



CORRESPONDENCE

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Reducing Bones.

SIR,—I have a large quantity of bone; how can I reduce it so as to be able to apply to the land to the best advantage? H.W.F., Columbus.

[One of the simplest and cheapest ways is to treat the bones with caustic potash—unleached ashes answer the purpose well. Place a tight barrel on a stand, bore a hole in the bottom, laying a little straw over the hole, then a layer of bones covered with fresh ashes, and alternate layers of bones and ashes until nearly full. Four water on them until it runs out below. Place a tub to receive the lye, which is to be returned daily with additional water equal to the evaporation. If a sufficient amount of ashes be used in the packing the gelatin will be entirely dissolved in a month or two in the warm weather, and the bones can be crushed by a blow of a spade. In this way nothing is lost, whereas by burning all the nitrogenous matter is destroyed. The addition of a little of the caustic potash of commerce would hasten the operation and would give more acid value to the manure.]

Another mode as, given by Ph. Pusey, M.P., who was a distinguished English agriculturist: He had previously decomposed crushed bone by mixing with peat ashes, and it had been suggested to him that the heating was caused by moisture, and that any moisture would do as well. He says: "I therefore procured three cart-loads of crushed bones, and having wetted them, mixed one cart-load with two cart-loads of peat ashes, another with two loads of coal ashes, and the third load of bones with two loads of sterile white sand, dug up from some depth, and quite unfit of itself to support vegetation. The three heaps were made up as compactly as possible side by side. In a few days they all heated equally, becoming too hot in the middle to be borne by the naked hand; in a few more the bones had disappeared in each heap, equally, being reduced in general to a blue-mouldy substance. Some corroded fragments, indeed, which remained in the centres and outsides to the depth of five or six inches, were unchanged, because there the heat was insufficient."

Having succeeded in decomposing the crushed bone with either peat ashes, coal ashes or sand, equally well, he next proceeded to try their effects on half-acre lots of early turnips, and found that equal quantities of bones produced equally good crops. Having the impression that the members of the Royal Society would not be convinced of the utility of his new mode of preparing bones by one year of experiment, he the next year proceeded to experiment on a larger scale on a seventy-acre lot of turnips and swedes, and to compare the effects on the one hand with unprepared or raw crushed bone, and on the other hand with bone decomposed with sulphuric acid, called at that time "dissolved bone" or "superphosphate." He gives the result as follows: 17 bushels of raw bone costing \$11.68, produced 13½ tons of turnips; 4½ bushels of dissolved bone, costing \$5.68, produced 14½ tons; 8½ bushels of heated bone and sand, costing \$5.18, produced 13½ tons.

By Mr. Pusey's experiment it is seen that crushed bone, decomposed by moisture and sand, produced as large crops of turnips as superphosphate of lime, or "dissolved bone," as it was called at that time.

A farmer also writing to the Country Gentleman, says he has used crushed bone rotted in a similar way, only that he used loam instead of sand, which is undoubtedly better. His results were as follows:

Corn did very well with it, but the crop was injured if the seed came in contact with the manure when sprouting. I thought it did not have so good

an effect upon the potatoes, though other causes may have prevented a full crop. Its effect upon tomatoes was surprising. They literally covered the ground with fruit. I have also used it many years upon grapevines, peach trees and pear trees, with decided advantage. But I have used more of it as a top-dressing to meadows and when seeding down to grass than in all other ways. In the latter operation I always apply 500 to 600 pounds of the bone, rotted, and 200 to 250 pounds of guano to the acre, and always with success and satisfactory results; and that treatment generally insures a fair crop for 15 to 20 years.

All organic substances must be decomposed by natural processes before their elements can enter into new combinations. Flesh, grain, vegetables or bone cannot nourish a plant until it rots; nor can either act as a manure for any plant until its elements are set free by decomposition. Bone, if mixed with moist soil, is decomposed, while the soil retains all the gases or manurial qualities which are disengaged and set free by the fermentation. All the elements of vegetable nutrition which bone contains are then in a condition to be taken up by the roots of any plant; but of course those elements are better adapted to some plants than to others. I have never seen much advantage from unrotted bone, even when finely ground. The amount applied is so small in proportion to the soil of the field that it will not ferment. And even if well harrowed in, it will remain unchanged, inactive, and nearly useless for a long time. And it is even more inefficient when applied as a top-dressing, as I have found, when thus applied at the rate of a ton to the acre.]

SIR,—Seeing from your correspondence from the Maritime Provinces that you are willing to publish notes of improvement from all parts of the Dominion, I write a line to you from this eastern part of Ontario. This section of the country does not fall short of any other part in agriculture and general progress. You know the Bay of Quinte district produces the best barley on the continent. Our country is also rich in minerals, and our Live Stock interest is well cared for. Our prospects for this season are very good so far. From the following extract from the Intelligencer, your numerous readers can form some idea of our progress:

EXPORTS TO THE UNITED STATES.

