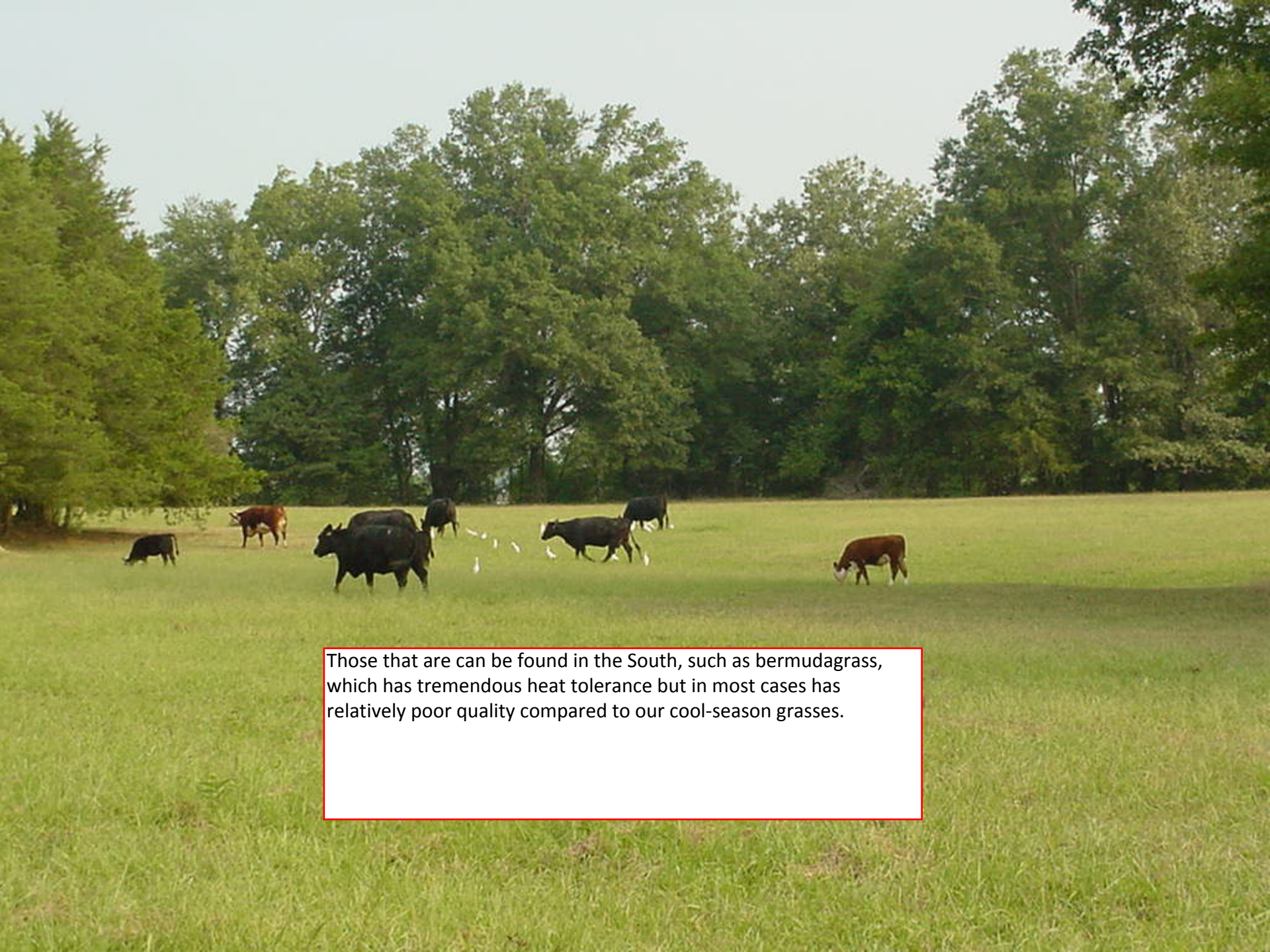
Drought or winter has damaged your pastures. Now What?

Most of you have probably noticed that the last few years have brought some challenges to pasture management, and you may find that drought or winter conditions have depleted your pastures. I was asked to talk about new grass varieties with better tolerance of stresses. But few grasses can be productive during the droughts we've had in the past couple of years.

