

MAGAZINE

GUARDIAN



FARM

THE VALUE OF A CLOVER SOD FOR THE CORN CROP.

(Experimental Farms Note.)

Ideal soil conditions for the corn crop are represented by a well-drained, medium loam plentifully provided with decayed vegetable matter (humus). That the successful growth of corn is closely associated with abundant soil humus will be clearly apparent on a brief consideration of its functions as related to the needs of corn.

Humus is the most important soil constituent and imparts that highly desirable, mellow physical condition, denoting warmth and life, to both light (sandy) and heavy (clay) soils. The practice of manuring is based on this fact. Humus is the medium which supports the favorable bacterial life of the soil and is the chief source of the valuable nitrogen which these organisms release—along with the mineral constituents of humus—for the nourishment of the growing crop. Furthermore, the acids produced during the decomposition of humus exert a solvent action on the mineral soil compounds, liberating phosphoric acid, potash, etc., in assimilable forms. Humus acts like a sponge, absorbing and retaining moisture; it is the upper-soil reservoir of water which it yields up gradually to the feeding roots and will thus enable a corn crop to withstand or more rapidly recover from the effect of a prolonged period of drought.

For its favorable germination, corn demands a warm seed bed, and to lack of this essential condition many failures are due. Corn makes a rapid, succulent growth and—like all leafy crops—imbibes and transpires water freely, requiring therewith a bountiful supply of nitrogen and mineral for the building up of its tissues.

A good crop of red clover (cut for hay) is an ideal forerunner of corn; the decaying residues of clover stems, leaves and roots furnish a large amount of humus rich in nitrogen. Clover, alfalfa and other legumes possess the unique faculty of assimilating atmospheric nitrogen and thus of enriching the soil in that valuable element. Furthermore, their deeply ramifying roots draw mineral plant food, in solution, from the subsoil and in their subsequent decay, liberate this mineral matter in zones accessible to the roots of corn.

A sod carrying a heavy aftermath of clover or alfalfa may furnish such an abundance of humus—forming material as to dispense with the necessity for the addition of barnyard manure.

Investigations made by the Division of Chemistry, in connection with experiments conducted at the Central Experimental Farm, Ottawa, have shown that a vigorous crop of clover will contain, at a moderate estimate, in its foliage and roots, from 100 to 150 pounds of nitrogen, 30 to 40 pounds of phosphoric acid and 35 to 115 pounds of potash per acre—approximately equal, in fertilizing value, to ten tons of good barnyard manure. Further investigations showed that the roots, dead stems and leaves (the clover residues ordinarily remaining after removing the crop), collected immediately before spring ploughing, contained from 60 to 80 pounds of nitrogen, 20 to 30 pounds of phosphoric acid and 50 to 70 pounds of potash per acre or the approximate equivalent, in fertilizing value, of six tons of the best barnyard manure.

Another Voice is Added to the Chorus

Of Women Who Sing the Praises of Dodd's Kidney Pills.

Dame Aime Essianbre, Who Suffered from Gravel and Other Kidney Ailments, Tells How She Found a Cure. McLEOD'S SIDING, N. B., May 23. (Special.)—Dame Aime Essianbre, well known and highly respected here is adding her voice to the chorus of women who sing the praises of Dodd's Kidney Pills. She suffered for twelve years. She is well again. She had taken a friend's advice and used Dodd's Kidney Pills.

"It is a great pleasure for me to tell that Dodd's Kidney Pills have made me well," Dame Essianbre says. "I suffered from gravel; I had bad headaches, and my sleep was broken and unrefreshing.

"There were dark circles around my eyes, and I was always tired and nervous. My memory was failing, my limbs were heavy, and I had a dragging sensation across the loins.

"I took 12 boxes of Dodd's Kidney Pills. They cured me. I advise all who suffer from kidney trouble to take Dodd's Kidney Pills."

Their cures have given them a national reputation. Ask your neighbors about them.

THE WORK OF THE DOMINION DEPARTMENT OF AGRICULTURE

Generally speaking, the efforts of the Dominion Department of Agriculture during the last three or four years, have been mainly directed towards increasing agricultural production and improving methods of and facilities for marketing agricultural products in this country. Of the many new lines of work that have been opened up and of the many others carried to a satisfactory conclusion during the last year, those given in the following brief paragraphs are the most out standing and important.

Military requirements have caused a great increase in the importance of the fibre flax industry in this country, and to keep pace with this, a Fibre Division of the Experimental Farms Branch was formed a few years ago, and a fully-equipped flax mill, fitted up with all appliances and every facility for testing and experimenting, has been erected at the Central Experimental Farm. Investigations into improved labour-saving flax machinery have met with a certain amount of success, and an attempt is now being made to discover some economical method of utilizing Western flax straw, usually burnt after threshing, for fibre purposes.

