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NEWCASTLE FARMER.

VOL. II.—NO. III. COBOURG, OCTOBER 1, 1847. TERMS.—2s. 6d. PER YEAR.

From the Farmer's Gazette.

LECTURES ON THE GROWTH OF TURNIPS BY MEANS OF ARTIFICIAL MANURES.

BY THE REV. MR. HUXTABLE.

A meeting of farmers, who attended the Royal Agricultural Society's cattle show, was held in All Saints' Parochial School-room—the Earl of Egmont, president of the society, in the chair—when the Rev. A. Huxtable read a paper on the growth of turnips by means of artificial manure, with a recommendation of particular combinations of manure best adapted to particular cases, and remarks on the adulteration of artificial manures, and the best mode of detecting them. The rev. lecturer, after some introductory remarks, pointed out the importance of bones to the growth of turnips, as was evinced not more by the stimulus which bone-dust as a manure proved to the growth of turnips, than by the fact that it was found by chemical analysis that there was a large proportion of the substance of bones in the composition of a turnip. There was, however, one difficulty in the way of applying bones, because they were so difficult to decompose: they remained in the earth for generations without being dissolved, which, of course, would not answer for farmers, with short lives and short leases. But the researches of modern science had here come to the aid of the farmer, and had effected that grand modern discovery of the decomposition of bones by the aid of sulphuric acid. Now, be it remembered, this was no discovery of the farmers; it was recommended by a learned professor sitting in his laboratory; and he mentioned this to show that farmers ought not, in all cases, to reject the suggestion of theory, as it was in their power often to throw out valuable hints which were of the greatest importance to practical agriculturists. Since that discovery, he believed the use of sulphuric acid for the decomposition of bones had come into very general use among farmers; but still they were exposed to imposition in the purchase of the acid, which was often sold below the guaranteed strength. Now, to test that, he made use of a simple experiment, being a ball of a certain weight, which, when he received a supply of sulphuric acid, he dropped into the liquid, and if it were of the proper strength, the ball floated, if, on the other hand, the ball sunk, the acid was adultered. If these considerations were attended to, he believed the farmers would find great advantage in making use of bones so decomposed. Two bushels of bones decomposed in 48 lbs. of sulphuric acid would bring an acre of turnips into the rough leaf, though it would not enable them to grow twenty tons of Swedes an acre as some had pretended; at least, unless the land was otherwise in good condition. He did not see, however, why they should not endeavour to grow that quantity. He thought farmers ought not to be sparing of the manure; they ought, in a sense, to spread a hospitable board for turnip, and feed their fat; at the same time this was to be done with a judicious attention to all the circumstances of the case. He had himself tried five bushels of bones dissolved in sulphuric acid upon an acre of turnips last year; and the turnips there shot at least a week ahead of the others, and continued to do so till the dry weather came, when they were attacked with mildew, and absolutely rotted in the ground. Now, he mentioned this, to show that it was not enough to supply one kind of manure, but that all the elements which enter into the composition of the plant must be taken into account and provided for. The application of sulphuric acid pushed forward one part of the plant, without making any provision for other, and equally important, parts; and, therefore, nothing was to be expected but that disease would ensue. The manure, therefore, that he would recommend would be four bushels of bones, mixed with four cwt. of gypsum and two quarters of coal-ashes, which were useful for absorbing all offensive smells, to be kept constantly wetted during the winter with tank water, as this would dissolve all the glutinous matter in the bones, and, at the end of two months, they might add two cwt. of salt. This prescription provided for all the different elements of the plant, and there was no fear of its being attacked with mildew. He might mention, that he had used this prescription himself on the poorest soil of Dorsetshire, and the result had been twenty-five tons of turnips to the acre. He mentioned also several other experiments that had been tried with the same, or even greater results, particularly one by Mr. Gardnier, agent to Mr. Fleming, of Barrochan, who had succeeded in raising thirty-four tons to the acre. The lecturer then proceeded to the application of farm-yard manure, and said that the best way of applying it was, by making a compost of pure dung, mixed with two cart-loads of burnt earth, and two and a half loads of ashes. The manure thus mixed became perfectly friable and easily discharged from the drills. Being left moist, it could be laid upon the land with great expedition; he had managed to spread eight tons in the morning, and four in the evening; and, as it was absorbed immediately in the soil, no part of the gases escaped, even the hottest day; very different indeed from the former system, when the manure was spread upon the soil, and the nose and every sense of the farmer assured him that many of the most valuable properties of his manure were escaping.

From the Farmers' Gazette.

HAND-HOEING ROOT CROPS.

THE extensive culture of root crops never can be attended with corresponding benefits, if due attention be denied them; nor is this attention always productive of the desired advantages, if unattended with an adequate amount of practical skill, which can only be acquired by anxious inquiry and studious application.

This year has done more to foster and encourage the growth of root crops in Ireland, than all the years that have passed since the creation; and as the force of example does more than volumes written by theoretic preceptors, one *good* example will make many new converts, whilst one *bad* example may deter the wavering, and cause a retrograde movement on the part of those as yet but half initiated.

As a substitute for the potato, very many this year have grown turnips and other root crops for the first time. Some have adopted the change most spiritedly, others rather timidly; some rather carelessly, others reluctantly; but the worst of all were those who, through obstinacy and ignorant prejudice, refused to adopt any such change, but preferred leaving their lands idle, whilst they contributed not a farthing to the support of the poor, or spent a thought on the improvement of the physical condition of the country. These last are amongst the greatest evils that ever a country was cursed with—evils which nothing can correct but the *tax screw*.