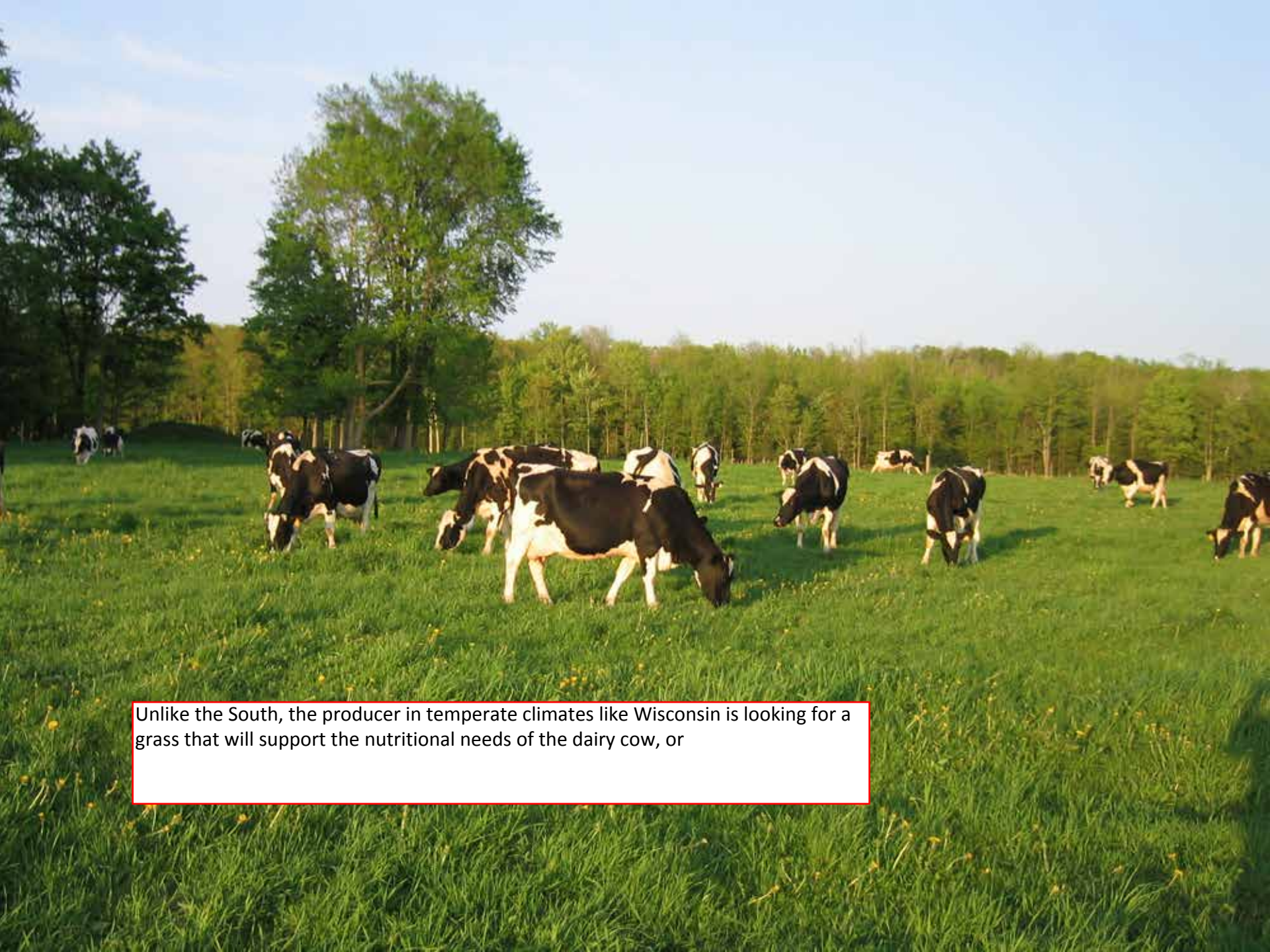
2013 World Dairy Expo Grazing Seminar

U.S. Dairy Forage Research Center



Those that are can be found in the South, such as bermudagrass, which has tremendous heat tolerance but in most cases has relatively poor quality compared to our cool-season grasses.