A further step forward has been taken in the study of that disease which has often caused enormous losses in the Western grainfields, namely, black or stem rust. In order to work out effective control measures, field laboratories have been established at Brandon, Man., and at Indian Head and Saskatoon, Sask., where the various stages of the disease may be carefully studied. Steps are being taken to eradicate the common barberry which, it has been established, acts as a host-plant; and thus carries the disease over from year to year.

Another notable line of work of the Experimental Farms Branch has been the production of field root and vegetable seeds, in co-operation with the Seed Branch, in order to prepare for a threatened shortage of these seeds in the near future. This work was commenced in 1917, on certain of the Experimental Farms, as well as on a number of leased areas, and, as two seasons are required for the production of these seeds, 75,000 pounds of mangel, turnip, and carrot seed was obtained in 1918 from the 200 acres of stockings produced from the 1917 seeding. The seed produced all of proved varieties, is now available for sale to seedsmen, farmers' organizations, etc., and besides this, large quantities of stockings have also been grown so that, if thought necessary, these may be utilized for the production of further seed during the present year.

Plant breeding work with fruits, vegetables, tobacco, forage plants and cereals has yielded some valuable and interesting crosses. Of these, the most important new varieties produced in sufficiently large quantities for distribution are Ruby wheat, a heavy-yielding, early-maturing kind, Liberty oats, a hullless variety and Alberta barley, a very early-ripening variety. With live stock, the work with milking machines and experimental calf-rearing has been brought to a satisfactory conclusion, while some poultry survey work and egg-laying contests have been commenced. Other work has included the study of fertilizers and substitutes, plant diseases, tobacco growing and bee-keeping.

The Feed Division of the Live Stock Branch was organized in 1917, to purchase live stock feeds and distribute them to farmers at cost and thus counteract, if possible, the shortage of cattle feed that had developed and the curtailment of live stock production that seemed imminent. Notwithstanding the successful utilization of elevator screenings, feeds had to be imported to meet the situation. This was done as a war measure and it is not intended to continue it beyond the present year.

Owing to the dry summer of 1918, a serious feed shortage developed in the southern districts of the Prairie Provinces, while in the northern parts feed was plentiful, and in order that the cattle might be brought through the winter, the Department undertook to meet half of the freight charges of carrying feed from the north to the south or cattle from the south to the north, the other half being met by the railways. The Live Stock Branch was given charge of this work, and over 10,000 cars of feed were transhipped under this policy, while in Alberta 81,000 cattle and 58,000 sheep, and in Saskatchewan 118 cars of cattle and one car of sheep were moved north.

The work of this Branch has also consisted of assistance to various Live Stock organizations to encourage the breeding of better live stock. Increased meat production is likely to result from the newly-inaugurated policy of giving assistance in shipping back unfinished live stock and live stock fit for breeding purposes that

has been placed on the market. The Health of Animals Branch has established a new research station at Hull, Que., for the study of various live stock diseases and the testing of biological products.

A Dominion Dairy Conference was held under the auspices of the Dairy and Cold Storage Branch. At this conference a National Dairy Council, to be composed of representatives of the various dairying industries of the country, was organized. A uniform standard of grading for dairy products was inaugurated and the legal standards for milk and its recognition and adoption by all Canadian municipalities engaged in food inspection.

A survey of seed stocks was taken by the Seed Branch in collaboration with the United States Seed Stocks Committee, with reassuring results. The seed testing work at the seed laboratories at Ottawa and Calgary has been increasing greatly during the last few years, over 12,000 samples being tested at Ottawa and nearly 14,000 at Calgary in 1917. It was accordingly found necessary to open a new laboratory at Winnipeg in October last, in order to test, for purity and germination, samples sent in by farmers and seed merchants. The operations of the Seed Purchasing Commission were extended to include rye, peas, beans and corn, and a new marketing service for clover and grass seed was started at the Canadian Government Elevator at Calgary with successful results.

The Fruit Branch has been of great assistance to the Canada Food Board in enforcing its regulations and in this connection has also done a great deal by aiding shippers in marketing their fruit and vegetable products to the best advantage. Certain amendments were made to the Inspection and Sales Act last year, aiming at more clearly defined grades for fruit, and the greater standardization of fruit packages. The efforts of the Entomological Branch have been especially directed towards the protection from insects of field, fruit and vegetable crops and forest trees. A number of parasites of destructive insects were successfully introduced, while the inspection of imported plants permitted of the interception of a number of foreign pests.

The foregoing paragraphs are only intended to give very briefly the outstanding features of the work of the Department during the past year or so. Besides the above there are, of course, many other lines of the regular work, all of greater or less importance to the agricultural progress of this country.

USE OF CLOVER, GREEN OATS AND VETCHES FOR SILAGE

We wish to impress upon the live stock men of Eastern Canada the necessity of making plans to have sufficient green forage crops available to fill their silos in case their corn crop is not up to the standard, as happened last season.

We do not for one moment wish to discourage the raising of corn, as corn is one of our most valuable forage crops in many sections of Eastern Canada. Corn is also a crop that is very

useful for the cleaning of our fields of weeds and putting the soil, if cultivated properly, in the best of shape for the succeeding crop.

