

## ALFALFA, OR "CHILE CLOVER."

THE cultivation of alfalfa, or lucerne, as it is more properly called, is in the United States confined almost exclusively to California, although it is raised to some extent in Colorado, Nevada and Utah. As a food for horses, cattle and hogs it cannot be surpassed, while no other known forage plant can be relied upon to yield such large crops with so little care. It is a native of Southern Europe, where it has been cultivated from remote antiquity. From there it was taken by the Spaniards to Peru and Chile, and was then introduced on this Coast, from which fact it is often called "Chile clover." The best results are reached where an abundance of water for irrigation is to be had, and when properly supplied with moisture, a well-set alfalfa field will yield large crops year after year, without requiring fertilization or any particular care. In preparing a field for alfalfa, then, the first requisite is a location where it may be easily irrigated. The land should be thoroughly and deeply plowed and cross-plowed, and by repeated harrowing and going over with a "clod crusher," should be reduced to as fine a degree as possible. Any inequalities in the surface of the field must be leveled, so as to admit of a free and unobstructed flow of water to all portions at once. As the young alfalfa plants are tender and will not stand exposure to frosts of much severity, the seed should not be sown until such time in the spring as all danger from frost shall have passed. It is by many considered the better plan to mix the alfalfa seed with barley, as by so doing weeds are, to a great extent, prevented from choking out the alfalfa. When the field is not too large, and the soil has been worked down to an almost powdery consistency, a good way to cover the seed is to take a large sized branch of a tree, or a bunch of brushwood, and by means of a rope drag it across the field by hand power. This will prevent the unsightly footprints unavoidably left by horses when the soil has been put in the proper condition of tilth for this crop, and which would go far toward ruining that exact uniformity of surface which it is so desirable to maintain where irrigation is practiced. Considerable difference of opinion exists as to the proper amount of seed to use, but from twenty to twenty-five pounds per acre is an abundance. In some parts of Europe alfalfa is sown in drills and is cultivated like any other field crop. While this might render the process of irrigation less laborious, it does not appear that the crops produced are any larger than are raised by the broadcast method of sowing, nor that any other advantages are possessed by the method.

The first season after the seed is planted not over three crops may be expected to come to maturity, the second year five or six cuttings may be taken, and thereafter as high as eight crops may be harvested, depending, of course, on the plan followed in its cultivation, and whether the field is pastured or not in the winter. The proper time to reap alfalfa is just as the flowers appear on it, as in a short time thereafter the stems begin to harden and stock will refuse to eat the greater part of the hay. In curing great care should be taken. It should

not be allowed to become too dry, as then the leaves, which are the most nutritious portion of the plant, will drop off in the processes of loading and unloading, and a large part of the hay will be lost. After each cutting the field should be thoroughly irrigated, which in ordinary cases will suffice until the next crop is harvested. One irrigation to each cutting is generally considered the correct thing. When the plants have reached their maturity a crop of two or three tons to the acre may be reasonably counted on at each cutting, and with proper irrigation is certain. It is the general custom to pasture alfalfa fields during the winter months. There seems to be almost no known limit to the life and productiveness of this plant, as there are fields in California which have been yielding good crops for fifteen to twenty years consecutively, with hardly any apparent diminution. Should the field become "thin" from any cause, it may be remedied by a light sprinkling of seed and then going over with a harrow. Of course, this crop may be raised in some localities where no water is available for irrigation, but in such cases a far smaller yield must be expected, as not over three or four cuttings, at most, can be made in one season. There will also be found much trouble from squirrels and gophers, as these animals are very fond of the tender shoots and roots of the alfalfa, and will soon utterly ruin a field if left to themselves. Where irrigation is practiced these pests may be kept in some degree of subjection by periodical drowning out, but in the dry sections this is, of course, impossible, and the problem of how to subdue them will tax the farmer's ingenuity as well as his patience.

There seems to be a considerable difference of opinion on the subject of alfalfa as food for horses. While some claim that horses fed on this alone will keep in good condition and perform all kinds of hard work, the experience of others in this respect has not been so satisfactory. Alfalfa is very fattening, but the best results in its use as horse feed seem to be reached by combining the alfalfa judiciously with barley, hay and grain, by which the horses may be kept strong and in good condition.

As to cows, no better food in any respect has been found, either fed dry or green. But one drawback has so far been experienced, and that is the danger from bloating, where they are allowed to feed on the alfalfa while it is wet from dew. Great care should consequently be exercised in this regard, as many valuable animals have been lost from ignorance of the danger of this practice.

As a food for growing hogs, also, there is nothing that surpasses alfalfa, and they may be kept in fine condition on it until the time for fattening arrives. They seem to relish it equally well when fed dry as green and to thrive upon it in any shape. Some have made it a practice to pasture hogs in their alfalfa fields, but this cannot be recommended, as by their "rooting" propensities the appearance of the field is soon destroyed as well as many of the alfalfa plants.

There seems to be no good reason why the area in which this plant may be successfully grown should not be widely extended. It is grown to quite an extent in Scotland and in the south of England, and in South America, in the mountainous regions, it is cultivated at the height of 11,000 feet and upward above the sea level. Consequently it would seem that when the danger from frost when first planted is passed the plant will endure a considerable degree of cold, and might therefore be successfully introduced into many of our irrigating regions where the winters are not too severe.