

Controlling Eastern Red Cedar

History:

Eastern Red Cedar commonly referred to as cedar or red cedar is a major brush problem in Oklahoma grasslands and savannahs. It is estimated that red cedars currently infest 6 to 8 million acres of valuable grassland. With the reduced incidence of fire in the last 100 years, red cedar has become a prominent component of rangelands in Oklahoma.

Red Cedar does provide a good habitat for wildlife. Many species of wildlife, including whitetail deer, raccoon, game birds, and songbirds, consume the ripened cedar berries during the winter months. However, the foliage of red cedar is not a preferred source of forage for deer. Red cedar can also provide escape and thermal shelter.

Chemical Control:

Most herbicides currently used for control of weeds and brush are not effective on red cedar. For example red cedar is tolerant to 2, 4-D and other herbicides at rates normally used for weed and brush control, so chemical control must be carefully examined if this is a choice that you plan to use.

Mechanical Control:

Red cedar is a single-stemmed tree that does not sprout from roots or stems. Therefore, severing the stems at ground level by mechanical means can be an effective method of control. Mechanical methods include mowing, chaining, chopping shredding, tree pulling, bulldozing, shearing, and sawing. All of these methods have been used with varying degrees of success, depending on tree size and characteristics of the site.

Burning:

Prescribed burning is the most economical way to control cedars. Several factors such as tree height, type of fire, fuel load, fuel continuity, and weather, influence the degree of red cedar control. Tree height and fuel load are primary factors affecting kill. Small seedling trees (> 1 foot tall") are killed by nearly any type of fire and burning conditions. Likewise, trees from 1 to 5 feet tall can be consistently controlled with favorable burns (fuel loads above 4000 lbs/acre). With fuel loads of 2000 lbs/acre, only approximately 60 % of the cedars 5 feet and smaller will be killed. Trees over 5 feet tall are hard to control using fuel loads less than 4 tons/acre. For optimum red cedar control, the fire should be conducted on the 'hot side' of the prescription but still within the prescription boundaries. For example a good 'hot' burn would result with a 10 mph wind, 30% relative humidity, 75 degrees F air temperature, and 4000 lbs/acre of fine fuel. Cost for using a prescribed fire generally range from \$2-5/acre, depending on the size of burn, equipment, and help needed.

If red cedars are already a problem, then an integrated treatment approach combining burning with mechanical control appears to be the best program. By burning an area first, the smaller trees will be controlled leaving the larger trees to be removed either mechanically or by individual ignition at a later date.

EVALUATE FERTILITY IN YOUR BULL

The bull's ability to locate cows in heat and breed them is clearly vital to a successful breeding program. This is especially true for "one bull herds". The bull should be evaluated for fertility 30 to 60 days before the start of breeding. It is important to allow sufficient time to replace a questionable bull. A breeding soundness examination is administered by a veterinarian and includes a physical examination (feet, legs, eyes, teeth, flesh cover, scrotal size and shape), an internal and external examination of the reproductive tract, and semen evaluation for sperm cell motility and normality.

Keep an eye on your bull during the breeding season to make sure that he is getting the cows bred. Occasionally a bull that has passed a breeding soundness exam may have difficulty serving cows in heat. Such problems can be best detected by observing bulls while they work. If problems are apparent, the bull can be replaced while salvaging the remainder of the breeding season and next year's calf crop. Injuries to bulls during the breeding season are relatively common. When a bull becomes lame or incapable of breeding, because of an injury to his reproductive tract, he needs to be removed from the breeding pasture and replaced with another bull.

Many producers work hard to manage their cows for high fertility. They may assume that the bulls will do their expected duties. However, it's important to pay close attention to bulls to establish successful breeding.

Some Beef Cattle Specialists go so far as to say that 90 % of the genetic improvement in a herd is the result of the bulls used. Obviously, turning out a non-fertile bull can impact profits even greater.

A handicap in the selection of better bulls seems to be small herd size and the mistaken notion that we can buy a good, cheap bull. A poor and/or sub-fertile bull is costly at any price. The bottom line is to identify a reputable source for bulls that is making progress in the traits of economic importance to you. Select bulls on the basis of reproductive soundness, calving ease, disposition, predictable performance, health, and structure.

Proper management does not imply excessive care but it should be adequate. By applying some simple principles to bull selection and management, Oklahoma ranchers will realize more rewarding results.

Four Keys to High Pregnancy Rates

Meeting reproductive goals is the most critical production factor affecting profitability in beef cow-calf operations. The key to achieving high pregnancy rates in beef herds is successfully managing the four B's of beef herd fertility: body condition of cows, bull

fertility, bugs (infectious agents), and balanced minerals.

Body Condition

Poor body condition of cows is the most common reason for low fertility in beef herds. Body condition score (BCS) at calving is highly correlated to pregnancy rate and BCS at pregnancy examinations correlates almost as well. Body Condition is ranked based on a nine-point scale (1 is emaciated, 5 is good, and 9 is extremely fat). The goal is to calve cows at BCS 5 or above and replacement heifers at BCS 6 or above.

