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GRASSLAND

FARMING

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HOME ECONOMICS.

Grassland farming might be described as a way of farming in which livestock, particularly cattle and sheep, play a major role, and in which grasses and legumes are the major crops. It may or may not include limited feed grain production.

In its truest sense, it would include silage made from grasses, legumes, or other materials to be used as an important feed constituent during the winter months. Silage can also be used to avoid very early grazing and as a substitute for grass to avoid overgrazing throughout the season.

GRASSLAND FARMING

D. L. Gross

It appears that we have reached a very definite turning point in our farming methods. We have reached the place where we can produce more farm products than we can use or dispose of economically under present conditions. Farmers generally have accepted government programs, wherein acreages of crops grown in surplus quantities are limited. This limitation creates the problem of so-called idle acres and their management.

Before this question is considered it is well to review the factors responsible for this situation of apparent overabundance.

These might be listed partially as follows:

1. Greater know-how on the part of farmers in their production methods.
2. Higher yielding crop varieties.
3. Greater control of insects and diseases.
4. Widespread use of nitrogen fertilizers.
5. Greater attention to crop rotations and the use of legumes.
6. Expansion of irrigation.
7. Soil and water conservation.
8. More efficient farm equipment.

In considering this situation it is important to keep in mind that these relatively new developments are only the forerunners of what the future will surely bring. With expanded and intensified research, we can expect such new developments to occur at an accelerating pace. It is inconceivable that we might ever reach a static basis.

What then, should be our program for the future? Should we look ahead to an ever continuing government program of acreage allotments? Farmers as a whole would prefer that there be no acreage allotment program if a balanced economy can be achieved otherwise.

At least a partial solution to this problem, as well as one of the solutions to our soil conservation problem seems to be on the horizon. It comes in the form of grassland farming.

Putting together the past, the present, and a hopeful future, we might envision three great epochs, so far as agriculture is concerned. First, the pioneer settlement, and the breaking of the sod; second, the exploitation of the land, and the consequent ruination of much of our good land; and third, our final realization of the need for soil conservation and better land use--involving maximum use of conservation measures. Already we have made great progress in this last or reconstruction phase--involving the creation of the Soil Conservation Service and the formation of legally organized and locally directed soil conservation districts. Through these innovations, and through educational activities of these agencies in cooperation with the Agricultural Extension Service, acceptance of the need for soil and water conservation has become widespread. Actual installation of conservation measures is now occurring on an accelerating basis.

This great movement can be considered as the primary base from which a reconstructed agriculture might rise.

It is envisioned that this new agriculture will have grass as its pillar.

Senator John J. Ingalls once said of grass:

"Unobtrusive and patient, it has immortal vigor and aggression. Banished from the thoroughfares and the field, it bides its time to return, and when vigilance is relaxed, or the dynasty has perished, it silently resumes the throne from which it has been expelled, but which it never abdicates."

The pioneer and his plow were necessary for the development of our great agricultural and urban industries. We may continue to use the plow for some time to come. In the light of our accumulated knowledge, however, we will probably tend to grow less of the row crops which are responsible for much of our erosion losses. At the same time we may tend to grow more forage crops in the form of grasses and legumes which tend to protect the soil.

These changes, however, will not be widespread without attention to immediate profits. If a grassland type of agriculture is to develop it will come chiefly because it is more profitable than other ways of farming.

There is now a rapidly expanding body of evidence showing the advantages of a grassland type of farming in terms of both profits and soil conservation. Following are a few examples:

STEERS ON NONIRRIGATED BROMEGRASS-ALFALFA PASTURE

In 1947 at the Experiment Station at Lincoln, Nebraska, the per-acre gain made by beef steers on non-irrigated brome-grass-alfalfa pasture was equivalent to a corn yield of 50 bushels per acre, in terms of cash values at the time of the experiment.

STEERS ON OATS-SWEETCLOVER PASTURE

In 1932 yearling steers grazed on nonirrigated oats-sweetclover mixture at the Experiment Station made a per-acre gain equivalent to a corn yield of 60 bushels per acre in terms of 1949 prices.

In 1932 beef cattle sold for as low as 7¢ per pound and corn for 10 to 15¢ per bushel. Under these conditions it would have required a corn yield of nearly 200 bushels per acre to match the value of the steer gains, on an acreage basis.

IRRIGATED BROMEGRASS-ALFALFA PASTURE

At the North Platte, Nebraska, Experiment Substation, dairy cows were grazed on a 22-acre bromegrass-alfalfa pasture. In addition they were given other feeds valued at \$1,643. The milk from these animals sold for \$7,693.

It is estimated that the returns from the bromegrass-alfalfa pasture were \$150 per acre in excess of other costs.

Kenneth Brown of Mitchell, Nebraska, reports that his bromegrass-alfalfa pasture grazed with yearling steers gave him a return of \$111 per acre. Mr. Brown emphasized the additional value of the manure and alfalfa in their role of soil improvement.