That many of the spirited growers of green crops have experienced disappointments, even to a trifling extent, we are grieved to believe; but that should not damp their zeal, when they recollect the untoward circumstances, sudden chan-

ges, and ungenial weather that intervened since the 1st of November last, the like of which may not occur, perhaps, for the next century; so that our spirited friends should not be downcast by trifles, and our timid friends should become more spirited, from even a partial success. More we need not say to them, but we address ourselves especially to the careless and reluctant cultivators of root crops, which we by no means do in the language of reproach and still less of insult, knowing, as we so well do, that no man was ever converted from erroneous opinions by either insulting his judgment or wounding his feelings; and if any man would affect to be converted by such unwise means, we would set him down as a fool, a hypocrite, or knave, or all three combined. We have seen, this year, some of the finest land in Europe, after being well ploughed, well manured, and well sown with turnip seed, which grew well, completely infested with all kinds of weeds, destroying the crops, whilst the labourer's children were either starving or lounging about the soup shop that the same neglected land was heavily taxed to support; and if this taxation was imposed but for the support of the feeble youth, aged blind or maimed of the country, it would not grieve us. Oh, no; it was taxed for the support of those who, if employed as they profitably could be on that land, would have supported themselves, and, by the increased produce of their labour, lessen the burdens of taxation for their more legitimate objects; and what was, if possible, still worse, by being employed on that and such lands, the country could be rid of the staff of state pauper officers, who thrive on our unthriftiness, and fatten on our follies. Oh, will we ever rid ourselves of them? We can do it. There is not one amongst us that cannot aid in the good work to some extent, and each should strive to do so in his own respective sphere; and as the most powerful chain is composed of the shortest links, the imperfect manipulation of any one of which would render the whole imperfect, so each man should form a link, and feel bound by every tie that is dear to him to perfect every good work he undertakes. There is still time left us to cleanse our lands, and free them from these noxious weeds which infest them, rendering the face of the country disgraceful, and a loss to the nation.

It is but justice to say, that very many people, actuated by a becoming spirit, have taken advantage of the facilities thus afforded, and, guided by the advice of well-meaning but inexperienced men, have gone into an opposite extreme. The error is a slight one; and if any one could be tolerated, it is that of overdoing such useful work. We now allude to those who, in hand-hoeing their crops, have effected a great injury on them, by laying bare the roots, and paring off many of the most valuable rootlets, exposing the manure to the influence of a scorching sun, which deprives the land of all moisture, and the plants of all the means of support that can be drawn from the soil, till a return of moisture, which may be too late in the season to admit of a timely assent of the sap, to undergo its due elaboration, which can only be done by the influence of light and genial heat.

We had several complaints from different quarters of the effects of injudicious hand-hoeing on such crops, especially those of the turnips and mangel-wurzel. To the zealous, but as yet inexperienced in such hand-hoeing, we say, do not drag away the earth from either turnips or mangles, beyond what must necessarily be removed in the judicious eradication of the weeds; and if time be taken by the forelock, very little earth will be removed in such operations; the mere loosening of the earth will be found quite sufficient, and the finer it is then left, the greater will its powers be to attract moisture from the atmosphere at night, and retain it in dry weather by day.

We have heard several complain, that from the great drought and stiffness of the soil, they have been unable to horse-hoe between their turnip and mangel drills. To such we would say, thoroughdrain such land in future before you sow turnips on it, and the mean time, dig or fork the spaces between the drills. There will be a great amount of spare plants of turnips and mangels now in your crops. Do not allow them to be wasted, as your pigs will want them; and if blanks appear in your mangel crops, you can supply these by careful transplantation.

From the Scottish Farmer.

GLEANINGS IN NATURAL HISTORY.*

I.—THE CHAIN OF BEING.

Philosophers and poets, in all ages, have been anxious to point out a certain *gradation* of perfection in earthly objects a *chain of being*, the links of which consist of all created beings, passing, by insensible *degrees*, from the simplest to the most complicated, and constituting one harmonious whole, unbroken and dependent. *Crystallization*, they say, is the highest link of the *inanimate* part of the chain, and connects the mineral with the vegetable kingdom. The *lichen* which encrusts stone is but one step higher in the scale of being than the stone itself. The *mushrooms* and *corals* form a bond of union between the vegetable and animal kingdoms; and the vast interval by which man is separated from his Maker, is occupied by different orders of superior intelligence.

All this, at first sight, appears plausible and in some respects, in conformity with those arrangements of Nature, which we witness taking place in the subordinate divisions of animated beings. But when we examine attentively the characters which distinguish inorganic from organised beings, and animals from vegetables we perceive, at once, that there are intervening chasms by which different parts of the chain are separated; nor can the most acute observer detect, on either side, the remaining portions entire, although he may be able to collect a few fragments and disjointed links*. *The Philosophy of Geology: by John Fleming, D. D.*

II.—ON THE POLITY OF NATURE.

Having taken a general view of the constitution of those great classes, into which the creatures of this globe may be divided, we come now to trace the relation in which these classes stand to one another; or to examine what has been termed the *polity of Nature*.

When we attentively consider the present condition of the inorganic kingdom, it will appear obvious, that the continuance of its existence and arrangement does not depend on the presence of organised beings. Independent of its vegetable covering, of the animals by which it is peopled, and of man himself, this globe could still revolve in its orbit, and act its part in the solar system, though naked, silent, and lifeless. Changes would indeed take place on its surface, in consequence of the laws of chemistry, and mechanics, and independent of the aid of living bodies. The prominent parts would be worn down; the hollows would be filled up and its outline would assume an inclination every where at right-angles with the direction of gravity. These changes have, in part been accomplished and have impressed on the different strata the peculiar characters their structure and superposition.

The organised kingdom, on the other hand, could not exist alone. The beings of which it is composed may be considered as the parasites of this planet, and depend on its present movements for the exercise of their functions. Were the earth to approach nearer the sun, or recede to a greater distance, organised existence would be destroyed by the mere change of temperature.

The presence of the inorganic kingdom is necessary to the existence both of plants and animals, as furnishing them with the elements of their composition, and a place of residence. Plants may be considered as more immediately dependent on the inorganic kingdom than animals. Their attachment to the soil is more obvious; and the changes which

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* Passages such as these tend to expand and ennoble the mind, and, like oases in the desert, they may serve to *recreate* the Farmer after plodding, as his interest induces, through the comparatively dry dissertations and details which they are intended agreeably to diversify.—*Ed. S. F.*

* Advances are being made, every day almost, toward filling up these 'chasms,' and completing those 'fragments;' and it is to be hoped that, one day, the ever-increasing light of science will present this mighty and majestic *chain* in all its wondrous harmony. We may here mention that this is one of the subjects for the best essay on which the Proprietors of the *Family Journal* lately offered a prize.—*Ed. S. F.*

takes place in its condition exert a more direct influence over them. The lichen covers the exposed surface of the rock; and by the retention of moisture accelerates its decomposition. The *mosses* next establish themselves in the hollows and crevices, and by degrees prepare a soil for the *stanreniferous* vegetable. These last attempt to establish themselves in such a manner as to banish to the still barren districts the first fabricators of their soil. The most perfect plants are in general, independent of the animal kingdom, or able to subsist without their presence. The members of that great family, indeed, are their enemies rather than their friends.

