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How May We Know Good Land?

CLAY IN THE SOIL, AND CLAY WITH MANURES.

SIR,—I do not know that this question has ever been discussed by a farmer's club or an agricultural paper, but it certainly is important for every one who cultivates the soil to know how to select that which will best pay him for his labor. We know that there are lands that have borne good crops for 40 years or more without manuring, while there are other pieces that have been exhausted with a few crops; and though you may burden them with manure, you will be poorly paid for your labor. What makes the great difference? Surely it is not the amount of vegetable matter in the soil. There appears to be more vegetable matter in a few good cereal crops than the soil contains. A scientific experiment once determined the fact that while a willow-tree increased over 100 pounds in weight, the soil in which it grew only lost a few ounces, showing conclusively that it derived its growth from elements in air and water. The fact that one soil pays for cultivation better than another must be because it is better constituted to absorb nourishment from air and water, and give it to the plant. Soil is composed, apparently, of soil and clay. Sand is glass; it will absorb nothing. Land composed of sand alone will not improve in crop-bearing power by rest. The deserts are sandy deserts. Clay is a powerful absorbent. I have used different earths in an earth-closet, and found them effective in proportion to the clay they contained. A very light covering of clay dust would immediately stop all offensive exhalations. Clay soils do improve by rest, and very rapidly, when they are under-drained so as to be pervious to air and moisture. Can we escape from the conclusion that the clay absorbs from air and water plant food, and surrenders it to the power of life within the plant? I cannot say what proportion of clay to sand should exist in the soil. My present purpose is to speak of certain indications of the presence of clay found in very productive soils. A good soil should be mellow when plowed, but having sufficient clay to retain the form of the furrow, and to harden if worked in a wet state. When in the proper state of dryness for cultivation it should be sufficiently cohesive to hold its shape when pressed in the hand. A steel plow is required, as a cast one is liable to clog. A simple indication of the quality of the soil is the state of a natural carriage-road over it. If there are deep ruts and large lumps, there is likely too much clay; if the land rides the wheels of the carriage, there is not enough. If the soil packs smoothly it shows a desirable combination.

The timber is an indication, and one which governs people's judgment perhaps more than any other. Beech and maple are considered positive evidence of good soil, but much of the very best land does not grow such timber. These trees, especially the beech, do not grow thriftily on wet land, however good the soil may be. Timber and plants are better indications of the condition of the soil as regards moisture than of its crop-producing power. If the water in the land is near the surface, the trees are of soft wood generally, though some species of oak thrive in wet land.

Let me offer some suggestions in regard to the use of clay upon the farm: Its effect upon manures is different from that of lime. We know that in mortar it will neutralize the lime. I would not use it in compost heaps, but as a covering for compost heaps it will absorb the exhalations. As a covering for all manures it would certainly be very valuable, for it will absorb the ammonia released by fermentation. I would mingle clay or a clayey earth with the offal from the hog-pen, scatter it under the roosts of the poultry house

and spread it over the manure heaps. Clay alone applied to sandy soil would be valuable. Mingled with any manure, it renders it inoffensive and earthlike, so that it can be much more readily applied to crops "in the hill." When freely used, it will render the air pure about the stable, the poultry house, and even the pig-pen—an object which, though treated as unimportant, may be more deserving of our effort than we realize, on account of the effect of impure air on the health of animals. Certainly human beings could not live under the conditions to which many animals are subject.

I hope some of you readers will try the effect of clay or a clayey earth in some of the ways I have suggested, and report results. "The shoemaker says there is nothing like leather," but I am of the opinion that "there is nothing like clay."

ALUMINA.

SIR,—We felt the times during the past two or three years very hard, but I am glad the good old times are beginning to come again, and I think there ought to be some credit given to the N. P. for the return of business. I read your article on removing the duty from American corn. For my part I do not agree with the idea. Your reason that it would help dairymen and stockmen I admit to be plausible, but you must bear in mind that those classes do not represent the mass of agriculturists. I think that a large majority of farmers in Canada are benefited very much by the present duty on American corn. The price of butter is very fluctuating, and it may soon take a tumble down, therefore it would not do to touch the tariff on the butter question. As for Canadian beef, it will always command a high price in the English market. Then, I say let the herdsmen pay a little more for the feed and we will all benefit proportionately. I know a couple of gentlemen that shipped cattle to England the past summer, who made a nice fortune notwithstanding the duty on corn.

J. C., Claude.

SIR,—We have a disease called sturdy, or worm in the head, which depends on a parasite found in a small bladder containing fluid, in which the worm floats, in some part of the brain. The symptoms of the disease are governed by the place or division of the brain in which the parasite is found. It is a species of tape-worm, and is generally found in flocks attended by dogs. Cattle as well as sheep are attacked. Lambs are oftener affected than older sheep. Delicate animals are more subject to the disease, and more particularly in the autumn and winter months.

