

### Why Alfalfa is a Wonder Plant

D. H. Otis, University of Wisconsin, Madison

Alfalfa is a legume remarkably rich in digestible protein. It is also a heavy producer, averaging under our northern conditions about four tons of hay to the acre. By using it judiciously with other feeds it is possible for our dairy farmers to obtain well-balanced rations for their live stock from feeds grown entirely on the farm.

Alfalfa is a heavy producer of digestible nutrients. Of the three groups of nutrients, protein, carbohydrates and ether extract, the ordinary hays and grains of the farm, contain plenty of carbohydrates and ether extract, but are apt to be deficient in protein. We buy linseed meal and cottonseed meal in order to make up this deficiency; in other words, we buy them largely, if not entirely, for their protein content. The yield of digestible protein per ton and per acre of some of our common feed is shown in the following table:

| Feed.             | Yield, per acre. | Digestible protein. |          |
|-------------------|------------------|---------------------|----------|
|                   |                  | Tons.               | Per ton. |
| Timothy .....     | 1.5              | 56                  | 84       |
| Mixed hay .....   | 1.5              | 118                 | 177      |
| Corn silage ..... | 10.0             | 18                  | 180      |
| Red clover .....  | 2.0              | 136                 | 272      |
| Alfalfa .....     | 4.0              | 220                 | 880      |

It will be noticed that mixed hay yields over twice as much digestible protein per ton and per acre as timothy hay; corn silage, a carbonaceous feed, yields only 18 pounds of digestible protein per ton, but on account of being a larger yielder, produces 180 pounds an acre. Red clover yields 136 pounds of digestible protein a ton, nearly two and a half times as much as timothy. It is a letter yielder than the hays previously mentioned, and consequently produces 272 pounds of digestible protein an acre, or 133 pounds more than timothy hay, or 95 pounds more than mixed hay. Alfalfa (three cuttings) yields double that of red clover; it is also richer than red clover, yielding 61 per cent. more digestible protein. Combining high yield with high protein content, alfalfa makes a remarkable showing of 880 pounds digestible protein an acre—over three times the amount produced by an acre of red clover, and 10 times that produced by timothy hay.

#### TAKES PLACE OF ONE HALF GRAIN

Alfalfa is both a roughage and a partial substitute for grain. A summary of feeding trials at various experiment stations with dairy cows shows that alfalfa can be made to take the place of at least one-half of the grain usually fed our dairy cows, and as the nutrients needed by dairy cows can be produced much more cheaply with alfalfa than with grain, the cost of producing milk may be greatly reduced by its use.

The cash return from feeding this crop at the various experiment stations ranges from \$10 and \$20 a ton. With four tons an acre, these figures show excellent returns from the land devoted to alfalfa. A conservative estimate would indicate that the dairy farmer can increase his profits from 50 to 75 per cent. by a liberal but judicious use of alfalfa grown upon his own farm.

Recently one of our farmers was successful in

raising alfalfa for the first time. He commenced feeding it in place of other roughage as corn stover, timothy, and so forth, but continued to feed the usual amount of grain. He submitted his ration to the Wisconsin Experiment Station for approval. It was suggested that since alfalfa contained a larger amount of digestible nutrients than ordinary roughage,



There are Many Points about These Buildings worthy of Emulation

The trees along the road side, the neatly clipped hedge and the substantial, well painted buildings on the steading of J. A. Sangster, Guegarry Co., Ont., here illustrated, are all points that redound to the credit of the owner. They add to the scoring in farm competitions too. Mr. Sangster may be a competitor in some future competition conducted by Farm and Dairy.

—Photo by an editor of Farm and Dairy.

that he could reduce the amount of grain fed. He adopted the suggestion on a herd of 50 cows and watched the results.

#### SAVED \$10 A COW

He gradually decreased the grain allowance until his cows were receiving five pounds a day per head less grain than formerly without causing any decrease in the yield of milk. Five pounds of grain a cow for 50 cows for seven



How would you like a Mail Box at your Front Door?

The illustration shows the home of Elijah Masten, West Lake, Ont., a farmer who used to have to travel several miles to get his mail. Convenience such as these help in making farm life more attractive.