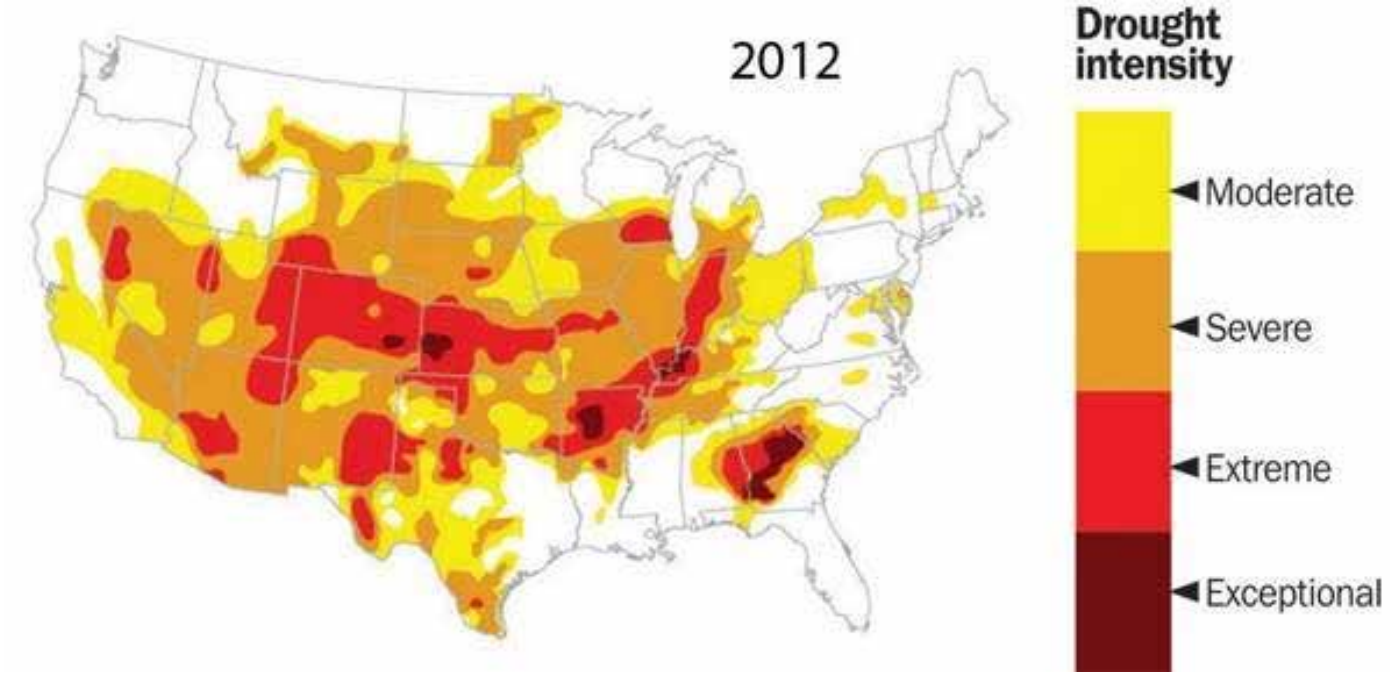
Another example is tall fescue, which is a cool-season grass but survives well because of the fungal endophyte, which while it imparts stress tolerance, essentially "dares" livestock to consume it because it can have some very negative impacts on health when grazed during the summer.



Unlike the South, the producer in temperate climates like Wisconsin is looking for a grass that will support the nutritional needs of the dairy cow, or


a stocker beef animal or,

...a growing lamb.



The drought of 2012 was one of the most severe in recent times.


Recent winters have seen fluctuating temperatures or severe cold without snow cover.

Defoliation reduces the plant's ability to survive stress.

But the reason grasses often do not survive these stresses is due to the additional stress placed on them by grazing. Defoliation reduces the plant's ability to survive stress:
--because PS is nearly halted until regrowth occurs
--Stored sugars used for growth are instead used up during regrowth
--fine root hairs needed for water and nutrient uptake senesce, and new tiller growth is slowed.