The animal is in a great measure dependent on the vegetable kingdom for food and shelter. Some animals live directly on plants as their only nourishment and others live on the flesh of other animals; but these last are, in general, supported by vegetable food. Hence we may assert, with confidence, that if the vegetable kingdom were to perish, the extinction of life, in the more perfect animals at least, would inevitably follow: some of the less perfect animals are more independent in their condition. The infusoria appear to subsist by decomposing water. They, however, prepare a suitable repast for the annulose and molluscons tribes; and these, in their turn, contribute to support the vertibral races.—In both kingdoms, therefore, the smallest and most obscure species are subservient to the welfare of those which are larger and more perfect.

In viewing the relation of these great classes of beings to one another we perceive an admirable adaptation of means to the establishment and continuance of the present order of things. The surface of our globe exhibits a great variety of *situation* for the residence of plants.—Part is occupied by land, and part is covered with water. The land varies in composition and moisture; the water in its contents and motion; and both vary in their temperature. But however different these situations appear to be, there are plants peculiarly adapted for each, in which they flourish with the greatest vigour, and where they are only restrained within fixed limits by the physical character of their station.

The condition of the earth, which thus presents different situations for the species of the vegetable kingdom, influences the species of the animal kingdom in a similar manner. But animals are not only dependent on the physical character of their *station*, but on the presence of those vegetables on which they subsist, whether directly or indirectly. In the existing arrangements animals are distributed with regard to plants, in such a manner as that a supply of food may be readily obtained, limited, however so as to prevent the excessive increase of any particular species. In their turn animals influence the growth of plants by keeping many species within due bounds, and by assisting the dissemination and nourishment of others. But amidst this variety of action and reaction, and of temporary derangement, circumstances always arise by which irregularities are checked, losses compensated, and the balance of life preserved.

Linnæus, from the contemplation of this subject, concluded, contrary to the generally received opinion, that animals were created on account of plants, not plants on account of animals. The defence of this opinion rests on the consideration of animals having organs suitable to cut and bruise vegetables as food, and by these operations sometimes contributing to preserve an equal proportion among the species; and on the following reasoning—that the iron was not made for the hammer but the hammer for the iron—the ground not for the plough but the plough for the ground—the meadow not for the scythe, but the scythe for the meadow.* The exclusive consideration of the indirect consequences of the actions of animals has obviously betrayed *Linnæus* into this opinion. That it is erroneous may be easily demonstrated by the employment of his own method of reasoning. Plants we know are furnished with roots to penetrate the soil for nourishment and support; and fishes have fins adapted for swimming. Now if the soil was not made for plants, but plants for the soil; if the sea was not made for fish, but fish for the sea, then instead of considering animals as created on account of plants, we must draw the mortifying conclusion that both animals and vegetables were created on account of inorganic matter the living for the sake of the dead.

All that we know with certainty on the subject amounts to this, that the organised kingdom is dependent on the inorganic: that animals are greatly dependent on vegetables; and that the different tribes in each kingdom have determinate mutual relations. Judging from the mode of action peculiar to the species of each kingdom, we are led to conclude that vegetables are superior in the scale of being to minerals; that animals are superior to plants; and that they constitute a harmonious whole, in which the marks of power, wisdom, and goodness, are everywhere conspicuous.—*Ibid.* vol. 1. p. 49.

* Amœnitatis Academicæ, vol. vi. p. 22.

From the Farmers' Gazette.

ARTIFICIAL MANURES.

The use of artificial manures is quite a new feature in agricultural practice; it has arisen from the investigations made by scientific men, into the nature of those substances which form the inorganic part of plants. As we have formerly stated these investigations proved that there were certain mineral substances which formed a very important part in the composition of all vegetables; that each species of plant had a particular class of predominating substances in quantities peculiar to itself, and which were derived from the soil. It, therefore, followed that if the precise quantity of each substance required by any variety of our cultivated plants was added to soil, we would furnish the very kind of matter which was necessary to insure a crop of that particular species of plant which we wished to grow.

It has been often observed, when one particular substance (such as nitrate of soda) was used alone, that its effects were barely visible, or even injurious; but that when mixed with another substance—which in the same manner would have been productive of very little good, if applied by itself—then that the united effects produced by these substances were much greater than those which resulted even from a successful application of either of them singly. As these manures when applied alone, in many cases did not very satisfactorily, the cause of such different results being produced by the same substance was a mystery quite unknown to the great majority of agriculturists; but we are now aware that it arose from the circumstance that when the application was successful, a certain variety of the food of plants had been supplied to a soil, in which it had been previously wanting; and, again, when little benefit was derived, it showed that the soil contained already a sufficient supply of that particular kind of matter, for the plants cultivated upon it. The uncertainty, therefore, which attended the use of one variety of inorganic food—the success, again, which attended the application of that substance, when mixed with others—and a knowledge of the fact, that farm-dung, and other powerful manures of that class, consisted of a great variety of substances, all contributing to promote the growth of plants—led to the consideration of the question, whether artificial mixtures could not be made so as to combine all of those different substances which were suited for each peculiar variety of plant. It is quite evident that, in the prosecution of such an inquiry, the more practical knowledge of the agriculturalist, however, eminent that might be, was unable to guide him, and therefore the assistance of the chemist was essentially necessary, because it was he alone who could determine the nature of those substances which enter into the composition of the various classes of cultivated plants, and thus point out the various forms of inorganic matter which would supply to each variety of plant those substances which it, in particular, required. Although this branch of scientific agriculture is as yet in its infancy, still the results which have been obtained fully warrant us to expect others even more important, and altogether the subject of artificial manure is one of very deep interest, both to the practical agriculturist as well as to the chemist.

We shall now proceed to lay before our readers a short account of the nature and effects produced by such artificial

manures as we consider worth their attention.

Dissolved or Vitriolized Bones.—It is to the suggestions of the agricultural chemist that we owe our knowledge of this valuable and economical manure. The mode of preparing dissolved bones is as follows:—

Let the bone-dust be well moistened with water, and allowed to lie in a heap for three or four days, after which time it will be put into tubs, and then add to each hundred weight of bones half the quantity, or 50 lbs. of sulphuric acid, poured in at once, the whole being well stirred. In a short time it will become like mortar, but in order that the entire mass may be brought under the action of the acid, the mixture must be allowed to remain for two or three days, after which time it will be mixed with dry earth or ashes, so that it may be the more readily distributed in the drills. It must be remembered that the finer the bones are ground, so much the more readily does the acid act upon them.

