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“So, Maybe You Aren’t Going To Plant Cotton”

Mark Gregory

Grain sorghum or a sorghum-sudan for hay are alternatives. Here are some tips.

For dryland grain sorghum:

Don’t over plant. It is very tempting to plant 6 pounds per acre instead of 3 on dryland to make sure you get a good stand, and it really doesn’t cost much more. But it could cause a real disaster if late summer turns off dry. Planting seed too thick may produce many plants which can deplete the moisture we get in May and June, leaving little soil moisture for grain production in July and August. Grain sorghum is an amazing plant in adapting to its conditions. Lower plant populations can compensate and make large heads that will yield well with good growing conditions.

Drilled vs. 30-40 inch rows. Grain sorghum can be produced by planting with a grain drill, but drilled production may complicate management practices. Older grain drills were not designed to meter out the small amount of seed needed for grain production, so seeding rates may be higher. Broadleaf weed control may be more expensive, especially with the newer products, because the herbicide will usually need to be broadcast. Grain sorghum, planted in 30-40 inch rows can use banded herbicides which lower costs, and a row crop cultivator can be used for weed control between rows.

For sorghum-type hay crops:

After 1996 (the nitrate year), we suggest taking a topsoil and subsoil sample several weeks prior to applying fertilizer. If enough nitrogen is present in the soil sample, no more will be required and costs will be kept down. Last year, we kept waiting for sorghum hay crops to grow out of the high nitrate conditions. But because some fields had high nitrogen present in the soil, they never did grow out of the high forage nitrate condition.

Seeding rates of around 20 pounds per acre are usually adequate for dryland production of most sorghum-type hay crops.

These are just a few of several production practices to help make sorghum production successful.

This newsletter was developed by your team of Area Specialists in the Southwest District. Our goal is the dissemination of research-based information.



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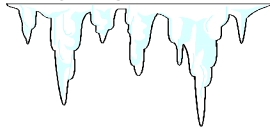
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Freeze Injury on Wheat



Lonnie D. Sellers

It has been a mild winter and our early-planted wheat is already jointed which increases the chance for spring freeze injury. The following table will help answer some of the questions you may get this spring.

Guide to Spring Freeze Injury in Wheat

Growth Stage	Approximate injurious temperature (two hours)	Primary Symptoms	Yield Effect
Tillering	12°F	Leaf chlorosis; burning of leaf tips; silage odor; blue cast to fields	Slight to Moderate
Jointing	24°F	Death of growing point; leaf yellowing or burning; lesions, splitting, or bending of lower stem; odor	Moderate to Severe
Boot	28°F	Floret sterility; spike trapped in boot; damage to lower stem; leaf discoloration; odor	Moderate to Severe
Heading	30°F	Floret sterility; white awns or white spikes; damage to lower stem; leaf discoloration	Severe
Flowering	30°F	Floret sterility; white awns or white spikes; damage to lower stem; leaf discoloration	Severe
Milk	28°F	White awns or white spikes; damage to lower stems; leaf discoloration; shrunken or discolored kernels	Moderate to severe
Dough	28°F	Shriveled, discolored kernels; poor germination	Slight to Moderate

Adapted from: "Spring Freeze Injury to Kansas Wheat", KSU Ext. publication C-646, by Gary M. Paulsen, KSU wheat physiologist; James P. Shroyer, KSU Extension wheat specialist; and Merrel E. Mikesell, formerly Extension crops and soils specialist, northwest area.

- Several factors can influence the degree of freeze damage . Wet soils and thick stands tend to reduce the amount of damage. High winds can increase injury by allowing the cold temperatures to penetrate the canopy more fully.
- In addition: "Those who grow winter wheat in areas where frosts can occur (late) are familiar with empty heads caused, not by the freezing of the heads but, rather, by the freezing of the elongating internodes during stem elongation. This kind of frost damage can be recognized by peeling back the leaf sheaths to expose the internodes one by one, starting at the head and working toward the base. A damaged internode is evident as a thin, often collapsed, and sometimes brownish section of the stem, usually only 1-3 inches long. This section may occur at the base, at the top, or in the middle of the internode."

Favorable Growing Conditions Lessen Chance of Greenbug Outbreak

Miles Karner

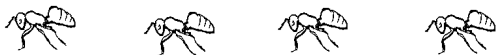
Wheat has adequate moisture and most fields are looking good. Expect rapid growth in fields recently fertilized if warmer temperatures prevail. Greenbug numbers have increased slightly during February, but remain well below damaging levels. Hopefully, the population trend in these eight randomly selected fields accurately depict the situation across the District.

Greenbug population trends under different grazing schemes in Jackson, Harmon, and Greer Counties, Oklahoma, Winter 1997.