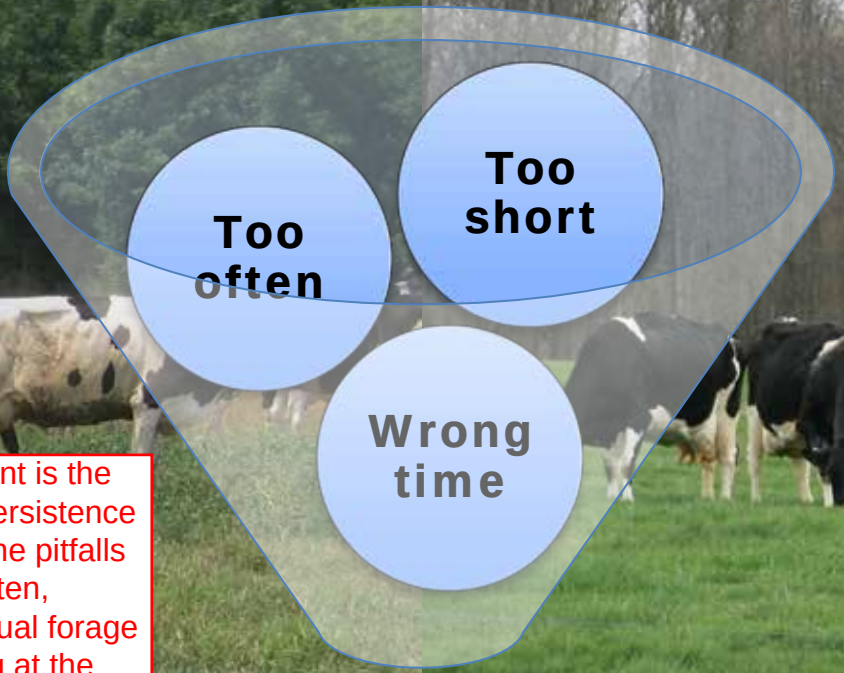
When grasses enter a drought or winter already under metabolic stress imposed by POOR grazing management, the results are often predictable:


Reduced persistence and decreased pasture productivity during subsequent growing seasons.

But before you run out to the co-op or call your seed dealer, you should ask yourself these four questions…your answers might provide you with some ideas for how to approach the issue:

- **Did I graze pastures appropriately?**
- **What was the environment like where grasses did not survive?**
- **What grasses have grown well on my farm in the past?**
- **What pasture improvement options should I consider?**

- **Did I graze pastures appropriately?**



Proper grazing management is the key to long term pasture persistence and production. Avoiding the pitfalls of returning to graze too often, leaving too short of a residual forage behind, or applying grazing at the wrong time nearly always results in poor persistence, particularly when plants are already stressed.