—Photo by an Editor of Farm and Dairy.

months' feeding amounted to 26 tons, which at \$20 a ton is worth \$520, or over \$10 a cow.

The greatest success in corn growing will come to the man who plants the proper variety, on a sufficient space to grow in, hoes his corn as well as cultivates, to keep down all weed growth, maintains a fine dust blanket for the conservation of soil moisture and who continues cultivation for upwards of a month after the corn is too tall to cultivate to advantage with the two-horse cultivator.—John Fixter, Ottawa, Ont.

### A Poor Man's Friend

J. A. Beemer, Brant Co., Ont.

I think alfalfa is the poor man's friend. I would not attempt farming such rough hills as I have on my farm without it. In a good season we generally cut the alfalfa on our side hills three times, and get from two and a half to three and a half tons of hay an acre in the three cuttings. I have never found anything to take the place of alfalfa on clay hills.

In regard to pasturing alfalfa, I have pastured these hills so close with cattle one would think it would be ruined, but the next year it would grow as well as ever. I do not, however, consider this plan good policy. Where you want to use the alfalfa for hay it is better not to pasture too late in the season. The alfalfa should have a chance to grow a little for winter protection.

### Pointers on Selecting Fertilizers

W. J. L. Hamilton, Nanaimo Dist., B. C.

That many and diverse opinions as to the value of chemical fertilizers should be expressed is only to be expected, since so many conditions militate against their success. If, for instance, the soil is too dry, or if a dry spell follows their application, their employment will produce no immediate effect, since plants absorb all their food in solution with the soil moisture. Indeed, if the application is a heavy one, damage may accrue under these conditions, as concentrated fertilizer burns the roots of plants. Hence, several small applications during the growing season are better than one large one. This is especially the case in sandy soils, where much of the nitrogen is quickly lost by leaching, together with a little of the potash and soluble phosphates.

To get economical results from fertilizers a good knowledge of the soil to be treated is useful, for not only must the lacking constituents be supplied, but those present must be known, since it is foolish to buy what the soil gives freely. If one element of soil fertility necessary to the crop is lacking, or is only present in insufficient quantity, the plant will not do its best, even if all other elements are in excess, since the plant needs a definite proportion of each of them, and, as I have already pointed out, none of these are available if moisture is lacking. As humus is imperative as a moisture retainer as well as a home for bacteria, the absence of this will make fertilizer ineffective.

#### FERTILIZER AN ADJUNCT TO MANURE

Fertilizer, then, is an adjunct to and economizer of manure, and not a substitute, unless the soil contains a good supply of organic matter. The fertilizing element most likely to be lacking in the soil is phosphoric acid, so that very often the application of superphosphate (or immediate use) or phosphate rock or ground bone for use later on, is sufficient to ensure a good crop.

Nitrogen, the most costly fertilizing element to buy, can be best supplied by plowing under a leguminous crop, which will thus far supplant manure, though both potash and phosphates are present in less quantity than in stable manure, whilst even in this they are not in sufficient proportion to balance the nitrogen contents.

The application of a complete fertilizer I have found very profitable on meadow land just as growth starts, whilst phosphates for roots, especially soft turnips and swedes, are a safe investment. Potash and phosphates combined give good results the year after application in a bearing orchard, whilst a complete fertilizer containing the potash as sulphate and not muriate (which makes them wazy) is excellent for potatoes if the soil is in good order.

### A Vetera

Wm. S.

In getting tired of Alfalfa I tried Asphireth work at the p... machinist would work, a much better possible dairy herd. beforehand. Ground flax s... ration for the grow and grinc... in a bucket, sti... mixture with a We let it steam

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We cannot li... as to the amou... a pregnant cow... ration of ensila... If we have... ough bran to... the alfalfa. By... plan to have he

### A HER

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### Tile Drain

James Mar... Fall wheat do... land than on w... more rolling fe... drained, first, I... drained land w... the other. I so... tember 22. This... late seeding. T... land not drain... though naturall... The wheat on... bushels an acre... was caught in a... harvest time. T... I believe I lost... while cutting. Fall wheat will