In some cases it may not be convenient to have a sufficient number of tubs or other wooden vessels for holding the bones during the time they are being dissolved, and therefore the process may be carried on in another manner. Let a considerable heap of dry earth be made, according to the quantity of bones to be used, but say nine or ten feet wide across, and let the interior of this be hollowed out, and 18 or 20 bushels of bones thrown in. The bones are of course watered, and the sulphuric acid afterwards added, care being taken that the whole is frequently stirred, as in the former case. After the violent action which takes place has subsided, the whole mass is to be shovelled together, and allowed to remain for some days previous to being used.

Burnt bones may also be subjected to the same process; and as there are many places where plenty of bones can be procured, but no means of crushing them, this way of using may be very advantageously employed.

Six bushels of bones, dissolved in sulphuric acid, will be found a sufficient manuring to raise a fair crop of turnips on an imperial acre, but we would prefer using from 3 to 4 bushels, with half the usual quantity of farm-yard dung. If used alone, then at least half of the turnips ought to be consumed by sheep penned on the ground.

The addition of certain saline substances to the dissolved bones increases their efficiency very considerably; and it is reasonable to suppose so, because turnips require something more than phosphate of lime, important though it be, to insure a full crop. We cannot find better evidence of the good effects derived from this admixture of other substances than is contained in Mr. Gardiner's report of "Experiments with Special Manures," as detailed in the last number of the "Transactions of the Highland and Agricultural Society." The mixture employed by him was made in the following manner:—"Take any quantity of animal charcoal or burned bones you may require, dissolved in a tub with half its weight of sulphuric or muriatic acid, adding to the charcoal, before putting in the acid, as much boiling water as will bring it to the consistency of thin gruel; let it stand and dissolve in the tub at least 24 hours, frequently stirring it up during that time. For every cwt. of animal charcoal or burnt bones so dissolved, take 56 lbs. of carbonate or sulphate of magnesia, 50 lbs. of muriate or sulphate of ammonia, 1 cwt. of common salt or carbonate of soda, and 56 lbs. of potash, mix them together, and pour them into the tub amongst the dissolved charcoal, stirring it all the time, and again let it stand for 10 or 12 hours. If this mixture is to be used by itself, add sawdust, dried peat, or any subsolvent to take up the moisture; put it through a half-inch sieve, which will divide it and make it sow better, or you may now add guano, which will absorb a portion of it, and fix the ammonia contained within itself." He further remarks, that "by dissolving the animal charcoal in these acids, and mixing the solution with different salts, we are thereby enabled to form new combinations with the phosphates, particularly with ammonia and magnesia, which combination exerts a powerful influence upon vegetation. From repeated trials, now four years, upon almost every description of plants in our farms and gardens, I am induced to place this mixture in the foremost rank of fertilizing substances, if not the very first I have ever tried. Combined with guano, with or without farm dung, it has grown very large crops of grass, grain, and green crops, leaving the land in first-rate condition. Indeed, I consider that guano ought never to be used without being combined with this mixture, either as a manure or a top dressing, and it posseses the property which many, if not all, of other artificial manures want, that of not being so easily dissolved and washed out of the soil by rain."

The quantities per acre, and cost of each of the substances composing this mixture, and applied as an auxiliary to 15 cwt. of farm-dung, was as follows:—

		per cwt.
Animal charcoal	.. 2 cwt. per acre, at	4s 0d
Sulphuric acid	.. 1 " "	9s 4d
Carbonate of magnesia	1 " "	5s 0d
Muriate of ammonia	1 " "	16s 0d
Common salt	1 " "	1s 0d
Potash (only 28 lbs. per acre applied)		28s 0d

From Bell's Weekly Messenger.

MR. HEWITT DAVIS'S SYSTEM OF FARMING.

"The farms I cultivate are naturally very poor; two are principally gravel, in parts very boggy and springy, very wet in winter and burnt up in summer, having been reclaimed from heath only 40 years; the others are hill farms with but few inches of soil above the chalk or gravel. These farms have been greatly improved by the free use of trenching ploughs, but still are kept in profitable tillage only by the general economy in husbandry, and the large returns obtained on the system here laid down.

"The principles on which I endeavour to farm are as follows, viz.—

"1. To form and keep a pulverised seed bed of 15 inches, by trenching and occasionally turning the soil over to that depth.

"2. To bring the wet land dry by deep draining, considering no land effectually drained unless the drains be four feet in depth; that is to say, unless the water-level be kept so far below the surface: that the corn shall always have at least a foot of dry earth to root in, unaffected by capillary attractions of moisture from below, or the chill that water nearer to the surface causes; this can be secured only by having the drains 4 feet from the surface, and within 40 feet of each other.

"3. For sowing of spring corn, I consider the season commences with the new year, having no other fear than that of being too late. When the ground is dry enough, and fine enough, the sooner the seed is in the better; it will yield more, and the liability to blight, or to be beaten down, will be less.

"4. In sowing, I drill all, having the rows not higher than a foot between them, so as to admit of hoeing either by horse or hand, and hand-weeding at late periods.

"4. I hoe and hand-weed all corn, not allowing a weed in flower to be seen amongst it; ever recollecting that weeds occupy space and consume nutriment, displace corn, and rob the land.

"6. I never sow two crops of one genus in succession; legumes or pulse may follow cereal grain, and cereal grain may follow legumes or pulse; but never cereal after cereal, nor pulse after pulse. Rye grass is a cereal plant, and unsuits the land for white straw corn.

"7. In apportioning the rate of seed per acre, I do not lose sight of the bad consequences that must ensue if too much be sown. I bear in mind that if so much be sown as to produce more plants than the space will allow to attain maturity, the latter growth of the whole will be impeded, and a diseased stage will commence as soon as the plants cover the ground, and continue till harvest.

"8. I think manure should be applied only to green or cattle crops, and to corn; by giving it to the former, the earth derives the advantage of the extra dressing the extra growth returns; but when applied to corn, the earth is so much the more exhausted by the growth of straw, and frequently the grain is thereby positively injured, being made

more liable to be beaten down and blighted in the straw; it is always made more hazardous by dressing.

"9. Were farmers to buy all their manures, they would find that the cost of maintaining their lands in fair heart would be about £1 per acre per annum, The quantity of dressing this sum represents, every farm in fair productive cultivation would supply of itself, if a proper use and economy were made of its material to form manure, and a due care taken of it afterwards; but from misapplication and waste of straw and fodder, and from negligence in the preservation of the dung and urine, at least half is usually lost, and the arable land of England may thus be said to be prejudiced at least 10s. per acre.