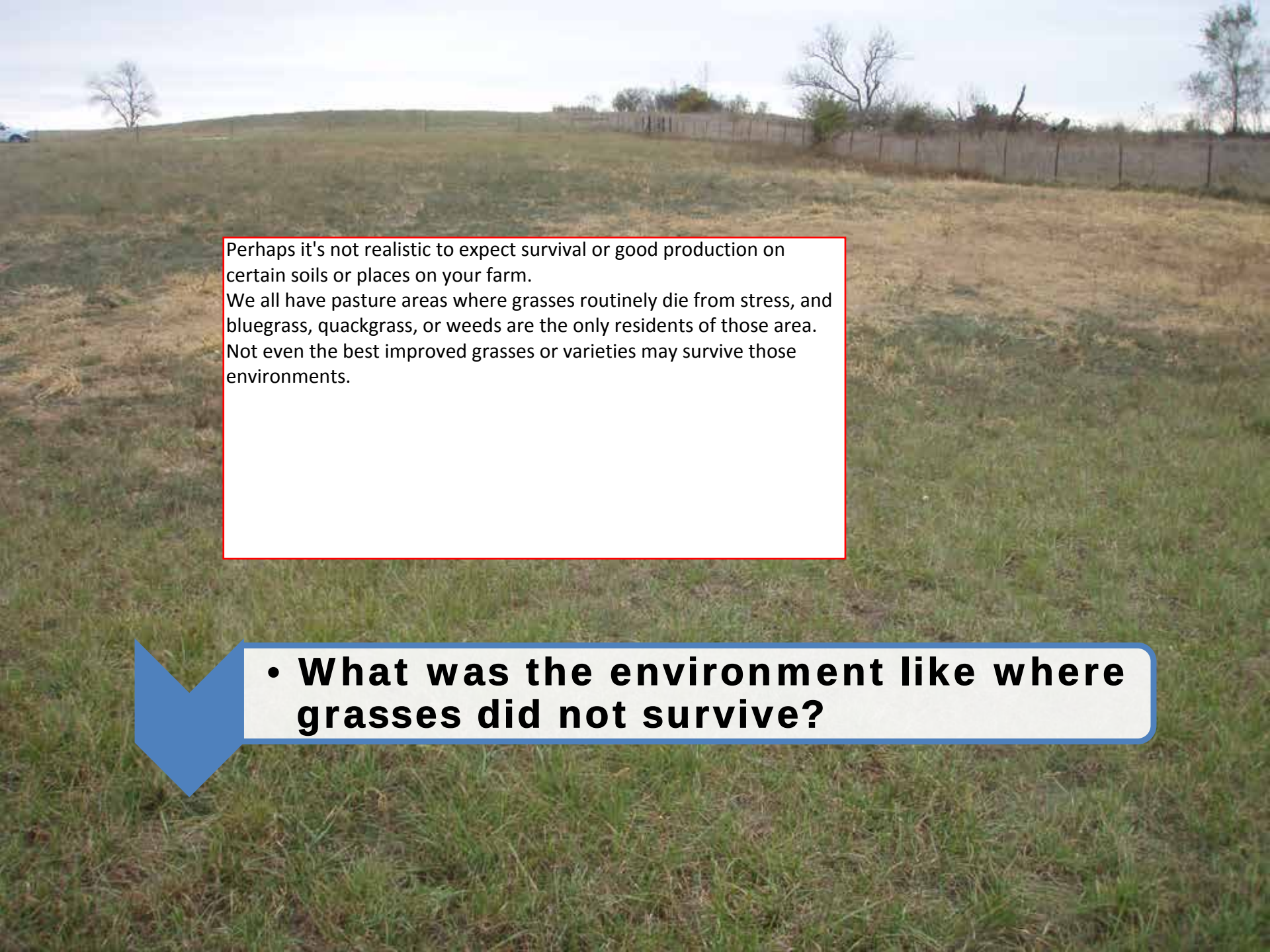
Poor persistence

- **Did I graze pastures appropriately?**

"Under drought conditions, when plants are rested and allowed to build up energy reserves, there will be compensatory growth by pasture plants when rainfall finally comes. Plants overgrazed during drought will grow slowly in comparison."

Dennis Cosgrove
Grazier's Notebook

We can expect a similar result from tough winter conditions the following spring.



Perhaps it's not realistic to expect survival or good production on certain soils or places on your farm.
We all have pasture areas where grasses routinely die from stress, and bluegrass, quackgrass, or weeds are the only residents of those area. Not even the best improved grasses or varieties may survive those environments.

- **What was the environment like where grasses did not survive?**

- **What grasses have grown well on my farm in the past?**

You also might wish to consider what has performed well on your farm in the past when considering improved varieties. The grasses currently growing on your farm are likely adapted to the soil type, which unlike the weather, won't change.
Remember that there is no such thing as a "Silver bullet", so consider the strengths and weaknesses of various pasture forages and determine how they might suit your farm and pasture management style.
Also, don't take our word about general performance in a variety trial; test it yourself on a small area before committing to a variety in a large scale.

- **What pasture improvement options should I consider?**

Besides reseeding, are there other agronomic practices or production options you should pursue to improve reliability of your pastures. These include……

"Assess conditions of pastures across your farm and prioritize areas that may need extra management attention…."

Rhonda Gildersleeve
2013 Pasture Mgmt. Tips: After the Drought

Correct soil fertility

Grasses and legumes tolerate stress much better when they have adequate mineral nutrition. Contact your local Extension office for more information on pasture fertility recommendations for your region and consider a regular soil testing program to identify areas of concern on your farm.

Over-seed legumes

Adding to the legume component in your pastures is a great way to increase pasture forage quality and smooth out the annual production curve.
And there is probably NO BETTER TIME to add legumes to a grass sod than when competition is reduced due to previous stress!!

Consider annual forages: summer-sown oats

Consider adding annual forage crops to your system--for example, summer sown oats, shown here feeding dairy heifers at Marshfield, are a great source of additional, high quality pasture forage, as is...

Consider annual forages: sorghum-sudangrass

Sorghum sudangrass and other summer annual forages. These types of temporary pastures add quality forage to your dairy rations and increase flexibility during the grazing season. Most important, adding acres of these forages allows you to increase the REST periods for your regular pasture acres during critical times such as drought, or in the fall, when grasses need to prepare for winter.

