

Agriculture.

Field Rollers.

The utility of the field roller has long been acknowledged. There has probably been as much thought and ingenuity expended in their possible perfection as in any other of the simple implements of the farm. The public, within the last eight or ten years, have had them of every conceivable form and variety of shape, as adapted to the work of crushing, grinding, and pressing the soil. Until the idea of giving them flexibility, or rather an adaptability to conform to the uneven surfaces of the soil, so as to press comparatively even, great dissatisfaction was expressed with much of this implement's work, especially by those having lumpy soils that must be plowed in ridged lands on account of their naturally level surface, for the reason that the work was often too well done. It did not press the soil evenly and alike to the seed, and thus in dry weather great difficulty was experienced in getting the seed to grow. The jointed roller has been introduced as an improvement on the old one. Let us see what its capacities are. It crushes and pulverizes the soil to a certain degree, not as well as could be desired, but after all it is only measurably well that the fruits of man's ingenuity may do anything. It does, however, press the earth firmly to the seed, and leave the surface of the soil smooth, even, and compact, thus preventing excessive radiation and especially the severe drying out of the moisture. Thus it allows the seed to sprout evenly at once; and what is of fully as much importance, if heavy rains come, it leaves the whole field of the same level with the marks of the corn-planter, and thus often prevents serious washing of the rows.

The roller often does much good in the killing or so crippling of insects that they thereafter do little if any damage. Vast quantities of the chinch bugs, locusts, and other insects may be destroyed in this way on smooth soil. It is good for smoothing meadows, and especially for bringing up grass seed where it is simply pressed into the earth with the roller. For all summer crops and those sown in the autumn, which do not always germinate promptly on account of their small size, the roller is indispensable. For flax, grass, millet and buckwheat, it should always be used. It should also be used in the broadcasting of turnips, or when drill culture is used for any of the root crops. Independent of the fact that the smooth surface greatly assists cultivation, the roller compresses the soil to the seed, and it comes up more promptly and evenly. With sward and imperfectly-rotted sod it is almost indispensable, so that it may be rolled before harrowing. In fact, if one has a good roller, and keeps it under cover and from the wet ground when not in use, he will find it will last a lifetime and be found one of the most indispensable implements on the farm.—[Prairie Farmer.]

Bone Dust.

Bone dust, like barnyard manure, does not immediately yield up its nitrogen and phosphoric acid to plants. The bone phosphate of lime is insoluble in water containing carbonic acid. The gelatine of the bones would soon decompose in a moist, porous, warm soil, provided it was not protected by the oil and the hard matter of the bones. Steaming removes the oil, and reducing the bones to as fine a condition as possible is another means of increasing their availability. Another good method is to mix the bone dust with barnyard manure, and let both ferment together, and I am inclined to think this is the simplest and most economical method of rendering bones available. The bone dust causes the heap of manure to ferment more rapidly, and the fermentation of the manure softens the bones. Both the manure and the bones are improved and rendered richer and more available by the process. One ton of good bone dust contains about as much nitrogen as 8½ tons of fresh stable manure, and as much phosphoric acid as 110 tons of fresh stable manure. But one ton of manure contains more potash than 5 tons of bone dust.—[Harris' Talks on Manures.]

With an area about half as large as Texas and possessing the highest priced lands in the world, Great Britain has about 35,000,000 sheep, or about as many as the United States, and produces more wool. While the sheep do not pay for themselves in wool and mutton they are absolutely essential in maintaining the fertility of the soil.

Surface Manuring and Thin Seeding.

In the Summer of 1876, after mowing a field containing ten acres and ten rods, I scattered over the most of it a light sprinkling of stable manure, spreading as fast as hauled upon the second growth of clover. The Spring of 1877 the field was planted in corn, and yielded a heavy crop. The Spring of 1878 flax was sowed, and yielded eighteen bushels per acre. The field was then ploughed the second week in August, the last week in August harrowed and dragged, and the first week in September three-quarters of a bushel of Fultz wheat was drilled in per acre. The wheat did not appear quite thick enough in the Fall and early Spring; but though from the 15th of April to the last of May was very dry, so much so that corn would not come up, the wheat thickened out until it began to lodge in many places—over one-half the field was badly lodged and tangled before it was ripe enough to cut. The crop was harvested the 25th and 26th of July—four or five days in advance of the majority of wheat fields in this county.

The wheat was threshed July 7, and yielded 377 bushels and 19 pounds, or nearly 38 bushels per acre. Owing to the tangled condition of the wheat, I am confident not less than two bushels per acre were left on the ground. The best place to put manure is on grass, not on that which is cropped off to the very ground, but on a good growth, which hides the soil from the sun and wind. The ground then, after yielding a crop of corn, and oats, flax or barley, will be in the best condition for wheat. Farmers use too much seed to the acre. I never sowed less than one and a quarter bushels per acre before, and never raised more than thirty bushels per acre. I am confident that I would have raised as much if not more if I had sowed half a bushel instead of three pecks, from the fact that wheat scarcely ever lodges unless it is too thick. This year I shall only sow a half bushel on part of my ground. Persons who read this must understand, however, that poor land and slovenly tilling require more seed to the acre.—[Timothy Wilson, Ind.]

