

Manure—Ashes.

Of mineral manures there are few of more importance to the farmer than ashes. All ashes may in one manner or another be made of great use upon the farm. The ashes of coals and cinders are of great benefit in loosening tenacious soils, besides acting upon such directly as a manure. In Canada, we burn wood altogether in the country, farmers therefore have the means of collecting every year large quantities of wood ashes. By chemical analysis it is found that wood ashes contain in large proportion all the more essential elements necessary to plant life except ammonia: or more correctly, all those which are not derived directly from the atmosphere. On the European continent, the value of ashes, and their powerful effect, especially upon young clover, are fully recognized.

In Germany the grass lands are kept in the highest state of productiveness by the sole use of this manure. Indeed, the question has frequently been mooted whether it would not pay the British farmer to import wood ashes from Canada for the purpose of agriculture. The chief and most important of the elements necessary to vegetable life in wood ashes are potash and earthy phosphates. Their quantity varies with the different kinds of wood—the harder woods containing more than the softer.

We have some very complete analyses of the ashes of different kinds of wood by eminent chemists. The following is a statement of the quantity of potash contained in some of the trees and plants:—

10,000 parts of	Oak	.....	15
"	"	Elm	..... 39
"	"	Beech	..... 12
"	"	Poplar	..... 7
"	"	Vine	..... 55
"	"	Thistle	..... 55
"	"	Vetches	...275
"	"	Beans	.....200

It will thus be seen that both trees and plants contain in their ashes much valuable manure. Wood ashes being a powerful alkali, correct much of the acidity that may exist in the soil, and we as farmers may employ them without any distinction respecting the sort of timber from which they are obtained.

In the Western prairies, straw is often burnt off, and even in England, where great value is set upon barn-yard manure, the burning of the stubbles is not unfrequently adopted.

I have heard of a crop being so much benefited by the burning of a preceding dirty stubble as to produce a full forty bushels to the acre. This experiment was again tried in the following season. The stubble was partly ploughed under, according to the common practice, and partly burnt before turning over. The result of the crop was eight bushels per acre more on that portion

which had been burnt than on that which had been simply ploughed in. The same experiment was repeated, and a following crop of oats having been seeded down, the clover took well, while the portion on which the burning of the stubble had been omitted was choked with weeds.

To perform this operation effectually, however, it is necessary that our stubbles be left long, and it becomes a question whether the benefit of the ashes will counterbalance the loss of barnyard straw for our long winter's use. For my own part, I am inclined to think that the benefit from this practice arises more from the effect of the fire in the destruction of weeds and insects than from the small quantity of ashes that is produced.

Let the farmer think which way he will of the use of this manure, as above considered, he can hardly doubt the efficacy of wood ashes as a top-dressing on the artificial grasses. In the Netherlands, where their clover crops seldom or never fail, ashes are looked upon as a necessary top-dressing. Numerous individual instances of their beneficial effect have been recorded, and Sir John Sinclair adds the public declaration of eighty-three practical Flemish farmers that "they know by experience that when clover is not manured with Dutch ashes at the rate of 25 cuvelles per hectare (equal to nineteen bushels per acre) the following crop is very bad, notwithstanding any culture that can be given to the soil; whereas they always have an excellent crop of wheat after clover, and doubtless in proportion to the quantity of manure above mentioned being used." The farmers who subscribed this declaration must have been deeply impressed with the importance of these ashes, for besides being brought through the canals from Holland, they must in most cases have been afterwards carried from forty to fifty miles by land.

When ashes are used to top-dress meadows in Canada, they are generally mixed and laid on with gypsum in the early summer.

I think, however, the better plan is to lay on the plaster in the spring by itself, and the ashes in the fall by themselves; we shall thus secure a more liberal application of each of these valuable, but differently constituted manures to the crop. Wood ashes are so valuable to the farmer that it is a penny wise and pound foolish proceeding to sell them for the small bars of inferior soap which we receive from the peddling ash-man.

Let us keep our ashes and also our soot. The latter is most useful when applied as a top-dressing to the young turnip; it is very acrid and bitter, and has been found to prevent the ravages of the turnip fly.

C. E. W.

WIRE FENCE—G. L. C. will find the information he asks for in the June number of the CANADA FARMER of 1869.

Manure.—Salt.

Salt, for the use of the land, has now for many years occupied the attention of leading agriculturists, and many and various have been the results deduced from frequently conducted experiments in different parts of the world. These results have varied upon different soils, and under different conditions as to climate and modes of application.

Owing to the several forms in which salt has been discovered, there has arisen a difficulty among scientific men as to calling it a mineral, but I think we shall not be far astray when we class this product among the mineral manures.

Salt, as a stimulant, is various in its action, according to the mode and quantity of its application. If used in great quantities, it has a tendency, like lime or any other energetic stimulant, to destroy and rapidly disorganize all vegetable matter with which it may come in contact. When, however, this substance is used moderately or mixed with compost, its action is that of a gentle stimulant, giving increased vivacity to the vessels of the plant, even as it does to those of the human body, consequently promoting vegetation and acting as a useful manure.

Upon a naked fallow, it has been recommended in large quantities, in order to hasten the decomposition of any existing vegetable matter or putrescent manures. Its effect is in this case precisely similar to that of lime, and its quantity, when applied to fallow thus, will have so far diminished by incorporation with the soil by the time that grains are sown, as to act upon the crop with moderate stimulating power.

Mr. G. Sinclair, in his prize essay, communicated to the Board of Agriculture as far back as 1820, gives the following experiments with regard to the application of salt to wheat:—

WHEAT AFTER BARLEY.

	Produced per acre.
	BUSHEL.
Soil without manure	..... 16½
" dressed with 11 bus. of salt	..... 22½

WHEAT AFTER PEAS.

Soil without manure	..... 16
" with 6½ bus. salt with the seed	... 17½

BARLEY AFTER TURNIPS.

Soil without manure	..... 12
" with 5½ bus. salt applied before sowing	..... 28½
" with 11 " " "	..... 28½

These experiments appear to have been made upon small plots of land, and with great care. Such results cannot be expected from the same trial upon a more extended scale, but are useful in giving facts as to the relative value of the application or non-application of salt.

The same authority also gives as the re-