County	Field Use	Plant Height (inches)				Greenbugs/row ft			
		1/24	2/4	2/18	2/28	1/24	2/4	2/18	2/28
<u>Jackson</u>	grazed	6	5	5	6	2	4	12	10
	non-grazed	6	6	6	7	16	25	15	5
	non-grazed	4	4	6	7	12	27	48	36
	non-grazed	8	8	8	9	12	24	23	50
<u>Harmon</u>	grazed	5	4	3	4	5	6	6	6
	non-grazed	5	5	6	6	10	15	29	36
<u>Greer</u>	non-grazed	4	4	4	4	4	9	8	5
	non-grazed	6	6	6	7	5	6	10	23

Beneficial counts taken on 3/4/97 represent mainly predators, e.g., lady beetles and spiders. No mummies were present, but parasitic wasps were noticed in all fields. South of the border in Texas, Emory Boring, TAMU Extension Entomologist, reports a decline in adult wasps, but an increase in parasitized greenbugs in fields located in Wichita County. Southern counties should escape greenbug damage this Spring. The only exception to this may be cotton stalk wheat which could still be damaged. Northern counties along Interstate I-40 stand a greater chance of a late-Spring buildup, but should also escape if current conditions hold. Regardless of location, continue to monitor fields weekly to detect possible buildup of greenbugs.

!!New Slide Set!!



**WHAT? - Fire Ant Slide Set
(with script)**

WHERE? - S.W. District Office

Entomology In-Service Training

Mark your calendars on April 22 & 23 for an Entomology In-Service Training in Elk City. The Southwest and Northwest districts will both be participating. A block of 25 rooms has been held at the Holiday Inn. For reservations, call 405-225-6637.

Bull Management

Robert Stewart

The importance of proper bull management prior to and including the breeding season should not be overlooked. Many times the herd bulls are taken for granted. The bull contributes half of the genetic potential of the entire calf crop while each cow weans only one calf per year. A sub-fertile bull frequently will cause low calf crop percentages, and possibly lowered weaning weights. For each estrous cycle that the female does not conceive, there can be a 35-45 pound loss in weaning weights. Therefore, proper nutrition and management of the bull are essential to the cow-calf producer.

At this time of year, the bull battery already should be determined. The bulls should be on the ranch at least 60 days (yearlings at least 90 days) prior to the start of the breeding season. This will give them time to adjust to the feed and climate that they will be exposed to during the breeding season. Exercise during this time is crucial to the bull, as it will improve his stamina and reduce injuries from fighting and riding during the breeding season. Physically fit bulls also retain a high degree of libido.

A breeding soundness exam (BSE) is essential to insure that the herd bulls are not infertile. This should include a physical examination of the bull (including eyes, body condition, and feet and legs), examination of the reproductive organs, measurement of scrotal size, and semen evaluation. The producer should use the BSE to identify and eliminate unsound breeders, as the semen evaluation indicates only the current status of sperm production. If the BSE is unsatisfactory, then it should be repeated in 30 to 60 days to confirm the original BSE. This is a good time to examine the bull for injuries and diseases that may interfere with breeding. Bulls should be free of venereal disease, including trichomoniasis and vibriosis. To ensure this, purchase only young, virgin bulls. All bulls should be tested negative for brucellosis and tuberculosis. A good health program for bulls should be established with the veterinarian, which should include vaccines for leptospirosis, anaplasmosis, and vibriosis.

Nutrition during the prebreeding period is also critical. Yearling bulls should be well-grown, but not fat, as fat bulls may tire easily and thereby decrease conception rate. They should be gaining weight and maintaining moderate condition during this time, with an optimal condition score of 6. During the breeding season, a young bull will use energy stored as fat, and probably lose over 100 pounds, which should come from fat

and not muscle as the bull is still growing. Yearlings should not be kept longer than 60 days with the cow herd, as the decrease in their condition could affect their future growth. Two-year old bulls should be targeted for a condition score of 6 and for older bulls a condition score of 5 is acceptable. Vitamin A is essential for optimum semen production. While green forages have a good supply of Vitamin A, it is still a good idea to supplement the bulls with Vitamin A either through the feed or with an injection. They also should have free choice access to supplemental phosphorus year round.

Gain-tested bulls need to return gradually to a moderate fleshiness and hearty physical condition. Abrupt nutritional changes can lead to rapid weight and condition loss and reduced semen production which could impact the performance of the bull. For these types of bulls, start them on a ration similar to one they are accustomed to but at 60 to 70% of their previous intake. Reduce the amount of grain by 10% each week until the desired level is achieved. Make substitutions in form of light, bulky feeds, such as oats or alfalfa. This needs to be done prior to turnout.

The optimum bull to female ratio will vary from ranch to ranch. Some factors that influence this ratio include: terrain, pasture size, water availability, bull condition, bull libido and fertility, social behavior, and injury. On smaller ranches that try to get by with just one bull, an entire calf crop can be lost if that bull suffers an injury or disease. A rule-of-thumb is to place about the same number of females with a young bull as is his age in months. A two-year old bull should be placed with about 25 females. Social behavior can affect the calf crop if the dominant bull is sub-fertile or sterile. To avoid this, use bulls of the same size and age. Yearlings should not be expected to compete with older bulls in the same pastures. Experienced bulls that passed a BSE have shown similar conception rates at bull to female ratios of 1:25 and 1:50 in large ranches.

Rotation of bulls can ease the pressure on a bull or group of bulls. Use the superior bulls first, then use the poorer quality bulls for clean-up breeding. A producer should observe his bulls during the breeding season to be certain they are getting the job done. If a bull becomes lame or can't breed, he should be removed from the pasture and replaced by another bull. A bull management plan should be developed by each producer that will work for his operation, and one that is easily adjusted when problems arise.