Increase pasture diversity: improved perennial grasses

“Complex mixtures are insurance against unpredictable changes in the environment, providing the tools that allow our pasture plant communities to adapt to whatever nature sends our way.”

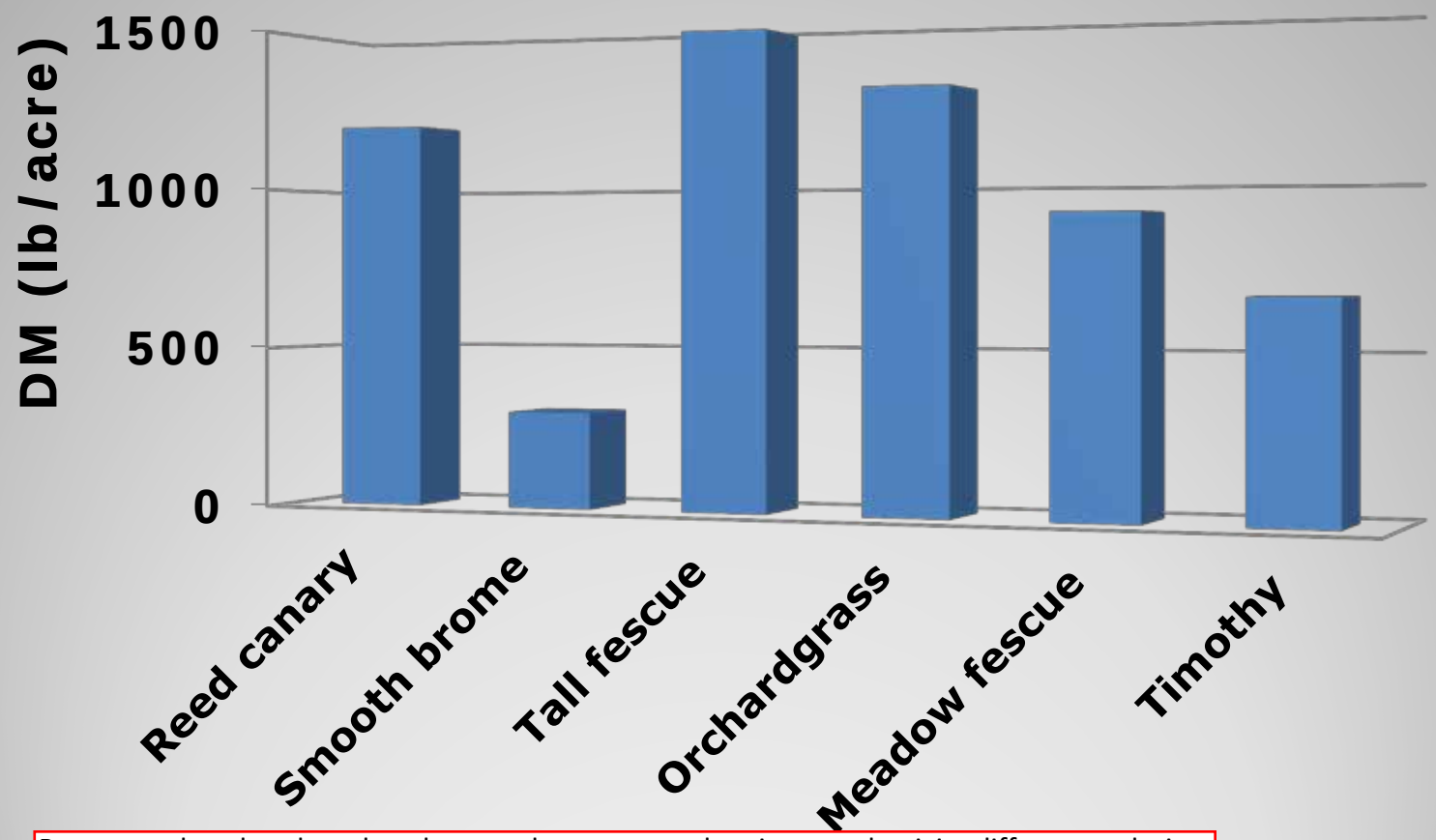
Laura Paine and Michael Casler
The Fine Art of Grass Species Selection

Drought tolerance (most to least):