"10. Were no other injury done to the crops by trees and hedges in small enclosures than that which arises from their mischievous shade and shelter, it would be equivalent to the ordinary rent of such fields; but farmers sustain a further loss in the additional occupied in tillage from the more frequent stoppages and turns the cause, and the encouragement to idleness that their cover affords. I believe arable fields with large hedges and hedge-row timber round them, whose dimensions are under eight acres, are seldom or ever worth a farmer's cultivation. I see much poor open down land in profitable cultivation, and large districts of enclosed land of far better quality, ruinous to the occupiers, and I have not a doubt that to the difference in the size of the fields this may be principally, if not entirely, traced.

"In this way I have more than doubled the former produce of the farms I cultivate, and have grown above five quarters of the best white wheat, and above thirteen quartes of oats, and above eight of barley, to the acre on very inferior land; and my clover and turnip crops are generally remarkably good."

THE MODES OF APPLYING GUANO.

From the Philadelphia Sat. Courier.

Sir:—The Communication in your paper, headed *Guano*, contains much interesting information, relative to the history, composition and relative values of the different kinds, but omits to describe the best modes of applying it to crops. To those who have had no experience with this extremely powerful fertilizer, the following directions may be useful. The quantity necessary for an acre varies with the crop and mode of application. If used in the hill, one-half the quantity may serve to what would be requisite when scattered broad-cast. About ten pounds of the best Peruvian Guano are reckoned equal to a common one-horse load of barn-yard manure. Consequently, where from 20 to 40 loads are applied per acre, 200 lbs. to 400 lbs. of Peruvian Guano would produce the same effects upon the crop. Although highly beneficial when applied as a top-dressing to grain and grass, paying well the first crop, still the durability of its effects are greatly promoted by having it well covered under ground either by the plough or harrow. The different kinds of Guano are more or less lumpy, and in using them it is extremely important to reduce to powder and pass through a seive such as would be used in cleaning wheat or oats. Sometimes there is so much moisture as to make it quite difficult to break down the lumps, an evil from which the Peruvian is exempt, as besides being less lumpy than other kinds, it is always perfectly dry, very much resembling scotch snuff. When scattered broad-cast, it may be sown on the unbroken ground and immediately covered under by the plough, or the ground may be first ploughed, and the guano sown and ploughed or harrowed in, after which the sowing or planting may take place.

Every subsequent harrowing or ploughing assists in covering and mingling the guano with the soil. The rain does the rest in dissolving and bringing its fertilizing principles into a state adapted to the wants of the growing plants.

When used in the hill, some care is required to prevent guano from doing injury to the very tender sprouts and rootlets of corn or other plants. If not well mixed in a compost with from 10 to 20 times its bulk of earth or mould, it should be well scattered in the hill previous to planting, and some earth drawn over it so as to prevent contact with the seed.—When thus judiciously used, guano is a certain preventive of the worms which commit such devastation upon crops, especially corn planted on a sward. For this last purpose, the most efficient plan is to sprinkle a little of the powder upon the hills, either just before or after the plants come through the ground. The quantity required to secure this great advantage is very small, and the expense would be amply compensated by the security of the crop, to say nothing of the enriching qualities for which guano is mainly prized. Some who have used this great fertilizer extensively, and in various ways, give the preference to the broad-cast method of application, even in the hill crops. There is perhaps no way in which guano can be made to pay so well as to apply it with wheat or other grain, sown with grass seeds in the fall or clover in the spring. In this way it is certain to pay for itself, and yield a handsome interest from the grain crop, besides sustaining heavy crops of hay.

A Practical Farmer.

From Bell's Weekly Messenger.

ELECTRICITY AND THE POTATO DISEASE.

In a letter addressed by Sir R. Meyrick to the *Hereford Times*, we find the following interesting statement:—"A valuable piece of information was communicated to me yesterday, by the Dean of Westminster. He had been a day or two before informed of the following interesting fact:—On my stating my belief in the injury having been effected by a fly, he said I was right, and that the conclusion come to by the various committees of *savans* abroad was, that we knew nothing about the matter, and that it must therefore have been caused by a peculiar state of the atmosphere. This induced a scientific gentleman, living at Kensington, to enquire what had occasioned any such state in the air. On examining the meteorological tables, he found that during the last two years there had been a much greater quantity of lightening than previously. Then came the question, would that injure the potato plant? Lightening being electricity, to ascertain the point he enclosed some atmospheric air in a receiver, and having insulated it, applied the electifying machine. The potato plant being then introduced into the receiver was immediately affected in the same way as those diseased ones of the last season. The potato was removed, and corn of various kinds, mangold wurtzel, and such like vegetable substances, subjected to a similar treatment. They were unsullied. A fresh potato plant was then put in and the effect was same as before. Thus was established the fact that potato disease was occasioned by lightening. Now to prevent it. The first thing necessary was to ascertain how the lightning acted. Mr. Adams found that it separated the air into its component parts, oxygen, hydrogen, and nitrogen, the first so requisite for animal life, and the last for that of vegetation; but this was not all, for it did the injury to the potato by converting the nitrogen into nitrious acid. Mr. Adams knew that quicklime was an antidote to nitrous acid; he therefore took a fresh potato plant, sprinkled it over with quick lime, and introduced it into atmospheric air electrified as before—the potato plant remained uninjured."

From the Scottish Farmer.

INSTRUCTIONS FOR MAKING UNFERMENTED BREAD.*

BY A PHYSICIAN.

A pamphlet has been sometime before the public under the above title, which has now reached the seventh edition.—The author is understood to be Dr. Darling, a physician in eminent practice in London; and the subject it treats of is not only of individual, but national importance, I hope you will not grudge a little space in calling public attention to it, as I feel persuaded that ere long the mode therein pointed out for making bread, will supersede every other.

The author's account of the discovery, if I may so call it, is in these words:—'Dr. Thomas Thomson, Professor of Chemistry in the University of Glasgow wrote an Essay on Baking, for the Sup.

* This communication originally appeared in a letter addressed to the Editor of the Ladies' Journal.'

plement to the Encyclopædia Britannica, which was published in the second volume of that work, in the year 1816.

'After stating the then ascertained fact, that the only purpose served by fermentation in bread making is the generation of the carbonic acid required to raise the dough, he goes on to observe, that this may be obtained from carbonate of soda, by mixing a portion of that article with the flour and then adding a corresponding quantity of muriatic acid; and further, that 'the dough so formed will rise immediately, fully as much, if not more, than dough mixed with yeast; and when baked, will constitute a very light and excellent bread.'

