



OKLAHOMA FORAGES NEWSLETTER



CONTENTS

TOPIC	PAGE
Restoring Drought-damaged pastures	1-2
Contributions wanted	2
New legume plantings	2
New fact sheet	3
Plans for new legume plantings this fall.	3
Annual Lespedeza	4

BOOKMARKS

[Oklahoma Forages](http://forage.okstate.edu/)
<http://forage.okstate.edu/>

OKLAHOMA FORAGE NEWSLETTER

<http://forage.okstate.edu/oklahoma-forage-newsletter.htm>

[Oklahoma Alfalfa](http://alfalfa.okstate.edu/)
<http://alfalfa.okstate.edu/>

We welcome contributions and suggestions. Comments about and contributions to the Oklahoma Forages Newsletter and/or our web sites are welcome and should be submitted to

john.caddel@okstate.edu or
daren.redfearn@okstate.edu

Everyone interested in forages is welcome to receive and contribute to the Oklahoma Forages Newsletter.

Restoring Drought-damaged Pastures

Normally when we think about a drought, we think about a lack of moisture that occurs during the summer months when warm-season forage plants are actively growing. During those times, drought effects tend to be more noticeable on coarse-textured sandy soils than on fine-textured clay soils. The most noticeable effect on forage plants during summer drought conditions are reduced forage yields due to low soil moisture. In some cases, root growth can also be restricted which can limit the ability of the plant to extract deeper soil moisture. An important thing to remember is that drought rarely kills well-managed perennial pasture plants.

If there is any damage, stands older than 5 to 8 years may be slower to recover than stands less than 5 years old. Stands on sandy sites may be slower to recover than stands on heavier soils, even at the same age. Stands with lower fertility and overgrazing may be more susceptible to damage than properly managed stands.

With few exceptions, most of the warm-season forages on which we depend had slow growth or no growth during the recent *winter* drought. Drought that occurs when plants are dormant rarely has any long term negative effect on production.

Drought-stressed pastures often look worse than they really are. This can be especially true for pastures that were well managed prior to drought. In many cases pastures can be revived with rain, rest, and fertilization.

What can we expect from our pastures this spring and summer?

Past grazing and management practices will determine the extent of damage that has occurred from the drought this winter. Most pastures were likely used heavily late last summer and into the fall. The dry period extend into the fall months and continued through winter into early spring. Some were probably harvested for hay later than normal or grazed later than normal with little or no fall regrowth. An additional complication could be that some were probably not fertilized because of the drought.

Continued on next page.

Restoring Drought-damaged Pastures, continued.

How long will it take to recover?

It is important to remember that forage response management is dependent mostly on moisture, so proper management is the best long-term approach to recovery. Moisture alone does not cure the long-term effects on plants from drought. Even though it can be tempting to begin grazing as soon as pastures begin to grow following a drought, grazing drought-weakened pastures too soon can further weaken the plants which may permanently damage the stand.

With rainfall, the spring growth from these stands will be vigorous and thin areas will thicken faster. One general observation is that the effects of drought tend to be more severe when combined with other disturbances that remove forage growth, such as fire and grazing.

Overgrazing coupled with severe removal of top growth develops plants with shallow root systems and there is a loss of more productive plant species to less productive, grazing-resistant plants.

Forage production dramatically decreases during a drought, and the shallow rooted plants present are affected sooner and to a greater degree than the more deeply rooted ones. A highly vigorous deep-rooted plant will be less dependent on frequent precipitation than a shallow-rooted plant.

What's next?

Don't graze too early. Give plants an opportunity to replenish their energy reserves and establish new root growth. If a pasture was used heavily late in the growing season, consider using it later in the summer this year. Most importantly, plan on proper fertilization and possibly some weed control to control competition and allow preferred plants a chance to develop.

Daren D. Redfearn
Forage & Pasture Management Specialist

CONTRIBUTIONS WANTED

Do you have a comment about some aspect of forage production that you would like to share? Send your comments or short discussion about your production system or a particular forage to the Oklahoma Forage Newsletter.

Do you have a question about some aspect of forage production? Send your questions to the Oklahoma Forage Newsletter.

Have you read something that helped your forage production and want to share it with the readers of Oklahoma Forages Newsletter?

Comments, questions, or articles you have seen and want to share should be sent to Daren Redfearn daren.redfearn@okstate.edu To remain anonymous, just let us know. If you have a question about forage production, be sure to tell us where you want to grow it.

NEW LEGUME PLANTINGS

If you planted legumes in pastures last fall, including natural reseeding clovers, don't be in a hurry to graze them too closely or to give up on the planting. Legume seedlings in pastures are still small at this time of year, especially with the lack of water this winter. Some seeds did not germinate but may still have a chance.

John Caddel
Forage Agronomist

NEW FACT SHEET

“Forage Legumes and Nitrogen Production”, F-2590

Legumes have long been promoted as species to fix nitrogen (N) for themselves and for other crops. The relatively low cost and ease of N fertilizer use have minimized interest among crop and pasture managers. Increasing costs of N fertilizer has recently increased interest in planting legumes.

