

Importance of Feed Reserves in a Texas Livestock Program

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Roger Q. Landers, Jr. was selected as the outstanding range management student in Texas for the school year of 1953-54 by the Texas Section of the American Society of Range Management. This award was based in part upon the merits of the following essay.

THE problem of a continuous supply of feed is an important factor in the operations of a range livestock program in Texas. Its importance has been overlooked in the past, but today when the demand is for greater production in order to feed the world, the regulation of this factor can no longer be left to chance. Concentrated planning and managing for feed reserves must be incorporated in any range livestock program for it to be a success.

In a war the amount and kind of ammunition may entirely determine the outcome of the battle, the victory belonging to the team that can keep a continuous supply line intact which keeps the ammunition flowing. This continuous supply line technique is also important in another type of battle, the battle to produce a successful range livestock program in Texas. And the "ammunition" in this case is none other than the feed which must be supplied to the animals. This cannot be regarded as unimportant whether fighting a war or feeding a cow.

Livestock "ammunition" should be economical, have quality, have good digestibility, be readily available and palatable, but of most importance, there should be a continuous supply of it. This constant supply of feed is very often the deciding factor in making a livestock

program profitable. In battle when the supply line is broken, there is danger of great loss. It stands to reason that if the "supply line" to livestock is broken, there will likewise be a significant loss. To prevent this condition from happening in the war zone, protective measures such as stockpiling the supplies in concentrated dumps and rationing the use of items are enforced. In livestock feeding cannot this same principle be applied? Cannot a livestock operator stockpile feedstuffs and regulate the use of them so that a continuous supply is always present?

A feed reserve is very important for a successful livestock program in Texas. A reserve must be on hand to fill in the gap when the "supply line" fails. In Texas this "supply line" is often broken by late springs, early or severe winters, and even more so by periods of drouth. Although man has little control over these factors, he can manage to have feed reserves through several different practices, all of which have a useful place in the range livestock program.

The important constituent of feed reserve is forage. Composing all of a range animal's ration during the greater part of the year, forage is of primary concern when planning for a continuous supply of feed. Maurice E. Heath of the Soil Conservation Service in *Forages* says, "This is one of the keys to grassland-livestock management: an adequate forage reserve of from thirty to fifty percent of normal needs will usually bridge such emergencies as a severe winter, a late spring, a summer drouth or a partial crop failure."

Forages may be reserved in the form of unused pasturage, put up as silage or cured as hay. Of these three methods, unused pasturage is by far the most important in Texas since over seventy-five percent of the state is best adapted to livestock range and pasture land. Unused pasturage is forage which is available to the animal for grazing. The amount of unused pasturage that is present is related to the grazing pressure that has been applied. By controlling grazing the amount of unused pasturage can be controlled, depending to a certain extent upon climatic factors. It is the condition of this unused pasturage which makes the difference between a well-managed range and a poorly managed one. The most desirable condition would be to have an abundance of this readily available forage from season to season and from year to year. Management alone can produce this condition. When Texas was first settled the problem of plenty of grass for one's cattle was not very significant, because when the grass was removed from a range, a settler could just move west into a new area where grass was plentiful. Today the rancher cannot plan to solve his problem in this manner, he must be able to plan on continued production from the same land year after year. Management of his unused pasturage is essential.

Unused pasturage is the cheapest insurance for continued livestock production on the range. A good rule of the thumb that can be used when grazing a pasture is to take half and to leave half. This will allow for continuous production along with conservation of the range resources. Unused pasturage which is left at the end of the growing season is not lost by any means. This unused or reserve forage can remain in a cured state on the range until it is harvested by grazing animals. It will continue to furnish forage, but a more important

feature is in the protection of the land from erosion. A carpet of old grass and other plant litter protects the soil and insures a more productive range for the coming years. The plants will have more vigor and will be more able to furnish nutritive forage because of a larger amount of stored food in the root system.

The recent drouth throughout most of the state has shown that a strong reserve of feed is a necessity. Due to the widespread practice of overgrazing throughout Texas ranges, there was not enough reserve forage in the form of unused pasturage to carry the livestock through without great losses. Expensive supplements had to be called on as well as inferior roughage-type feeds which might not have been needed if adequate forage reserves were set aside. To show very simply how a lack of range feed reserve affects the livestock industry, here is an example: during a drouth there is a reduction of readily available forage; the ranch operator overgrazes the land in order to keep from having to sell off part of the herd. However, if a feed reserve is not present and the drouth continues, the operator will be forced to sell, and there will be a large increase in numbers of livestock on the market. This increase as it affects the demand will cause the price of the animals to go down and the value of those retained to be lowered. In other words it is like this: drouth comes—range in poor condition—no feed reserve—forced liquidation of livestock—volume on market increases—market value decreases—livestock operator threatened with great loss. Had there been adequate reserves of feed on the range this condition might not have happened. Therefore it is very important for the livestock operator to plan enough feed reserves, primarily unused pasturage, to carry livestock over periods of demand on reserves

without having to liquidate animals at unwanted prices.

Retaining forage in the form of unused pasturage is not the only factor in solving the problem of having enough feed reserves during the year. As the growing vegetation matures, there is a drop in its nutrient content due to the leaching effects of winds, sun and water, and there must be some other reserve available to fill in the gap. Hay is the most important roughage carried over from year to year. Under favorable conditions in dry, well ventilated barns, hay can be stored for several seasons without an appreciable lowering of feeding quality. This means it can be stored during years of crop surplus and kept on reserve until conditions arise to use it.

A livestock program would be greatly benefitted with adequate hay reserve, especially since winter production of feedstuffs cannot be depended upon. It is the wise operator who has a reserve of high quality hay to use when needed.

In preparing forage for storage as hay the primary concern should be to conserve the maximum quantity of dry matter and of nutrients in the crop at the least cost. New methods of haymaking that reduce labor requirements and improve the quality of the hay have come into use in the past decade and have added to the importance of hay in the feeding plan. Because it can be stored during years of crop surplus and kept on reserve until needed, hay is profitably used to supplement pasturage in a feeding program to keep the supply of feed constant. What would happen if a dairy operator did not plan for any forage reserve and a dry spell came? The resulting drop in pasture production would likewise bring about a drop in milk production. With good hay reserves, the dairy operator could keep up his milk production at a time that he needed it the most.

Another important feed reserve

that can be planned for in a range program where limited cropland is available is silage. Although silage preparation is practiced very little in range areas of the state, it should not be considered as unimportant in finding a solution to the feed reserve problem. As early as 1928 in feeding experiments in Southwest Texas, it was shown that steers fed sorghum silage as the only roughage made more economical gains than steers fed sorghum fodder. Comparable results have been recorded many times since then; however, ranchers have been slow to accept it as a means of increasing production. Although silage preparation requires more skill and care than does hay making, it can be stored quickly and effectively. Crops can be ensiled when the weather does not permit curing them into hay.

There is usually a smaller loss of nutrients in preparing silage than in curing hay and the loss in storage is significantly smaller. There is room for much more work in this field because most of Texas' soils in the range areas are well adapted to sorghum production, sorghums being one of the best crops for silage. Development of a silage program would afford ranch operators another good method of maintaining an effective feed reserve.

It does not take a person with a college degree to be able to see the need for a feed reserve in any livestock program in Texas. The importance of a feed reserve has been branded deep into the memories of ranchers throughout the western half of the state due to the recent drouth conditions. If a program was developed by the livestock operator to build up his pasture reserves by proper stocking rates and other management practices and to plan for good quality hay and lush silage, it would be the ideal set-up to keep a continuous supply of livestock "ammunition" to be used when needed.