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Nec araneorum sane textus ideo melior, quia ex se filagignunt, nec noster vilior quia ex alienis libamus ut apes.

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Agricultural Journal.

IMPROVEMENT OF LAND.

Letter from G. B. Smith, Esq. of Baltimore to "The Cultivator."—It is always very gratifying to hear of the improvement of old worn out or naturally poor lands, because it indicates the addition of solid wealth to the country, and sets a good example to others. It is a question well worthy consideration, whether a good farm may not be made out of the poorest "old field" in the old States, at an expense much less than that involved in the emigration to, and purchase and preparation of, a rich one, in the western country; more especially, if the sacrifices incident thereto, be calculated in the account. Be that as it may, however, the improvement of poor land in all the old States, is an object of the first importance, both to individuals and states, farmers and towns-people. Let any one look about the environs of the city of Baltimore, for example, or of Washington, or indeed any where in the middle and southern States, and see the large tracts of waste land that meet his view at every turn, and then ask himself whether individuals, cities, towns and States, would not all be benefited by the improvement of these "old fields," and their conversion to profitable uses. But the thing is so evident that no argument can be acquired to illustrate it. The how, not the why, it should be done, is the great point. How can this poor old field be made to produce thirty bushels of wheat, forty of corn, and fifty of oats, or two tons of hay to the acre, at a cost that will enable the "aforesaid" crops to yield a fair interest on the investment and a fair compensation for the labor? That is the frequent question; and ten thousand echoes answer, "aye, how!" It is not intended now to answer this question, but to make a few remarks applicable to it, for the purpose of preparing the way for the answer at a future, but not distant day. We often hear of this and that case of improvement by this and that man, and of the wonders they have performed in the still more wonderfully short time of so and so many years. These announcements are always very gratifying to every body; they are eagerly sent forth to all the world in the newspapers, and are returned in grateful echoes upon the improver's delighted ears. And this is all right. It acts as a most powerful excitant upon others that had been more dilatory; it stimulates an encouragement to do likewise. But, unfortunately, they are always, or almost always, if not quite, accompanied by the well known fact, that the improvers were in possession of wealth and that enabled them to accomplish the wonders spoken of. They were not obliged to earn the bread they were eating, by the sweat of the brow, at the very time they were making the improvements. They were not obliged to raise the interest on the debt incurred in the purchase of that very piece of land, by hard work, at the very time they were ditching and liming. They had the means where with to improve, and the time wherewithal to do it in. And is it wonderful, that with these attributes of ability in full possession, they made the improvements? Would it not be wonderful if they had not? Still it is a good thing, no matter by what means it is accomplished; it is an act that deserves praise; just as does the proper appropriation of any and every other faculty and means any of us possess and no more. Such improvers have simply performed an act of duty, which they owed to themselves, their families and their country—what else? But show to the world a farm once impoverished or naturally poor, that has been made fertile and productive, out of its own resources, by the judicious management and industry of the farmer, and that has in the mean time maintained that farmer and his family, besides paying some interest, and possibly principal of the purchase money, and all in the course of five or even ten years; then the world will have something to hold up to its rural inhabitants as an example that they all can follow. However commendable the other class of improvers may be, the latter infinitely

more so. The former has purchased a valuable property, the latter has made one. Farms may be found in many a part of the country that have cost their owners almost as much as it would to have paved their entire surface with silver dollars; and yet they are not a whit more productive than many others that never cost an extraneous cent. Many a farm may now be seen in any part of our country, that five years since, would scarcely pay for cultivation, but now yielding full, even heavy crops, that have never felt the influence of a particle of manure or other fertilizer, that it had not itself produced either directly or indirectly. This is a kind of improvement our farmers want; this is the only kind that can be generally adopted. The men that have money enough to improve land, are generally those that will make some use of it and the few that will appropriate it to that object are rather exceptions than constituents of the rule. Much more good, therefore, will result from the publications of instances of self-improved lands, and the process of the improvements, even though but a moderate degree of excellence be obtained, than can possibly proceed from the dissemination of facts in relation to paid-for improvements, because the one proceeds from the proper application of industry and intelligence, and can be universally followed as an example; the other from the concentration of extraneous means, and can be imitated by but very few. No one can object to the application of foreign means to this object, on the contrary the more they are thus applied the better. It is good for the individual most concerned; it is good for the country that the gold in his coffers should be made to enrich the land. But do not hold him up as an example to be followed by those who have not the means to do likewise; and very few have; not one in ten thousand probably—for it is rather tantalizing for a poor man to be told that he can make his land as rich and productive as his neighbour Dives, if he will expend five or ten thousand dollars in its improvement! Rather tell him how to do it by the means he possesses, his industry, for that is all his capital, and lay before him instances with details, of other cases that have succeeded by the same means. The man that shall raise from impoverishment a piece of land in this way, that is by his own industry out of its own resources, deserves more of his country than all the mere politicians that ever lived since the world was formed.