'This method was tested at the time by several other persons, and found to answer perfectly; but it seems to have been regarded only as a philosophical curiosity. Successive attempts were indeed made to turn it to some account, but none of them excited much attention till of late years, when it was discovered that the bread made in this way was both more wholesome and more economical than that made by fermentation. On these grounds the writer of this tract was led to look into the matter, and to contribute his endeavours to bring the bread into use: and various formulæ, constructed from Dr. Thomson's having appeared, he was induced to print those which he had found to answer the end best, together with a few brief explanations and observations; in the hope that they would serve to extend the advantages of this great improvement in the art of bread-making. Subsequent investigations having suggested the adoption of new and much improved formulæ, these are now substituted for the former.

'TO MAKE WHITE BREAD.

'Take of Flour, dressed or household,	3 lbs. avoirdupois
" Bi-carbonate of Soda, in powder,	9 drs. apoth. wt.
" Hydro-chloric (Muriatic) acid, (specific gravity 1, 16,)	11½ fluid drs
Water,	about 25 fluid ozs.

'TO MAKE BROWN BREAD.

'Take of Wheat Meal, †	3 lbs, avoirdupois.
" Bi-carbonate of Soda, in powder,	10 drs. apoth wt.
" Hydro-chloric (Muriatic) acid (specific gravity 1, 16.)	12½ fluid drs.
" Water,	about 28 fluid ozs.

'First, mix the soda and the flour as thoroughly as possible. This is best done by shaking the soda from a small sieve over the flour with one hand, while the flour is stirred with the other, and then passing the mixture once or twice through the sieve. Next, pour the acid into the water, and diffuse it perfectly, by stirring them well together with a rod of glass or wood. Then, mix intimately the flour and the water so prepared as speedily as possible, using a wooden spoon or spatula for the purpose. The dough thus formed will make two loaves somewhat larger than half-quarterns. They should be put into a quick oven without loss of time. This is most conveniently done in tins, or in iron or earthen pots or pans. The earthen deserve the preference, as they yield a better bread than either the tin or the iron. Common flower-pots suit particularly well. Iron does better than tin. But the loaves may be formed into a batch and baked like common fermented bread; and if a thin flat tile be placed between each loaf, the tendency to cohere, which however, is not greater in this than in common dough will be obviated, and the bread will be in all respects equal, or rather superior, to that baked even in earthen pans. The dough may also be formed and baked like common cottage loaves. The oven should be made hotter than for common bread. A portable one, where there is no other, and a common fire will answer the purpose. About an hour and a half will be required for the baking.'

† That is, wheat well ground, but retaining the whole of the bran.

Newcastle Farmer.

COBOURG, OCTOBER 1, 1847.

The Annual Exhibition of the Northumberland Agricultural Society, consisting of stock, farm produce, implements, articles of domestic manufacture, &c., &c., took place at Colborne, on Wednesday September 22, and was very numerously attended.

There was a good show of horses, consisting of mares and foals and two year old geldings and fillies. From the circumstance of the Exhibition taking place in a location in which the clearing of the back woods is as yet far from complete, and the more improved farming operations generally are but as yet in their noviciate, there was (as might be expected) a goodly show of those valuable assistants to the farmer, Ox teams—some of the most powerful we have seen in the country—manifesting a decided improvement resulting from judicious breeding from some of the imported Stock; but although the working oxen were numerous—there was but a meagre show of those destined to succeed them, viz., trained steers, this we were not a little surprised at, as there must have been in the immediate neighbourhood a large number of good animals of that description.

The milch cows, heifers and calves of the improved breeds, threw into the shade the natives of the country, and it certainly is a matter that so many farmers should still persist in breeding from so inferior a stock when the means of improvement are brought (through the exertions of the society) to their very doors.

There were some specimens of young Devon cattle, consisting of a Bull, Bull calf, and two heifers, recently purchased by the Society and sold by Auction on this occasion, which will give those who prefer the Devon to the Durham an opportunity at some not long distant period of introducing this stock upon their farms.

The show of sheep was not, perhaps, quite so numerous as on former occasions, but in the quantity, it afforded decided proof of the benefit conferred on the country by the introduction of the improved breeds to take the place of the old scraggy lank-sided, razor-backed race heretofore the produce of the Province.

Some Merino ewes and rams. were exhibited affording a decided contrast to the fine specimens of Liecesters from the flocks of Messrs. Wade, Baker, Garbut, Burwell and others;—their appearance created a degree of disgust among the breeders of the latter description of stock from their extreme inelegance of shape and diminitive size, the whole weight of many not exceeding that of a single hind quarter of the magnificent Leicester, they positively do not seem made to eat, if by any possibility such a feat could be accomplished, as they seem composed of little more than catgut and parchment and give promise of a meal, just one remove from old rawhides burnt, (not stewed) in train oil; to be sure as Baillie Micklewham says "A wamefu's a wamefu, whether it be of the barley meal or the bran," but then it is only "A hog that think so." But then comes the redeeming quality of the extreme fineness of the wool; and if, as has been represented, the wool in a pecuniary point of view, will yield a larger return than the mutton—and as dollars are rather a necessary article, why, the farmer's prejudices will well melt before the Bank's flimsies, and who knows? but after all, even the natural deformities of the abortions of nature may be overlooked, or their striking particularities softened down when viewed through the speculum of a circulating currency.

We know there are those who dread to spoil their flocks by their introduction, fearing, that if once generally adopted, the price of food would soon retrograde to the present standard, and then it

would take years to return to mutton manufacturing instead of wool growing.

There were at any rate no Merino Pigs at the show—no, no,—they were the genuine thing and "no mistake," 'the beauties' would have excited the gastronomic proponsities of an Alderman of fifty years standing: Such chops, such chines, and such legs for hams as must have satisfied the most fastidious connoisseur in such matters, and sufficient to provoke an appetite sharp as a North-wester in any one not utterly lost to the pleasure of a rich and substantial repast.

The premiums offered for the produce of the field and the dairy did not bring out so many competitors as was anticipated but the specimens in each class were good.

We certainly do need in this part of the country, some greater diligence, activity and enterprise amongst our Mechanics to supply a variety of farm implements, very few were shown, and none certainly with any novelty or improvement.

There were several specimens of Cloth of domestic manufacture (none from the factories) which we had not opportunity to examine, but with this solitary exception, our good housewives contributed nothing to the show.

The Society are indebted to the Colborne Committee of Arrangements for their kind exertions and attention as also to Mr. Thomas for the use of a portion of his new buildings for the occasion.