The purpose of this fact sheet is to describe what should be expected from using legumes for N fixation. Realistic benefits are outlined and unfounded expectations from legumes have been pointed out.

Topics covered include:

- Why grow legumes?
- How easy are legumes to grow?
- How much nitrogen can legumes fix?
- The main legume systems in Oklahoma - - harvested legumes, pastures, and cover crops.
- Where is fixed nitrogen?
- Why do soils not accumulate nitrogen while legumes are growing.
- Can legumes be used to decrease fertilizer budgets?
- The importance of inoculation - -
 - important considerations in handling inoculants and
 - will all inoculants work equally?
- How does nitrogen go from air to grass?

This fact sheet can be downloaded from the web at
<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-3101/F-2590web.pdf>

Other OSU Extension Fact Sheets about forages and crops can be found at
<http://pods.dasnr.okstate.edu/docushare/dsweb/View/Collection-278>

PLANS FOR NEW LEGUME PLANTINGS THIS FALL

Certain things need to be considered this spring in advance of establishing forage legumes next fall. Late summer is too late to start. The first thing is to apply fertilizer and lime according to soil test. It takes a while for lime and phosphorus to be ready for plants to use.

Start planning early to determine what kind of legume you need for your operation and identify which legumes are adapted to your soils.

If you are planning to establish an alfalfa stand start early in identifying low places in fields that need to be fill in.

Remember, legumes will not help with your nitrogen needs if you do not grow them in a good environment!!

John Caddel
Forage Agronomist

Forage Highlight

With each edition of the Oklahoma Forages Newsletter, we hope to highlight one of the many important forage species for our state.

Annual Lespedeza

Common lespedeza (*Kummerowia striata*)

Korean lespedeza (*Kummerowia stipulacea*)

Annual lespedezas are most commonly grown in the southeastern part of Oklahoma as part of grass-legume pastures. These legumes are most productive during late summer when production of many other forages are is relatively low and forage quality tends to less than adequate. This allows lespedeza to fill an important niche in the overall forage program.

Annual lespedeza species, commonly called 'striate' and 'Korean', are warm-season legumes used for pasture and hay. The genus of these species was formally *Lespedeza*. Both species are introductions from eastern Asia. Striate lespedeza (*Kummerowia striata* [Thunb.] Schindler) is also known as common lespedeza or Japan clover. Korean lespedeza became the common name for *K. stipulacea* [Maxim.] Makino because of its country of origin.

Both annual lespedeza species are fine stemmed, leafy, herbaceous legumes with shallow taproot systems. When not cut during the season, plants grow to a height of 2 to 3 feet. Some lespedeza flowers have no petals while others are pink to purple. Pods contain a single seed that is blue-black and may or may not be mottled.

Establishment: Annual lespedezas are among the easiest of the pasture legumes to establish. They can be sown from midwinter to early spring. Broadcasting without covering in late winter, and allowing frost heaving to bury the seed, normally provides good stands in grass pastures. Korean seed that has not been hulled should be seeded at 20-30 kg/ha, whereas the seeding rate for striate should be somewhat higher. Seed should be inoculated with *Bradyrhizobium* spp. (cowpea miscellany group) the first time it is planted in a new area.

If pastures are managed properly, annual lespedeza should reseed itself. In Oklahoma, plants should not be grazed heavily or cut from mid September to mid November for adequate seed production. Reseeding or establishment in cool-season grass pastures is improved by grazing or cutting the grass in early spring to reduce shading. High rates of N fertilizer on grass sods will reduce the potential for successful establishment.

Soon after maturity, annual lespedeza seed may have poor germination. The germination percentage of a seed lot increases with time, a characteristic important for stand persistence in pastures that reseed naturally. Seed with little or no dormancy may germinate during a warm period in fall or winter and be killed by frost. In early spring, germinating seed may be killed by late frosts. Because much seed remains dormant, there is usually sufficient seed left to make a solid stand after the potential for spring frost is past.

Soil Fertility and pH: Annual lespedezas grow relatively well on eroded, acidic soils low in phosphorus (P) that will not support many other forage legumes. Their ability to grow on low fertility soils makes them valuable legumes for low-input pasture systems. However, annual lespedezas do respond to lime and fertilization and grow best on productive, well-drained soils. Korean lespedeza is less tolerant of acid soil and more tolerant of alkaline soil than is striate lespedeza.

For more about annual lespedeza see

<http://forage.okstate.edu/text/annlespedeza.htm>

The **OKLAHOMA FORAGE NEWSLETTER** is published in electronic format on an as needed basis throughout the year. To receive an a notice when a new version becomes available, send an email with "subscribe" as the subject line to john.caddel@okstate.edu

[OSU Equal Opportunity Statement and OSU Disclaimer Policy Regarding Endorsements](#)