From Hunt's Merchants' Magazine.

GUANO, AND THE GUANO TRADE.

We brought together a number of facts touching the progress of this new branch of commerce, in the September number of this Magazine, and now add some additional information on the subject, derived from a variety of authentic sources.

According to Liebig, the distinguished German chemist, guano has been used by the Peruvians as a manure, since the twelfth century; and its value was considered so inestimable that the government of the Incas issued a decree, by which capital punishment was inflicted on any person found destroying the fowl on the Guano islands. Overseers were also appointed over each province, for the purpose of insuring them further protection. Under this state of things, the accumulation of the excrements may well have taken place. All these regulations are, however, now abandoned. Rivero states that the annual consumption of guano, for the purpose of agriculture, amounts to 40,000 fanegas. The increase of crops obtained by the use of the guano, is very remarkable. According to the same authority, the crop of potatoes is increased forty-five times by means of it, and that of maize thirty-five times. The manner of applying the manure is singular. Thus, in Africa, where so much pepper (*capsicum baccatum*) is cultivated, each plant is manured three times. First upon the appearance of the roots; second, that of the leaves; and lastly, upon the formation of the fruit—(Humboldt.) From this, it will be observed, the Peruvians

follow the plan of the Chinese, in manuring the plant rather than the soil. The composition of guano points out how admirable it is fitted for manure—for not only does it contain ammoniacal salts in abundance, but also those inorganic constituents which are indispensable for the development of plants.

The most recent analysis is that of Volckel who found it to consist of—Urate of ammonia, 9.0; oxalate of ammonia, 10.6; oxalate of lime, 7.0; phosphate of ammonia, 6.0; phosphate of magnesia and ammonia, 2.6; sulphate of potash, 5.5; sulphate of soda, 3.8; sal-ammoniac, 4.2; phosphate of lime, 14.3; clay and sand, 4.7; organic substance not estimated, containing 12 per cent of matter, insoluble in water, soluble salts of iron, in small quantity, water, 32.3—total 100.0.

Justus Liebig says that the importation of one hundred weight of guano is equal to the importation of eight hundred weight of wheat—so astonishingly fertile in this manure. This is encouraging to the ten million of oat-meal lovers of Great Britain, as immense quantities of it are now coming from Africa.

We learn, from a late London paper, that the ship *Leo* recently arrived at the port of Berwick, with a complete cargo of guano, from Chincha, or the Bug Islands. The captain states that he loaded his vessel (about 425 tons,) in forty-eight hours, the guano lying as thick as 300 feet; and that, had it not been for the trouble of stowing, it might have been done in four or five hours. The guano was conveyed to the hold of the vessel by means of a canvas hose. The Bug Islands are three in number, about 15 miles off Pisco. There is a rock in the centre of the middle island, which is half a mile in diameter. The rock stands as a sort of landmark in the ocean. The rock appeared to be a kind of whitened boulder, so hard that the crew were unable to procure a fragment of it. The captain visited only two of the islands, and states that the air was very strongly impregnated with ammonia. The coast of Peru abounds with guano. He describes labor in general to be plentiful, and to be had about 3s. per day, English money; but he had to wait a month for his "turn," as they were thirty vessels there. The population is principally a mixed race of Spaniards and Peruvians, speaking Spanish; and, in the present undisturbed state of the country, says the captain, "fond of plunder."