But in Eastern Canada corn is very uncertain in certain sections on account of the late frosts in spring and early frosts in autumn, which prevent its maturing sufficiently to make the best silage. However, there are other crops that thrive and do very well in these districts and that make the best of silage when harvested at the proper time. One of these is our red clover plant which makes very palatable and nutritious silage. If the first cut of clover is made about the last of June for hay, the second cutting can

be utilized very nicely for the silo and another point in favor of using the second cutting for silage is that it is very often difficult to dry it sufficiently to make the best of hay at this late season.

Oats and vetches can also be grown very successfully for silage; sow at rate of two bushels of oats of a strong growing stiff straw variety such as Storm King or Alaska, one peck of spring rye, and one-half bushel of vetches per acre, cut in autumn as soon as beginning to show signs of turning. This crop can be cut with a binder or with a mowing machine

Continued on Page Ten



Aluminum utensils Kept bright With Old Dutch Removes Discolorations and Saves Time-Money-Labor



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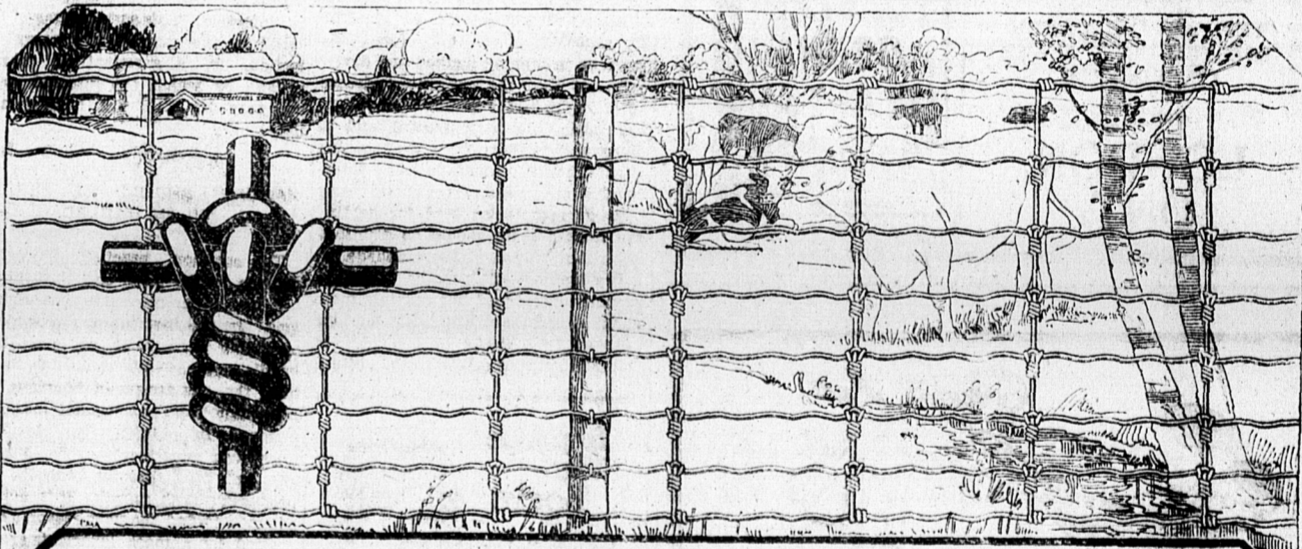


has no piston. Pistons wear and leak vacuum. This permits teat cups to drop off. There is no possible chance for leakage of vacuum with the Empire. It's always uniform. Cows like this uniform action of teat cups—it soothes them. They let their milk down in larger quantities and lactation period is lengthened also.

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We believe the legitimate way to sell fence is through some established Hardware, Implement or other dealer who is responsible and has the respect of his neighbors in the community. These men carry a stock of fence which the buyer can examine, take home and, in many cases, stretch it up and know that it is satisfactory before he has to pay for it.

The manufacturers who make fence that is sold in this way know absolutely that their product must be all that it is claimed, or else the dealer has difficulty in getting his settlement and there is consequently dissatisfaction all round.

THE FROST STEEL AND WIRE COMPANY'S great business and reputation has been built up on quality and the value that Frost Fence gives in extra years of service. That is why we ask you to buy your fencing through dealers. We believe it to be the only proper and satisfactory way.

Compare with this the method of some firms who wish you to buy direct, saying that it means a saving, that it comes to you much cheaper, and all that. True, it may

come a little cheaper in price as they tell you, but it also comes cheaper in quality and that they do not tell you.

Why should you send your money in advance, wait a considerable time, as has been the case often in years past, until your fence reaches you, and before you know whether it is very satisfactory or not you have to get it stretched on the posts. Then comes the disappointment and there are very few farmers, even though there is a guarantee, who would take the trouble of rolling the fence up again, cutting it back to the station and re-shipping it, at a time, no doubt, when fence of some kind is badly needed. You simply put the loss down to expense. It is the same old story that unless you pay for the quality in goods, you do not get it.

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