

Issued
Each Week

FARM AND DAIRY

RURAL HOME

Only \$1.00
a Year

Vol. XXXI.

FOR WEEK ENDING MAY 16, 1912.

No. 20

A TALK ON HARDY STRAINS OF ALFALFA FOR ONTARIO*

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How Different Strains of Alfalfa Originated—Tests Prove a Wide Variation in the Hardness of Different Strains of Alfalfa Under Our Conditions—Strains of Tried Merit Recommended by Prof. Zavitz.

THE whole number of species of alfalfa is quite limited. Only two need to be mentioned; viz., the common alfalfa, *medicago sativa*, and the yellow flowered alfalfa, *medicago falcata*. The common alfalfa has been grown extensively in many of the countries of the world in which the climate is not too severe. It possesses plants of an upright growth, flowers which are violet in color, and seed pods which are in the form of coils or spirals. The yellow flowered alfalfa grows wild in a number of the countries of Europe and Asia. Its use as a cultivated crop has been limited. The plants have a spreading habit of growth and are considered to be quite hardy. The flowers are yellow in color, and the pods are in the form of a crescent or a sickle.

average results of the different plots of each of these varieties show the following yields of hay per acre in each of the past two years:

Varieties	Number of Plots	Tons of Hay per acre		Aver.
		1910	1911	
Sand Lucerne	19	3.2	3.3	3.75
Grimm Alfalfa	4	3.3	2.4	2.85
Canadian Variegated Alfalfa	2	3.5	2.1	2.80

AVERAGE IS FIVE TONS AN ACRE

Owing to severe weather conditions, the yields of alfalfa hay were comparatively low in each of



VARIATED ALFALFA

Alfalfa plants are naturally cross-fertilized; hence, if plants of the yellow flowered alfalfa are grown in the midst of or in near proximity to the common variety, there is a natural crossing or mixing of the two kinds of alfalfa. The apparent use with which natural cross-fertilization takes place explains the reason for the existence of different kinds of alfalfa plants that vary more or less in their characteristics, particularly in their color of flowers and in their evident hardiness.

Doing Two Men's Work the Easiest Way

W. H. Millar, Lennox Co., Ont., who may be here seen on his sulky gang plow, believes in saving the skin of a man and a horse when he can; especially in rush seasons of the year such as the present. In the background may be seen Prince Edward County

the two years, the average for the past 14 years being about five tons of hay an acre per annum at the Ontario Agricultural College. It will be seen that the three noted varieties of hardy alfalfa have given very similar results. When we take into consideration the results of the variegated alfalfa in both the United States and Canada, it will be another that it has made an excellent record.

Another table is here presented which gives the detailed results of the different kinds of alfalfa obtained in the United States, of the three Canadian alfalfas, the exact sources of which are known, and of the one sample of alfalfa from South America.

ALFALFA OR LUCERNE, O. A. C., 1911

Country	Strain	Tons of Hay per Acre	
		1910	1911
Peru	Peruvian	2.6	4
U.S.	Grimm, Minnesota	3.6	3.7
	Texas	2.3	5
	Utah	2.6	4
U.S.	Colorado	2.1	4
	Nebraska	2.6	4
	Montana	2.4	1.0
U.S.	Variegated, Kansas	2.2	1.2
Special	Wheeler, S. Dakota	3.1	2.5
	Variegated, Ontario	3.4	2.0
	Common Violet, Ontario	3.2	3
Canada	Variegated, Ontario	3.6	2.2

In the tabulated results here presented, we see the great difference in yields between the Peruvian and the Grimm varieties of alfalfa. Here we have a comparison in the results of a tender southern alfalfa and a northern hardy variety.

The Peruvian alfalfa, with the exception of a few plants, was all killed out in the severe winter of 1910-1911; while under similar conditions, the Grimm alfalfa survived the winter with almost a perfect stand of plants.

HARDEST ALFALFA

Of the five different lots of common alfalfa obtained in the United States, from Texas in the south to Montana in the north, the results show the influence of the winter killing to a very marked degree. The Montana alfalfa, which withstood the winter the best of these five lots, is considered to be one of the very hardest of the commercial strains of the common western alfalfa.

The two lots of alfalfa, from Kansas and South Dakota, have been noted for their hardiness in those states in which they have been tested. The sample from South Dakota gave particularly good results at Guelph, displaying hardiness to a marked degree.

CANADIAN VARIATED DESIRABLE

The three lots of alfalfa from Ontario show very interesting results, the two variegated lots coming in the same class for hardiness as the Grimm alfalfa of Minnesota and the Wheeler alfalfa of South Dakota. The two most important points, however, in connection with this experiment appears to be the superiority in hardiness of, first, the Canadian variegated alfalfa over the common violet alfalfa of the United States, and, second, the Canadian variegated alfalfa over the common violet alfalfa of Ontario.

Taking into consideration the results both in the United States and in Ontario, we have much evidence to show that the variegated Canadian alfalfa is very hardy and is worthy of special attention in the province of Ontario.

How Best to Improve the Herd

E. Leidlau and Sons, Elgin Co., Ont.

Should a man who wishes to improve his dairy herd grade up gradually or sell out and invest in pure-bred animals only? In reply to Mr. W. Payne's question in Farm and Dairy we would answer that it all depends upon the man's circumstances. If he has plenty of finances it might be best to sell and buy good pure-breds. A man in limited circumstances had better creep before he walks.

In any event we would recommend disposing of half of the poorest ones (as the average is not very high) and replacing as many with good pure-breds as circumstances would permit. If the man is just going into the business for the producing end of it he can grade up with good pure-bred bulls to get just as much milk as would be possible with registered stock.

There is in this scheme one danger. He might breed a few more poor ones in the grades. There is always danger of animals reverting back to some of the defects of their mongrel ancestors, even after several generations. With a good prepotent sire of good official record ancestry, however, the most of the offspring should do well. In our own experience with grades one bull we had never left us a poor heifer.

EXPERIMENTS CONDUCTED AT THE O. A. C.

Several series of experiments with different varieties and strains of alfalfa are at present being conducted in the experimental grounds at the Ontario Agricultural College. One series has been running for seven years, another for four years, and another for three years. As all of the particular varieties and strains which we are considering at the present time are included in the experiment which was started in the spring of 1909, the results here presented will be confined to that experiment. In this experiment, 19 plots of Sand Lucerne, 4 plots of Grimm alfalfa and 2 plots of Canadian Variegated alfalfa were included. The

*Extract from an address at the Ontario Provincial Fair at Guelph.