Saving Seed Corn.

The best ear is uniform in size throughout its entire length; the rows are straight, with uniformly-shaped grains the entire length, and incline to extend over each end, and indeed to cover the silk end.

To have seed that will certainly grow, no matter what the weather or how long it may be in the ground, it must be gathered before there is any freezing weather, and immediately be thoroughly dried so that the cob is as dry as it can be made; if so dried, after-treatment is of secondary importance. Seed corn treated in this manner, picked any time after it has passed the milky state, will grow and the produce will not deteriorate.

No season in the northern belt of States sufficiently dries or cures the cob of the larger varieties of corn enough to warrant reliance on its germination, if not subjected to artificial drying in addition to the natural forces. The inevitable tendency in all varieties of maize in cold seasons, or in higher latitudes than the belt where peaches can be successfully grown, away from large bodies of water, is to rapidly shorten the ear; and to keep up productiveness long ears should be sought for that are otherwise the nearest perfect as previously stated.

No doubt it is wise to refuse the grains at each end if they are diminutive or irregular in shape; but if the ear is perfect, little or no rejection is needed.

We are willing to stake our credibility on the single statement that if seed corn is thoroughly dried, cob including, as set forth above, it is as certain to sprout as that in contact with sufficient warmth and moisture.

For ten years I have had no degree of failure with seed corn treated as herein directed. Sweet corn thus managed is just as sure to grow as the hardier varieties.—[Cor. Germantown Telegraph.]

One of the most valuable aids to meat production is almost entirely disregarded in this country. The flax-seed cake made here finds its market mainly in England. It is true that corn is cheap, but there are feeders in this country who have proved the economy of a small relation of oil cake.

The Great North-West of Canada—Prospect of Wheat-Growing.

It will startle a good many in the first place to be suddenly reminded that the actual area of the Hudson's Bay Territory now annexed to the Dominion of Canada is greater than that of the United States. In the second place, it will surprise a good many more people to learn that in North-western Canada the wheat yield more than doubles that of Minnesota, and triples that of Pennsylvania and Ohio. In the third place, it will interest political economists deeply to be told that within a few years the Winnipeg watersheds of North-western Canada alone may be reasonably expected to throw into the commerce of the New World with the Old an annual wheat yield equal to the whole present exportation of America to the United Kingdom of Great Britain and Ireland, and that it is within the limits of possibility that this enormous competition with our own Western grain fields may be pushed eastward down a great navigable stream to a port on salt water which, though situated in the 93rd degree of west longitude, is eighty miles nearer to Liverpool than New York is. These are things, we repeat, to set men thinking. The great centres of agriculture, population and trade have been moved about too frequently and too far on this continent within the current century to make it safe for any man to predict where they may be found twenty years or ten years hence. All that we can be quite sure of is that the price of prosperity, as well as of liberty, is an eternal vigilance. Neither New York, nor Chicago, nor St. Louis, nor the United States themselves need expect to hold any good thing now in their grasp by any other tenure or upon any other condition.—[N. Y. World.]

The Cost of Wheat Growing.

At a recent meeting of the Lancaster County Agricultural Society, the question was asked: "With land and labor at present prices, can wheat be raised at one dollar per bushel?" A member, answering the question, estimated the cost of raising an acre of wheat at \$25.20, as follows:—Interest on one acre of land, at \$150, \$9; taxes, 50 cents; plowing and harrowing, \$4.50; 300 pounds of raw bone, at \$30 per ton, \$4.50; 1½ bush. seed, \$1.20; harvesting and threshing, \$4.50. Against this he placed the product of the acre at 40 bushels, which will bring, selling the straw, \$46, leaving a profit of \$10.80. He did not think the estimated yield was too great, but supposing it is a little too large, there is room for deduction and still leave a fair profit. Of course, he proposed to cultivate his wheat in the spring, and based his calculations on presumption that all wheat will be cultivated. From trials he had made he was forced to conclude that on good land, using a good fertilizer, the result will be as stated, and the land left in good condition for grass for years to come.

PARTRIDGES AND CORN.—To show how useful the beautiful and harmless partridge is, it is stated that a flock of them was seen running along the rows of corn just sprouting, and seeing them engaged at something which was believed to be pulling up the young plants, one of them was killed and its "crop" examined, which was found to contain one cut-worm, twenty-one striped bugs, and over one hundred chinch-bugs. Another man says that he has adopted measures to protect the bird, and that they have become so numerous and so tame that hundreds of them, after snow falls, could be seen in his barn-yard with the fowls, where they were fed. As a result of their presence upon his premises, his wheat crops were unusually abundant, while in many other places not far off the chinch-bug and other insects had destroyed half the crop.

The Royal Agricultural Society has determined to offer two prizes, of £25 and £10, for the best two distinct and new varieties of wheat. One sack of each kind is to be delivered by the competitor on or before October 1 next. Terms of competition can be obtained from the Secretary. The Society is much to be applauded for this decision, which is a most useful addition to their ordinary course of practice. No farmer can do better service to his class, not even by representing his county, than he can by introducing new and improved varieties of live or dead stock; and no agricultural society can better apply its funds than in testing and encouraging such good new varieties. The importance of choice seed has been greatly overlooked.