Body condition is influenced by nutritional plane, internal and external parasites, and mineral deficiencies. Inadequate energy and protein intake are the usual reasons for thin beef cows. Underlying causes include overstocking, lack of soil fertility and weed control programs, poor haying practices, and inadequate protein supplementation of poor quality hay.

Winter supplementation of spring-calving cows requires special attention. If hay has less than the required eight percent protein, protein supplementation is needed. When the protein concentration of hay is greater than 14 percent, protein may begin to be fed in excess. Therefore, it is critical to test hay to determine TDN and protein concentrations before the feeding period begins.

Internal parasitism can result in impaired fertility through reduced BCSs. Cows treated for internal and external parasites will have a higher body weight and body condition score leading to a higher pregnancy rate.

Bulls

Breeding soundness examinations must be performed on all bulls every year for beef herds to achieve high pregnancy rates and high weaning weights. Bulls passing the examination get more cows pregnant and do so earlier in the breeding season. The economic benefit of selling heavier calves is equal to or greater than the benefit of selling more calves.

A veterinarian should test your bulls every year prior to the breeding season, using the measure with the highest correlation to number of calves sired: determination of percentage of morphologically normal sperm cells. Bulls with more than 70 percent normal sperm cells sire high numbers of calves while bulls with less than 50 percent normal sperm cells sire few calves.

Bugs

Biosecurity measures plus vaccinations are necessary to successfully control infectious agents capable of causing early embryonic deaths, abortions or stillbirths. Biosecurity consists of all measures to prevent introduction of unwanted infectious agents into a herd.

There are two ways to keep chronic carriers and shedders of reproductive pathogens out of your herd: maintain strong fences and only purchase females that are test-negative for persistent infection (PI) with bovine viral diarrhea (BVD) virus and *Neospora caninum*.

All bulls should test negative for PI with BVD virus. Leased bulls must be culture negative for trichomoniasis. New purchases are given vaccinations during a quarantine period of at least 30 days. *Leptospira hardjo-bovis* can be controlled by vaccinations and antibiotic treatment during quarantine.

Vaccination is recommended against brucellosis, leptospirosis, campylobacteriosis (vibriosis), and two viruses: BVD and infectious bovine rhinotracheitis (IBR). Vaccination against trichomoniasis is recommended for herds at high risk. This includes herds located near infected herds and herds already infected with trichomoniasis. Herds leasing bulls should consider vaccination for trichomoniasis. The highest level of protection occurs four to six months after vaccination. Strategic vaccination involves matching this level of protection with time of greatest risk. The first trimester of pregnancy is the time of greatest risk for losses caused by reproductive infections. Thus, the most effective time to vaccinate for reproductive diseases is three to four weeks before start of the breeding season.

Balanced minerals

Deficiencies of these minerals can impair fertility: phosphorus, copper (only in deficiency secondary to excessive molybdenum), cobalt, iodine, manganese, selenium and zinc. Phosphorus deficiency is especially problematic in rangeland conditions.

A properly balanced loose salt/trace mineral fed free choice is the best way to supply cattle with minerals necessary for optimal fertility.

Conclusion

Adequate feed and parasite control, breeding soundness examinations, an effective biosecurity and vaccination program, and free choice balanced minerals are just a few ways to increase pregnancy rates. To achieve better fertility in your beef cattle herd, just remember the four B's.

Hunting Lease Arrangements Considerations

These days there can be some economic value to a landowner's hunting rights. Hunters from Oklahoma and other neighboring states are willing to pay a landowner for the rights to be the only person(s) to hunt a specific area. Table 1 shows the range of lease prices received by Oklahoma landowners for the different types of hunting leases.

The lease price a landowner can expect to receive is directly related to the type of hunting allowed, perceived quality and quantity of wildlife available to hunt, lease agreement

terms, and services provided by the landowner. Landowner's that promote wildlife habitats and provide services such as electricity can expect to receive a higher lease price. There are several types of hunting leases. Each lease depends upon the objectives of the landowner, the desires of the hunters and the resources available. Each lease has different requirements regarding time, effort and investment. Most leases can be grouped into one of the following four categories:

- **Multiple-Year:** Terms of these types of leases extend over multiple years. Generally they involve groups of hunters or hunting clubs. These types of leases should be filed with the County Clerk's office which makes the lease binding should the primary lessees die or if the landowner dies or sells the property. Landowners should carefully evaluate these types of lease arrangements before entering into one due to the difficulty in changing lease arrangements and long-lasting ramifications of the leases.
- **Yearlong:** This is one of the most common types of leases in Oklahoma. They are popular with hunters and well as landowners who wish to limit the time spent managing a lease. Most yearlong leases allow exclusive rights to specified activities of the property for a year or portion of a year. These activities include hunting, fishing and camping.
- **Limited Duration:** The limited duration hunt may be for a particular hunting season, calendar month or time period. A single limited duration lease can be managed with limited effort, but multiple leases will increase the work of the landowner.
- **Day:** These types of leases put more demand on the landowner's time. Landowner's or managers must spend time and effort to make sure hunters get to and from their designated locations and keep control of the hunter's movements. This may require providing transportation to and from designated hunting sites. Advertising costs may also increase since more individual hunters must be reached.