W. H., Chisholm P.O., Ont.

[There are a number of diseases affecting sheep in the head, causing giddiness or staggers. Where the blood has become congealed, then bleeding from the facial vein would be beneficial.]

Ventilation.

SIR,—In answer to "Pictou's" inquiry in the January number as to the best mode of ventilating a cellar I send you the following:—Build a bin of brick or stone from the bottom of the cellar up to the hearthstone, the size of the hearth; leave a hole at the bottom to admit a shovel for taking out ashes, and one near the top for ventilation; insert a grate of two iron bars half an inch apart between the hearthstone and fireplace, in length from corner to corner. I built the original one twelve years ago, and would not dispense with it on any consideration. It keeps the cellar pure, gives the chimney a draught, dispenses with the daily lifting of ashes, and prevents all risk of fire from hot ashes. If for ventilation alone the grate is sufficient.

R. G., Upper Stewarck, N.S.

SIR,—I want to know the best way to give flax-seed to horses, and if it is really good for horses and cattle—that is, without grinding the seed.

N. McP., Vernon River, P. E. I.

[Flax-seed should be ground or boiled; boiling answers very well. It is an excellent food for calves, cattle and horses. About half a pint well boiled and mixed with grain or bran, and fed once a week, is about the proper allowance for a horse.]

TO QUERIST AT SAULT STE. MARIE.—You should have sent your name. We could have replied to you by mail. Correspondents and querists should always send their names and address in full. We do not pretend to reply to non-subscribers' queries.

Stock Raising.

SIR,—I see many good things in your paper, and for the information of others I will submit a little of my experience. I find tar and salt mixed and kept continually within reach of my cattle very beneficial to their health. I also find a little sulphur good. I use the above constantly, and never have any sick cattle. They are all in fine condition. My cows average 300 lbs. of butter per year, which I sell at 25c. and 26c. per lb. I would like to get some information concerning the Devon cattle. Would they be a good cross with Ayrshires? If so, what would a bull calf cost me? I would want an early one.

J. I. M., Morrisburgh.

[The Devons are considered a hardy, active cattle, and produce an excellent quality of beef. To cross them with the Ayrshires may do well in some sections where feed is spare or the country rugged, and the animals have to exert themselves considerably to obtain sufficient food; but in the level and more luxuriant pasture lands we would consider the Durham or Herefords a good cross, and would doubtless produce a heavier animal for feeding off and shipping, which has become an important interest in the Dominion. J. Pincombe, Lambeth; John Peters, London, and G. Rudd, Guelph, are breeders of Devon cattle, and can doubtless inform you concerning prices, &c.]

SIR,—I would like to know which is the nearest office to this place for the registration of pedigrees of thoroughbred stock. I also have a yearling colt, bred from a valuable Morrill mare and a Hambletonian stallion, and lately I have noticed a swelling on the inside of the right hough. The animal is not in the least lame or stiff, and at some times it appears to increase, and then shows slightly on the outside. Can you inform me what it is, and what treatment will effect a cure? I do not think it is a spavin, and am wholly at a loss what to call it or how to stop its growth. By answering the above at your earliest convenience you will greatly oblige.

P. Y., Gould P.O.

[Your colt has what is termed thoroughpin. You will apply a lotion made of hydrochlorate ammonia, saltpetre and common salt, equal parts, dissolved in cold water and applied twice a day. If this does not succeed in removing the swelling, you will then apply a strong astringent liniment.]

SIR,—I take the liberty of asking where I could get one hundred Spanish hens, as I am thinking of keeping a hennery, and think they might be the most suitable for that purpose. If they cannot be had, perhaps you could suggest some breed equally good.

T. D., Hanover, Ont.

[This is one of many enquiries we have for information where fowls of pure breeds can be procured. We had two Americans in this office the other day making similar enquiries. If poultry breeders having pure bred poultry to dispose of would make it known through the medium of advertising, they would find it to their advantage.]

SIR,—I have a colt 18 months old. About four months ago it became lame on its hind feet. I cannot ascertain the cause. Its fetlock bones are growing, and the joints are swollen both sides. Can you tell me what to do?

M. M., Gulf Shore, N. S.

[It would be well to pare the toes off short and apply a cantharidine blister to the affected part once every three weeks until a cure is effected. Blister to be composed of cantharidine 1 part and lard 10 parts. Apply by rubbing in well with the fingers, also rub in a little lard three days after blistering on each occasion.]

SIR,—What ails the ducks? They stretch themselves, fall over on their backs, lie kicking and not able to get up for a long time; one day well, next day sick again. They seem dizzy. What is the cause, and what will cure them?

M. B., Thornbury.

[From your description we cannot say positively what the disease is, but would be inclined to think it is from over-feeding with strong food, causing apoplexy. Perhaps some poultry-breeder can give us further information.]

SIR,—Can you inform me whether there is a breed of white Berkshire pigs.

R. H. B., Bomholm.

[We do not think any such breed of pigs exist.]