Col. Prince, United States Consul for the Belleville District, furnishes the following returns of exports to the United States from this district during the past quarter:

Value of declared Exports from Belleville Consular District to the United States for the 3 months ending 31st March, 1880.....\$63,075.46
Do. same period 1878.....42,279.27

Increase.....\$20,796.19

Principal items:

Barley.....	\$28,212 70
Iron Ore.....	15,049 00
Live Stock.....	4,035 00
Hides and Skins.....	2,200 00
Pease.....	1,000 00
Rye.....	2,500 00

FARMER, Belleville, Ont.

SIR,—Can you tell me how I can most effectually prevent the continued washing away of the side of a gully? The winter's frost and the following spring rain wash the earth into the gully, and no grass will bind it. X.X., Shakespeare, Ont.

[A bank such as you describe is in our immediate vicinity. It is a steep declivity over the river. Eight or ten feet wide of surface were washed away in a few years. The owner then planted it with strong willow cuttings, 5 to 6 inches in diameter, to a depth sufficient to hold their position. These cuttings grew freely. Their roots have formed a strong net-work in the bank, and the consequence is there is now no washing away of the earth. They are growing rapidly, and will be a perfect protection of the bank, and now there is a sward of grass on it, as the soil is not hoven by the frost and washed away by the torrents. The golden willow is the variety used. It is the simplest and the most effectual remedy for such land slides that we have seen. The roots extend so far into the bank and gain such a hold in a short time that the object aimed at is attained at a trifling cost.]

Corn and Rye.

SIR,—Please tell Mr. Tilley to raise the duty on corn a little higher, as we find that our coarse grain is selling much higher than it did under the late Government. Rye is in good demand by distillers, if they are allowed to make and sell whisky. I say let the Canadian farmers have the profit of raising the grain, and not the American farmers. Protection is working splendid, and old honest Reformers are beginning to see and acknowledge the improvement to be just what the country wants. My rye which is now growing was spoken for twelve months ago by the distillers, at the highest price in the market. We will have no trouble to get 75 cents per bushel, which will pay far better than wheat. On our light sandy soil, where wheat will not grow, heavy crops of rye can be grown; it makes fine feed for stock of all kinds and produces a large quantity of straw for making manure. It is a paying crop at the above figures, and will be raised by many farmers both for feeding and marketing. There is no crop grown that will make more manure than rye, and by feeding stock and having abundance of straw you enrich the poorest land. The ADVOCATE is just what every farmer in Canada should have and read. I wish it every success. Keep corn out—we can grow all we want for "mush" and Johnny-cake. E. E., Hespeler.

SIR,—I wish to pasture my sheep in the orchard, but find they gnaw the bark of the young trees. What can I do to hinder them?

[Where it is desirable to pasture sheep or hogs in orchards, or where rabbits make depredations, the bark of young trees may be successfully protected by washing the trees in spring, and again in mid-summer, for sheep, and in late autumn for rabbits, with soap suds and carbolic acid, or a solution of coal tar and whitewash. Both are sure in accomplishing the end in view, and are valuable in keeping off the borer and in giving a healthy surface activity to the sap, which will make the bark look fresh and healthy. An ounce of carbolic acid to a pail of soap suds is sufficient.]

SIR,—Can I grow pumpkins among corn to advantage? Will they make the yield of corn less per acre than it otherwise would be?

G. R., Orillia, Ont.

[In our experience we have found it profitable to grow pumpkins among corn. The vines will not seriously incommode cultivation, as they do not begin to run much before the corn is too large to work a horse among; but in case they do, the extra time it may take to move the vines out of the way will be well repaid in the yield of pumpkins. It has been proved by experiment that the yield of corn will be in no way decreased.]

SIR,—Send me a remedy to prevent smut in corn. I had a good field last year which was very badly affected. J. S., St. Thomas, Ont.

[We believe smut in corn to be produced by a luxuriant growth which is caused by a rich soil, or damp year. Steeping seed wheat in strong brine has been found a preventative against smut, but we do not know how it would answer with corn. You might try it as an experiment.]

SIR,—Give me, through the ADVOCATE, the address of the National Live Stock Journal.

SUBSCRIBER, Ingram.

[S. G. Brabrook, Secretary National Live Stock Journal, corner Adams and Clark Streets, Chicago, Illinois.]

SIR,—I have been a constant reader of the ADVOCATE for a long time, and receive much benefit from it. Some years ago I saw the Scott wheat recommended in it; I bought some, and it has given me good satisfaction. Last year I had 1,200 bushels, an average of 40 bushels per acre.

J. S., Biddulph, Ont.

H. W. W., of Orwell, Ont., enquires of us the proper way to save bees without letting them swarm. Perhaps an apiarian will reply.

A. C. Grimsby.—The onion was once a nauseous shore plant, growing in the sand.