Table 1. Hunting Lease Price Ranges for Oklahoma*

Species	Common Income Range \$/acre	Overall Income Range \$/acre
Deer	\$1.50 - \$4.50	\$0.25 - \$13.30
Quail	\$1.00 - \$4.00	\$0.25 - \$7.50
Turkey	\$0.50 - \$1.00	\$0.25 - \$2.00
Waterfowl	\$25.00 - \$100.00	\$5.00 - \$250.00
Dove	\$1.00 - \$3.00	\$0.50 - \$10.00

* All lease values may not be represented.
Source: OSU Fact Sheet T-5032: Lease Hunting
Opportunities for Oklahoma Land owners.

Developing a Lease Agreement

Any type of leasing agreement should have a written agreement signed by all parties involved. This written lease agreement outlines the rules and conditions of the lease and helps protect the landowner and the hunter interests. It also provides information for outside parties in case something happens to the landowner or hunter.

As with any legally binding contract, you should seek legal counsel to ensure that your interests are met and your liability understood. There are many sample contracts available but you should remember that no two hunting leases are identical and therefore no two lease contracts will be either. You should tailor the lease agreement to meet your needs.

Whether you construct your own lease contract or use an existing one, there are a few items that every lease should contain:

- Description of the recreational rights, services and facilities being leased.
- Names of all parties involved. This includes anyone that may be included to hunt on the property.
- Description of property being leased. A legal description and map that included the acreage would be best.
- Terms of payment including date(s) due.
- Duration of the lease including beginning and ending dates.
- Definition of who has the rights to use the property.
- Any special rules, restrictions, or responsibilities of either party.
- Termination clause should the lessee violate the terms of the agreement.
- A liability waiver or hold harmless clause and statement of the lessee's responsibility for property damages.
- Signatures and address of all parties involved.

Some written lease agreements are filed with the appropriate county clerk's office. A notarized lease agreement filed with the county clerk's office makes agreement a binding document even if the property is sold.

Hunting leases can be a revenue generating activity for Oklahoma landowners.

Landowners should make sure to know their objectives, resources and limitations before entering into a lease agreement and always make sure that the lease agreement has a written contract.

Top Dressing Winter Annual Pastures.

Winter is a busy time of year for Oklahoma beef producers. Cold weather generally dictates the need to be haying and supplementing grazing animals, animals need to be

checked about every day and sick animals segregated and treated for problems brought on by cold wet weather. Kids and grandkids are in the middle of the basketball season and the days are short. Sometimes all this extra effort makes it hard to consider management options that will effect what kind of forage production we can expect in the coming spring months.

One of these management options is top dressing our winter annual crops and adjusting stocking rates to take advantage of the increased production we can see from fertilizing these winter crops properly. Hopefully we all took the time to soil test production fields before the beginning of the fall growing season and have applied the needed fertility to produce enough fall growth to help reduce the amount of hay and supplementation necessary to get our animals through the winter. Many of us may have put out the necessary fertilizer to go full season and can simple monitor the rate of growth of our winter annuals and make adjustments in stocking rates when forage production either increases due to mild weather or decreases due to harsh conditions. For the rest of us who may have opted to wait and see how the year progressed before applying the nitrogen we need for our spring forage needs we now need to consider how much forage we need to produce and how much nitrogen it will take to get us there.

A few rules of thumb, formulas and winter annual facts:

- a) It requires about 60 lbs of N to produce 1 ton of winter annual forage.
- b) 1 lb. Of N = 33 lbs of winter annual forage
- c) Small grains that are grazed and then deferred for grain production will need 2 lbs. of additional N for every bushel of grain expected.
- d) 2 year mean wheat forage yield Chickasha, Ok. = \approx 5,000 lbs total, \approx 2,000 lbs in fall, \approx 3,000 lbs spring - Gene Krenzer OSU PT-2001-14.
- e) 2 year mean wheat forage yield Perkins, Ok. = \approx 5,800 lbs total \approx , \approx 2000 lbs in fall, \approx 3,800 lbs spring - Gene Krenzer OSU PT-2001-14.
- f) 3 year mean ryegrass forage yields Ardmore Oklahoma = \approx 7,000 lbs, \approx 1,300 lbs in fall, \approx 5,700 in spring – Jerry Baker, Noble Foundation NF-FOR-00-11

On most soils the use of full season applications of nitrogen pre-plant can get us to the target production goals we have set in relation to the number of animals we intend to graze. Top dressing nitrogen fertilizer in February gives us the ability to re-adjust our goals if the full production potential for the crop has not been fertilized for and our long ranged goals have changed. Sometimes we sell ourselves short on forage production by trying to save money on fertilizer costs. If we begin the fall season by fertilizing for an expected yield goal that will meet the needs of the animals we currently have, we still have the option of using top dressing in February to increase our production potential if conditions are favorable and the opportunity exists to take advantage of that extra production potential.