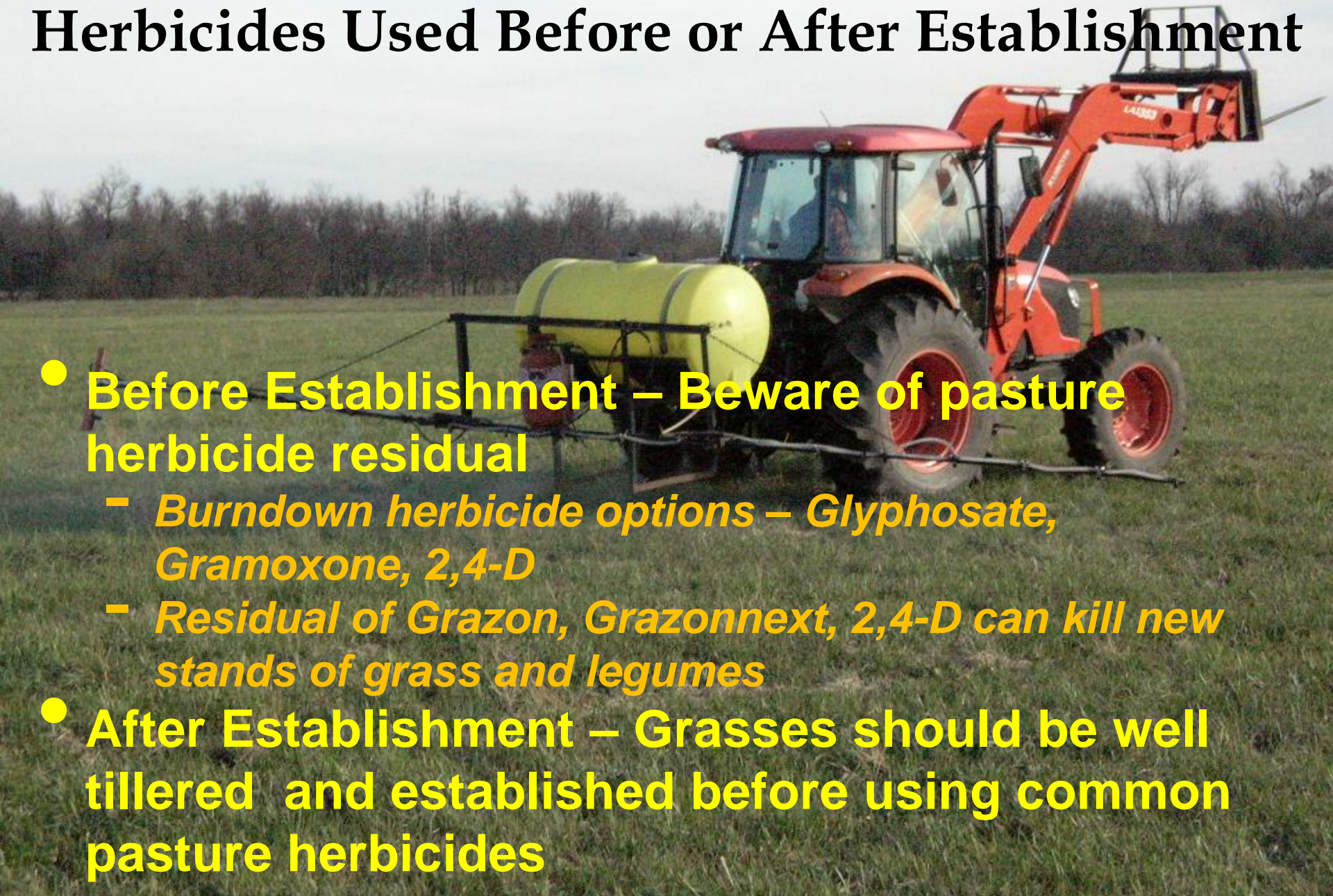
Spring/Summer

- **2,4-D**
 - *Ragweed, Thistles, Plaintain, Croton, Perilla Mint, Spiny Pigweed*
- **Grazon P+D/Hired Hand/Gunslinger**
 - *Ragweed, Thistles, Horsenettle, Knapweed, Poison Hemlock, Perilla Mint, Spiny Pigweed*
- **Remedy Ultra/Relegate/Clear Pasture**
 - *S. Lespedeza, Ironweed, Blackberries*
- **GrazonNext**
 - *Ragweed, Thistles, Horsenettle, Mullein, Dock, Chickory, Nightshade, Locust, Croton, Knapweed, Wild Carrot, Plaintain*

Caution

Herbicides Used Before or After Establishment

- **Before Establishment – Beware of pasture herbicide residual**
 - *Burndown herbicide options – Glyphosate, Gramoxone, 2,4-D*
 - *Residual of Grazon, Grazonnext, 2,4-D can kill new stands of grass and legumes*
- **After Establishment – Grasses should be well tillered and established before using common pasture herbicides**



Questions?

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