1. **Reed canarygrass**
2. **Smooth bromegrass**
3. **Tall fescue**
4. **Orchardgrass, Meadow fescue**
5. **Timothy**

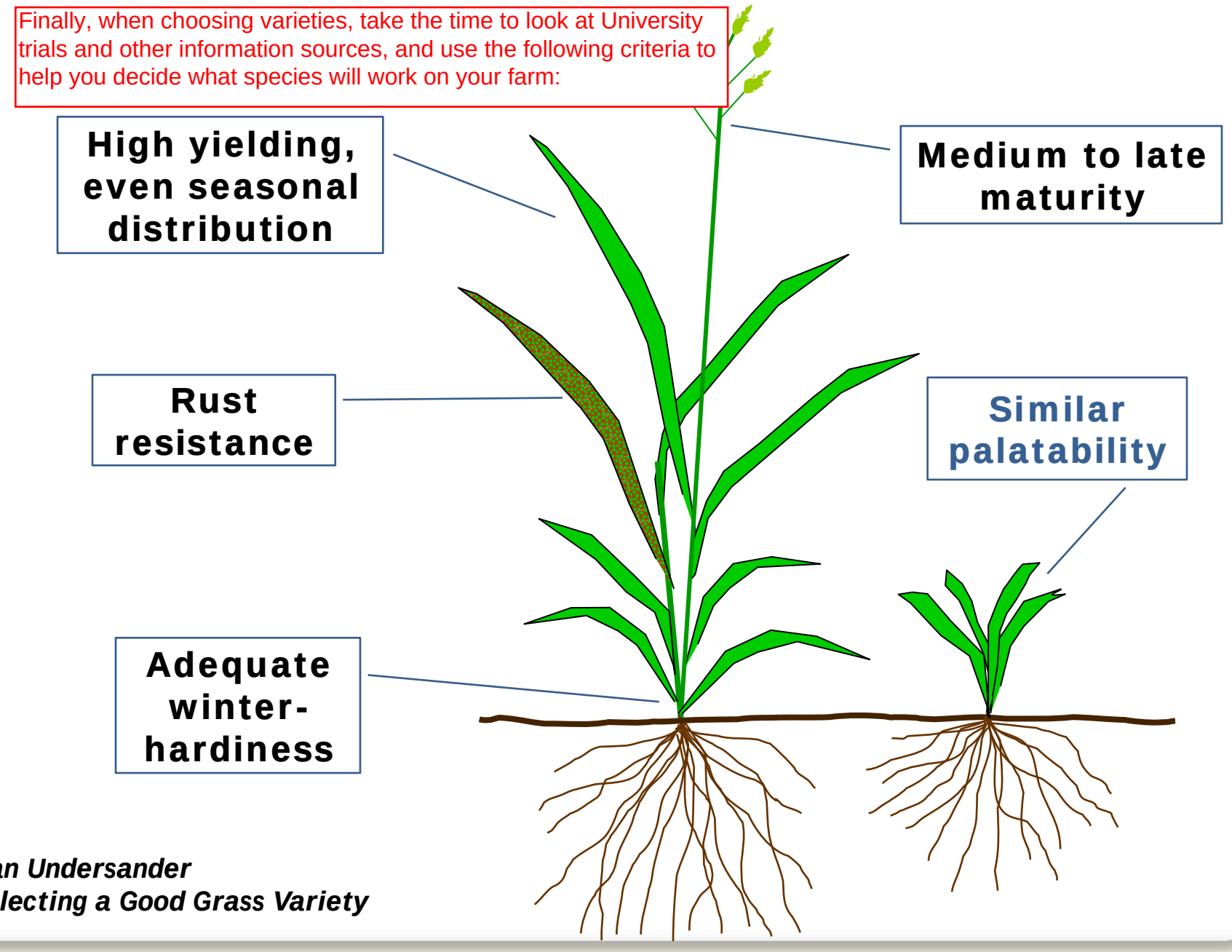
Yield in late July

(30 day rotation; mean of Arlington, Marshfield)



But remember that drought tolerance does not translate into productivity differences during drought…..some species are very tolerant because they reduce growth until conditions are more favorable.

Finally, when choosing varieties, take the time to look at University trials and other information sources, and use the following criteria to help you decide what species will work on your farm:



Dan Undersander
Selecting a Good Grass Variety

www.uwex.edu/ces/forage