It is anticipated that the Grand Exhibition of the Provincial Association will be held in this County, at Cobourg, in the ensuing year, which we hope will have the effect of giving an impetus to the endeavors of all concerned in agriculture. It is no small credit to the Societies of our District, Northumberland and Durham, that we should rank next to the great cities of Toronto and Hamilton, and it is highly complimentary to our own Society that our President should be chosen as one of the Vice-Presidents of the Association, and we hope the two District Societies will cordially unite to use the most strenuous endeavours to show off "the Newcastle" to the best advantage.

LIST OF SUCCESSFUL COMPETITORS AT CATTLE SHOW.

For Mares and Foals: Messrs. Thomas Simpson, of Cramahe: John James, of Haldimand; Thomas Taylor of Hamilton.
Two Year Olds: Thomas Simpson and William Fisher, Cramahe.
Bulls—aged: William Fisher.
Do.—under 4 years: John Butler of Haldimand, C. S. Burrell, Cramahe.
Bull Calves: Ralph Wade, Hamilton; James Gillard, Haldimand.
Milch Cows and Heifers: Gillard, Wade and Joplin, divided the premiums pretty equally among them.
Do. do.—native breeds: William Colson and Coellium Lane, Cramahe.
Working Oxen: Thomas Simpson, Peter Algar, and A. B. Henman, Haldimand.
Rams: R. Wade, George Walker, Cramahe: Capt. Colleton, Haldimand.
Ewes: James Baker, Capt. Colleton, Haldimand; R. Wade.
Ewe Lambs: Robt. Garbutt, Haldimand.
Ram Lambs: M.D. Cruso, Hamilton, 2 premiums; Robt. Garbutt.
Boars: John Newton, Hamilton; James Gillard, S. McBrian, Haldimand.
Sow and Pigs: Thos. Walker, A. Male, Cramahe; Jas. Gillard.
Fall Wheat: S. McBrine; A. Alcorn, Hamilton; James Gillard.
Spring Wheat: Robert Garbutt, James Gillard, William Lane.
Barley: William Fisher.
Oats: Walter Riddell, Cramahe; S. McBrine, Haldimand.
Corn: Wm. Lane, Robert Garbutt, Cramahe; T. Spalding, Haldimand.
Cloth—domestic manufacture: Luciton Simmons; Chas. Liddah, Cramahe.
Maple Sugar: Ralph Wade.
Butter: Thomas Simpson, W.C. Irish, Haldimand; Robt. Garbutt,.
Cheese: W. C. Irish, Thomas Simpson, Ralph Wade.
IMPLEMENTS, &c.—Churns: C. W. Irish, Peleg Wood, Cramahe.
Fanning Mills: J. R. Culver, Cramahe.
Iron Plough: John Newton, Hamilton.
Horse Rakes: Lewis Card, Haldimand; J. McDonald, Cramahe.
Cheese Press: Simon Scripture, Cramahe.

From Bell's Weekly Messenger.

SEEDS AND STRAW.

Of the many sources of error so very difficult to avoid in practical agriculture, those arising from the deceptive appearances of the growing crops stand in a very prominent position. The losses sustained by a too careless examination of the results of any prescribed course of cultivation are much more common, much more extensive, than the young farmer is always willing to believe. The same remark applies to many experiments with different manures: to the eye success seems frequently attained to an extent which the after admeasurement of the corn produced, or its quality in such comparative trials, does not always support. To the correctness of this remark we have, amid that of many other experienced farmers, the evidence of an excellent and successful practical farmer of a midland county, who in a recent discussion on this subject remarked, with perfect confidence in the truth of his observation, that he was quite sure that many of his neighbours in Bedfordshire produced excellent crops of straw, but that many a farmer sent more corn to market per acre, by growing crops which, although they did not appear so luxuriant, yet yielded more seed. He was quite sure also that certain fertilisers which he had carefully tried very often induced the production of straw rather than corn, and were better adapted for the production of grass than of seeds. These observations are of a class so peculiarly interesting to the practical farmer, especially at a period when harvest time determines many a doubtful trial, that we can perhaps hardly devote a column to a more useful theme, than to an examination of the action of one or two modern fertilisers upon the production of straw and seed, and upon the quality of the seed so produced. It is well in the outset of our observations to remember that the beneficial action of a manure is almost always to be ascribed to its constituents being also those of the plants whose growth it is found to promote, and that the chemical composition of the straw and seeds of a plant commonly differ very materially, if not in their ingredients at least in the comparative proportion of those ingredients.

ON THIN SOWING OF WHEAT.

To the Editor of Bell's Weekly Messenger.

Parsonage, Wix, Manningtee, Aug. 5, 1847.

Sir,—Being myself a strenuous advocate for a more systematic, and consequently more scientific, mode of agriculture, I beg to thank you for publishing, and Mr. H. Davis for writing, his very excellent letter which I have read in your paper of this week. Such communications, from a gentleman of Mr. Davis's abilities and practice as a farmer, do more good than discussions, such as that at Northampton. Facts lucidly set forth and appealed to, large tracts of land full of the most luxuriant crops of all kinds of grain thrown open to every man in the world to inspect them, will do more to extend national agriculture than Northampton discussions can retard it. Whoever visits Mr. Davis's farms (and all are invited to inspect them, exactly as they are invited to visit and inspect our neighbour's, Mr. Mechi's,) and beholds such splendid, and beautiful, and flourishing fields of grain, waving and beaming over beds of shingle, gravel, breccia, and chalk, must acknowledge, unless he be entirely blinded by prejudice, that Mr. Davis is one of the greatest benefactors of his country and the world. The system, of which science is the foundation, and thin sowing a prominent part, in spite of all opposition, will be as sure to become general as the sun is sure to rise again to morrow. The very best crop of wheat I ever saw in my life, and I have lived many years, was from a single peck of seed for an acre of land; and the very best crop I have seen this year was grown by Mr. Piper, of Colne Engain, from a peck and a half; and what is still more bewildering to the thick-sowers, it was the third year successively of the same kind of grain; and what is further still confounding to them, I will undertake, if my friend Piper will follow my advice, and come down yet lower in his seed, to forfeit the value of his crops, if he does not grow wheat on the same land successively, and still finer crops, from a single

peck per acre for the next five years. It is not the quantity of seed that is used that produces the full and superior crop; but the knowledge of the man by whom the land is tilled and the seed is put into it. I ask any man who looks at our fields, if one thousandth part of the science is displayed in growing our food as is exercised in clothing our backs? What do we witness but one continued succession of exhaustion and repletion? One year we see the repletion, and the next the total exhaustion. But education and science will put an end to all this; the fields, ere long, will be annually full of the most luxuriant crops; and yet, from the small quantity of the seed used, they will be in heart, at the same time, laughing and smiling under the richest and most luxuriant grain.

