

Alfalfa. Its Place Among Kansas Crops.

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Outline -

Introduction and General Remarks.

History of Alfalfa.

Soil Conditions of Growth.

Its ~~at~~ Soil Fertilize.

A Revivator of Soil.

Harvesting.

Feed Qualities.

Conclusion.



Kansas is preeminently an agricultural state. Its soil is rich in the natural elements, and ever ready to unite with the efforts of the farmer to make another earth yield bountifully from her great natural storehouse. The farmer plows and sows, the rains descend, and the seed sprouts. He looks out over his beautiful broad fields, and smiles on his prospects for a plentiful harvest. What is there that the Kansas farmer could not raise on his rectangular fields had he the showers when needed?

The population of Kansas is made up of an agricultural people. They have come from all parts of the world, bringing with them their ideas of husbandry. They came here in the early days of the state, when the buffalo roamed over the plains, and have since battled against poverty, hard-times, and Kansas grass-hoppers.



They have united their efforts and made the sunflower state the center of attraction of the whole world. The Kansas people are energetic, earnest, and industrious, just such qualifications as are necessary to make farming a success.

Kansas farmers have always been in the foremost rank in experimental work. They test a thing thoroughly, and if it does not prove successful, he casts it aside. They are ever seeking to improve their class, thereby lifting all others, for they are all dependent upon the results of farm labor, to a higher and nobler plane of living. They have taken their plows, turned over the turf, and sowed upon the black earth the alfalfa seed. The plant has obeyed the laws of nature. It has sent its roots deep into the soil, and brought up the elements necessary to make an abundant crop. Alfalfa is a plant that is adapted to Kansas conditions of soil, moisture, and climate. New



interest centers upon it, because of its ability to stand dry weather, and yield more money value for the amount of labor expended than any other crop.

Alfalfa is by no means a new forage crop. We find by peering into the dark and dusty pages of history that it has been cultivated for more than twenty centuries. Its native country is in western Asia. From there it moved westward with civilization. It was cultivated by the Romans and Greeks for their army horses. About the time of the Persian war, 470 B.C., it was introduced into Greece and Italy. Thence it found its way into the Spanish peninsula. Soon after Columbus made the discovery of the New World, Spain extended her dominion into many parts of the new territory. She planted the alfalfa seed on the arid plains of South America and Mexico. From Chili it made its way to California about 1854.



From this region is spread to many of the barren parts of the Rock Mountains where it is grown with much success. It is said to have landed on the eastern coast of United States about twenty years before it was introduced into California. This forage plant has spread until it is grown in every country where climatic conditions are favorable. Traveling through Kansas one will notice a small field of it on nearly all farms. The farmers are beginning to realize what a good and profitable crop it may become in this state.

There are very few localities in Kansas where this plant may not be grown with profit, as is shown by testimony from almost every county. There are limited regions which are underlaid with what the Kansan calls "hard pan." Alfalfa does not do well in this character of soil because its roots have difficulty in penetrating it to reach moisture below. Soil on which water stands or is too wet for



any length of time will not be cultivated profitably in alfalfa, as the excess of water will cause the roots to rot. This point does not need much emphasis for in most parts there is a lack of moisture. This plant depends mostly upon subterraneous moisture of which it uses a great quantity.

Too much care cannot be taken in preparing ground for alfalfa. It should be well cultivated in some crop that will assist in killing all weeds before putting in alfalfa. Plowing in the fall the ground which is intended to be put into alfalfa in the spring, will be practical in some regions. If the ground cannot be subsoiled, it should at least be plowed deep, and well pulverized before sowing the seed. Some claim it best to sow in the fall, but my observation has convinced me that the best stand is secured by sowing in the spring, from the middle of April to the middle of May.



The spring rains are generally sufficient to give it a good start. About twenty pounds per acre, if you have good seed, will be thick enough to make good hay. Pure seed should be selected. We have weeds enough in Kansas without sowing the seed. The method of sowing must be adapted to the individual farmer's conditions. Some use drill and some use broadcast method. Sowing nurse crops, such as oats or wheat must also be adapted to surrounding conditions. A progressive and successful farmer in Jewell county says he always puts his ground in good condition and then sows nothing but alfalfa seed. During the first year this field should be mowed two or three times to keep the weeds from smothering the young and tender plant. It should not be pastured late in the fall so as to have the tops exposed during the winter. If it is pastured close to the ground, it will be more



liable to winter kill. Some of the things to be guarded against in starting alfalfa, are poor and weed seed, foul soil, insufficient moisture and close pasturing. It will pay to be very careful in all these details in order to secure a good stand, for a poor stand is discouraging and unprofitable.

Alfalfa is superior to any other crop known as a renovator and enricher of the soil. Some one has said, "It is a nitrogen gatherer of the first magnitude and the long roots draw ash elements from depths where no other crop could feed, storing them up, until, by decay they again give them up to succeeding crops." It is one of the few plants which are able to take free nitrogen from the air. By examination it is found that the roots of the plant are covered with tubercles. If these bunches are farther examined under microscope, they are found to be filled with bacterial. The theory is that they (these organisms)



enables the plant to take free nitrogen from the air. Other plants than the leguminous or pod bearing plants, can only take up this plant element as they find it in solution. This is one of the great values of the alfalfa plant to the Kansas farmer, i.e. its ability to manufacture this most valuable fertilizer which is becoming exhausted in Kansas soil. In some soil it does not do well. By examining the roots closely it is found that these tubercles are absent. Experiments have been successfully carried on to prove that the organisms can be inoculated into the soil. The public is indebted greatly to Mr F. H. Otis for a great deal of work along the line of inoculation.