COW AND CALF RETURNS

Charles Reidl of Basin, Wyoming, grazed 21 cows and their calves on an irrigated 21-acre bromegrass-alfalfa pasture from May to October. The calves gained a total of 6,300 pounds. In addition, 12 tons of hay were taken from the land. Mr. Reidl figured his returns at \$100 per acre. He said: "This is an easy kind of money."

It will be noted that most of these returns were made from bromegrass-alfalfa pastures. It is important to note the companionship of these two crops. Bromegrass is a very vigorous grower and provides an abundance of forage both early and late in the season. This heavy production requires much nitrogen. If this is not available the bromegrass becomes stunted and unpalatable. When alfalfa is planted with the bromegrass this nitrogen requirement is made available. It appears that in eastern Nebraska and on irrigated land westward, bromegrass-alfalfa pastures may be used universally. Even on nonirrigated land in the southwestern portion of the state there are many good stands of bromegrass on the more favorable sites with respect to available soil moisture.

MANAGING BROMEGRASS-ALFALFA PASTURES

The importance of brome-grass-alfalfa pasture in grassland farming justifies special attention to management practices. First, it is highly important that the Lincoln type of brome-grass be used. Secondly, Ranger alfalfa should be used wherever available because of its resistance to cold and disease. Certified seed of these crop varieties should be used wherever available. Other alfalfa may be destroyed by cold weather or by the wilt disease. Brome-grass other than the Lincoln variety may be of the northern type which in Nebraska is less productive and forms an open sod subject to erosion.

The rate of seeding is usually 12 to 15 lbs. of brome-grass seed to 3 or 4 lbs. of alfalfa seed. Late August or early September seeding is recommended, although early spring seedings are satisfactory where weed seed infestation is not too great. Seedbeds should be very firm and should be repacked before and after the seed is sown.

It is highly important that brome-grass-alfalfa pasture is not grazed continuously. If this is done the alfalfa is soon killed, after which the brome-grass starves for nitrogen and becomes stunted and unpalatable.

It is essential therefore that brome-grass-alfalfa pastures be divided into three or four divisions and these grazed rotationally. If this is done, and if overgrazing is prevented brome-grass-alfalfa pastures can be expected to maintain a good pasture over an indefinite period.

This type of pasture is especially nutritious because of the relatively high protein content of the brome-grass-alfalfa combination.

PROTECT PASTURES FROM DROUGHT

On nonirrigated land in Nebraska, pastures can be expected to suffer from drought sometime during the summer months. In these periods severe damage may be done to the pasture by close grazing or excessive trampling. This may be avoided by providing a stand-by pasture of sudan grass, or possibly a sweetclover and oats mixture sown early in the season.

An ample supply of silage is the best insurance against damage to pastures by drought and overgrazing. Experience has shown that good silage is a practical substitute for grass. The first cutting of alfalfa is especially suited to this purpose since the quality of this crop is often lowered greatly by weather damage during the curing process.

Bromegrass-alfalfa pasture is used almost exclusively where pastures are irrigated.

Much of this irrigation is accomplished by means of a series of nearly parallel borders or ridges which aid in even water distribution. This system makes very efficient use of water.

On uneven land where leveling is not feasible, a sprinkling system may be used. Detailed information on irrigation systems may be obtained from the local County Agricultural Extension Agent, the Soil Conservation Service Unit, or from the College of Agriculture, Lincoln, Nebraska.

BLOAT ON PASTURE

The question of possible bloat of cattle and sheep grazed on bromegrass-alfalfa pasture is often raised. The widespread use of this type of pasture from coast to coast and from Canada to Texas indicates that this problem is not a serious one where practical preventive measures are used. Primarily these consist of providing hay both in the lots and in the pasture,

and of not turning animals on such pasture when they are hungry.

OTHER PASTURE GRASSES

There are many kinds of grasses in Nebraska, particularly in the sandhill areas. Most of them are native and seed production is limited. This problem is being gradually overcome by the grass nurseries of the Soil Conservation Service and by developments at the Nebraska Experiment Station.

In central and western Nebraska crested wheatgrass has become an important dry-land grass. It is a good seed producer and seed harvest offers no serious problems. Intermediate wheatgrass, a new introduction, promises to be useful. It is a highly palatable grass. Tall wheatgrass, another recent introduction, promises to be a good grass on wet alkali areas.

For further information on grasses see your County Agricultural Agent or write to the Department of Agronomy, College of Agriculture, Lincoln, Nebraska.

NOTE

In making comparisons of returns from grasses as compared with grain or other cultivated crops it is well to keep the following in mind:

1. Grass does not require seeding each year.
2. Grass does not require cultivation.
3. Grazing eliminates expensive harvest.
4. Grass is damaged less by insects, disease, frosts, and storms than other crop.
5. Grass-legume mixtures improve the soil while other crops deplete soil fertility.
6. Grass protects the soil from erosion.

These are highly important economic factors.