But I am not advocating a succession of crops of wheat; my meaning here must not be misunderstood; but I am showing that it may easily be done. Mr. Mechi has half his farm with wheat every year, and still his land improves under every crop. I myself, too, if I may without vanity add my humble name to those of the gentlemen already spoken of, will here state that my wheat is from below three, and my barley below four, pecks per acre; and yet my crop of wheat was full three times too thick this year. Nevertheless, I have no doubt whatever but I have near, or quite, six qrs. of wheat, and upwards of seven qrs. of barley, per acre; but had my seed been two-thirds less of wheat, I should have had a still more abundant crop. But as this calculation may perhaps—indeed, I know it will—be disputed, I hereby give notice that I will advertise when my wheat and barley shall be thrashed and measured, and invite all my neighbours to be present and witness what the quantities will be.

In concluding, I will observe, that I know many inestimable men, thick seeders of land, and who occasionally, and accidentally, grow very fine crops; but what I am advocating is a constant and annual succession of a vast increase of average crops from a very much smaller quantity of seed. This is my object, and I feel quite sure that it may be done.

But one word about mildew. Farmers invariably ascribe mildew to thin sowing; but it would be just as absurd to say that thin sowing caused rains, mists, springs, lightning, and thunder. The opinion, however, is almost universal, but not less incorrect on that account. But I have been surprised to hear some who fancied themselves very clever gravely propound this absurdity, and maintain that thin-seeded wheat was the most liable to mildew; the converse, however, is alone the truth.

Allow me a word respecting the potato disease. In 1845 I made some observations and experiments on this disease, and the result I communicated to my friends; and which was, that the malady arose from many causes affecting the atmosphere in that year, but I prognosticated that it would soon wear out, and perhaps never again return. I thank you, therefore, for publishing the Dean of Westminster's experiments, which exactly agree with my own views on the subject. GEORGE WILKINS.

REMEDIES AGAINST MOTHS.

It is an old custom with some housewives to throw into their drawers every year a number of fir cones, under the idea that their strong resinous smell might keep away the moth. Now, as the odour of these cones is due to turpentine, it occurred to Reaumur to try the effect of this volatile liquid. He rubbed one side of a piece of cloth with turpentine, and put some grubs on the other; the next morning they were all dead, and strange to say, had voluntarily abandoned their sheaths. On smearing some paper slightly with the oil, and putting this into a bottle with some grubs, the weakest were immediately killed; the most vigorous struggled violently for two or three hours, quitted their sheaths, and died in convulsions. It was soon abundantly evident that the vapour of oil or spirits of turpentine acts as a terrible poison to the grubs. Perhaps it may be said that even this remedy is worse than the disease, but, as Reaumur justly observes, we keep away from a newly painted room, or leave off for a few days a coat from which stains have been removed by turpentine; why, therefore, can we not once a year keep away for a day or two from rooms that have been fumigated with turpentine? It is, however, surprising how small a quantity of turpentine is required; a small piece of paper or linen just moistened therewith, and put into the wardrobe or drawers for a single day, two or three times a year, is a sufficient preservative against moth. A small quantity of turpentine dissolved in a little spirits of wine (the vapour of which is also fatal to the moth) will entirely remove the offensive odour, and yet be a sufficient preservative.

BONES IN SOLUTION.

A Stirlingshire farmer, in a communication addressed to the *Pharmaceutical Times*, states the following opinions as to the fruits of his experience:—For the proper dissolving of bones it requires the half of the wheat of bones of sulphuric acid; thus, taking the bushel of bones at 44lb., it will require 22lb. of sulphuric acid to dissolve the same. I have found it of very great advantage to steam or boil the bones previous to mixing the sulphuric acid with them; the bones being hot, the acid must be added gradually. Great advantage will result by adding a quantity of salt to the dissolving bones, by which a mixture will be procured much more beneficial than from the simple application of bones. I generally use 3 cwt. of salt to 3 cwt. of bones. The mass will heat; turn it over once or twice, it is then fit for use. Drying up the mass with 2 or 3 cwt. of bran, which partakes largely of the phosphates, is advantageous. Three bushels of dissolved bones will raise a good crop of turnips. The manure may be sown broadcast, the land drilled up, and the turnips sown in the usual manner. If bran be used, both manure and seed may be sown at once. I need not allude to the economy of using dissolved bones. This manure has no injurious effect upon the succeeding barley; on the contrary, it greatly improves it, and, moreover, it has very marked effect upon the clovers if the ground is sown down.

KEEPING EGGS.—A friend who has had no inconsiderable experience in the business, informs us that he has tried many methods for preserving eggs, but that the following has proved the most effectual. Take a cask or box, or any vessel that is proportioned in size to the number of eggs required to be kept, and cover the bottom with finely pulverised salt. The eggs are to be set on the small end, so near as to touch each other, and the insterstices to be filled up with salt, the whole to be covered with a stratum of the same article and another laying of eggs deposited in the same manner as the first. In this way the cask may be filled. If the eggs are deposited on their large ends the yolk will adhere to the shell and become putrid. We have tried the above, on a small scale, and find it to work admirably.

A correspondent, to whom we some time since communicated the above method, and in whose statement we place the most implicit faith, in a letter to us, recently received, remarks as follows:—'I have adopted the plan recommended by you, in keeping eggs, and find it to answer admirably. I have now several dozens of of eggs which were packed one year since and which are now as sweet as when taken from the nest.'—*Maine Farmer, U. S.*

WHITE CARROTS.—HENRY COLEMAN says white carrot has come greatly into favor in England. A distinguished farmer there finds it thirty per cent more productive than common carrots. One farmer had grown nearly 32 tons per acre, average 24 tons; another usually obtained 25 tons; another with high manuring, obtained a hundred tons from three acres. Another had grown 800 bushels or 1,200 per acre on four acres. In this country, its comparative productiveness is as great as in England, and projecting several inches above ground, is harvested with great facility. But it will not endure the winter in the ground; which, however, sometimes destroys the yellow carrot, when usually wet. Seeds of the white carrot do not ripen so readily, and much bad seed is sold; hence farmers planting this variety, should be on the look out.

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