Alfalfa might properly be called the Kansas farmer's subsoil plow, because its roots penetrate and renovate the soil in every direction. Its roots have been found as deep as twenty feet, and no doubt would



go much deeper under favorable circumstances. We sometime see an orchard planted in alfalfa. This is certainly not the best method of planting an orchard if one wants to get the best growth out of the trees. The condition of the growth of trees and of alfalfa are very different. The soil will be sapped by the alfalfa and leave the trees in a slow and stunted condition of growth. I have observed this fact in the vicinity of Manhattan. The trees have been planted for two years; they have made very little growth, and many of them have died. Alfalfa is a good plant to prepare ground for an orchard, but trees should not be planted until all the alfalfa is killed out. It is a very durable plant after it is started. History tells of a field, known to have been in this plant sixty years and still yielding a profitable crop. It is found that any crop will make an excellent yield on ground that has been in alfalfa. It would be beneficial in Kansas for rotation.



In order to secure the greatest possible profit from any crop, it should be harvested at the proper time. Doing the right thing at the right time, is a principle that must be practiced on the farm as well as in other lines of business. There is nothing more important on the farm than harvesting a crop when it is in the proper degree of development, and there is no other work much more neglected on Kansas farms. The farmer cuts his prairie grass late in the fall when it is dried and withered so much that it has lost most of its nutritive qualities. He cuts his corn fodder when the Kansas winds have almost stripped it of its most valuable ~~part~~ the leaves. His alfalfa is usually cut when it is so ripe that almost all the leaves are lost by the time it is in the stack. Did he realize that the most valuable and nutritious qualities of these forage crops is being lost



by delay, he would be more prompt in harvesting when the crop is ripe. In many cases he loses as high as sixtysix percent of the food value of these crops. Harvesting alfalfa is perhaps more difficult than any other crop because it contains as much as seventy five percent of water of which a large proportion must evaporate before it can be put into the stack. The best directions for harvesting this crop is personal experience. It is difficult to follow written instructions for every farmer has his own method and way of managing such work. Perhaps a few facts which have been established scientifically may not be amiss. The best authorities state that the best time to cut alfalfa is about the time it begins to bloom. Tables of analysis show that at this stage of growth it contains the largest proportion of protein which is its principal food element. It should be put



into small cocks as soon as it is thought to be dry enough to prevent molding. The most valuable food parts of this plant lies in the leaves; therefore, the less leaves that are lost, the more valuable is the hay as a food. The hay should be handled carefully and no more than is necessary. To stack it in large stacks is the most successful way, for there is less exposure to the weather and it packs more firmly in the stack. A large percentage of the loss can be saved by putting some poles or brush under the stack. This makes an escape for moisture coming from the ground which would otherwise be absorbed by the hay. It is also practical to cover the stack with millet, sorghum or slough grass that will turn water better than alfalfa.

Now we come to the most important and interesting part of our subject; viz., Alfalfa's Place Among



Kansas Crops. One farmer has said, "It is the greatest all-around forage crop the world has ever known." We have seen that alfalfa meets the requirements of wide climatic and soil conditions, and now we will consider its adaptability as a Kansas feed. By analysis, this plant is found to be very rich in protein which is made up principally of albuminoids and nitrogen compounds. This is the kind of food required for young and growing animals. It makes blood, bones, muscles, and tendons. From this we see that the function of alfalfa is to promote growth. Protein is the element most lacking in the common farm feeds. It is filling up this wide gap in our feeds. It lacks in carbohydrates and fat, therefore is not a complete ration in itself. These elements may be very easily supplied on the farm by feeding with the alfalfa, fodder, millet, straw, or cane. The average farmer does not realize how



much feed value he is losing by not feeding the various feed in such proportion that there is the least possible loss of digestable parts.

Alfalfa is equal if not superior to bran, cottonseed meal or oil cake. These are all protein foods and if the farmer can raise on his own farm, a substitute for the important and expensive feeds, he is making a long stride toward success.

Alfalfa is not so much a fattening food, but will grow large, strong boned animals. Animals thus grown and finished on corn command the best markets. The farmer must adapt his product to the consumers as far as he can. If the beef consumer in the east prefer alfalfa fed beef, it is the farmers duty as well as his privilege and financial benefit to produce it for him. By analysis and feeding experiments alfalfa has been proven to be forty five percent better than clover and sixty percent



better than timothy in money value.

Again, alfalfa is a crop that will go far toward making hog raising successful as well as more profitable in Kansas. There is no better nor cheaper food for young pig than a pasture of green alfalfa. One acre well set with this crop will furnish pasture for fifteen or twenty hogs.

In the past, there have been sections of Kansas, as well as other states where cholera raged among hogs at times. May we not attribute the cause of this disease, in part, to the fact that hogs do not receive sufficient attention?

The Kansas farmers are of late years becoming quite enthusiastic over the dairy business. Alfalfa will figure largely in the degree of success made in this new industry. It is the dairyman's standard and main stand by in all parts of the year. Professor H. N. Cottrell says, "It is the cheapest



milk producing feed within the reach of the Kansas farmer." There is no better feed to produce quality as well as quantity of milk. Precaution should be exercised in pasturing cows and sheep upon it when it is damp, as it may cause them to bloat which may result in death.

Owing to the failure of many crops in Kansas for the last few years, the people are searching for a crop that will stand the drouth and bring in at least their expenditures and a margin of profit, if possible. Many have centered their interest upon alfalfa, and others are turning their attention in that direction. It makes excellent pasture, hay and seed; its fertilizing properties are not excelled by any other crop; it is a quick grower; stand the drouth and endures the cold weather; it adds one more valuable number to Kansas crops.

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