A late British paper thus sums up the prospect of the guano trade:—

"As guano is likely to come into general use as an available and profitable manure, an idea may be formed of the quantity ultimately required. There are, for instance, in England and Wales, 25,000,000 acres of land under cultivation, and almost 16,000,000 in Ireland and Scotland. Supposing, however, that guano be applied; ultimately, to only one-twelfth of this quantity, what a trade would thus be created! Taking it for granted that an acre would require about two hundred weight and a half, 600,000 tons annually would be required; while the import of this quantity would employ some 1,200 vessels, of 500 tons each."

An intelligent gentleman of Boston, who has lately visited the different islands on the west coast of Africa, at which guano is obtained, publishes in the columns of the Boston Daily Advertiser, for the benefit of commercial men, some account of the extent to which the guano trade is carried, by the English merchants, who have realized speedy and ample fortunes. As the information embraced in his communication appears to be authentic, derived as it is from personal knowledge, and an authentic source, we have concluded to give it below, in the writer's own words:—

"Guano is now a new article here, generally supposed to be the excrement of birds. Such, however, is not the fact. It is the decomposition of animal matter, formed by the seals, in their periodical visits to reefs or rocks, slightly elevated above the surface, from time immemorial, for the purpose of shedding and pupping. The penguin has also made it a

rookery. Nature being frail, in the ordinary course of events, the carcasses of both have been deposited here, and layer upon layer has been accumulating, and decomposition taking place, until, on one peculiar island, it is found in a solid mass, of ninety feet in depth, and three-quarters of a mile in circumference. Speculators and theorists have made four or five kinds, and given a different appearance to each, as interest swayed them. There are, however, but two kinds, the pure and impure, both strongly impregnated with ammonia—the former, moist and adhesive, of the color and consistency of common clay, which is not decomposed; the latter of a light brown, perfectly decomposed and appearing like pulverized mortar. The article, in its purity, can only be obtained in those parallels of latitude where it never rains; and the formation of the island must be peculiar, as it requires a uniform and fervid heat, to act upon it. Its uses are various, both for chemical and agricultural purposes, and appears as though designed by an all-wise Providence for the purpose of resuscitating worn out and exhausted soil. But to the islands:—The first in order is Possession, a barren waste of sand, its arid surface strewn with the bones of seal, and presenting every appearance of having been lately visited for guano. The next in order are the islands of Shark, Seal, and Penguin, in Angra Pequena bay; at the former of which we saw some six British vessels loading. The article, however, was impure, being obtained in the chasms and fissures of rocks; consequently not decomposed.

We next proceeded to Ichaboe. Here a scene met our view for which we were perfectly unprepared. A large fleet of English shipping, thirty-six in number, of the largest class, clustering about a mound of earth, isolated in its position, barren on its surface, but teeming with this new substance, guano, in all its purity. The appearance of the island is similar to a tea-cup inverted, as to natural position. The forest of masts would incline the stranger to suppose he was wending his way to a thriving commercial seaport; but the eye wanders in vain for the cheerful, quiet abode of man. Desolation bounds the prospect on one side, and the broad expanse of ocean on the other. One little spot alone appears—a human beehive—the centre of all this attraction—the island of Ichaboe. It presents the appearance of a huge, fortress, with all its ramparts and abutments—each party, as they work in, leaving their walls perpendicular; and, so hard is the substance, it is necessary to use not only the pickaxe, but the beetle and wedge, through the sides of the pits, as they are termed, the remains of both seal and fowl are found protruding, and the writer of this article has taken penguin eggs, in a perfect state of preservation, seventy feet from the surface. Upon our arrival here, a stranger, the first unfolding the stars and stripes, some difficulty occurred in loading. This however, was speedily remedied, and we started, homeward-bound by the way of the West Indies, as per advice of consul at the Cape of Good Hope, to ascertain the consumption of it among the islands; and it was ascertained that the planters were using it extensively. American vessels, however, are not allowed to land in either the English or French West Indies, but planters can readily be found who will charter a vessel, and follow her to a Danish port, and there receive her cargo at a high price. The fact is, that John Bull has caught Brother Jonathan napping, for the last year, in this new article of traffic—and in one year's time, the pure article will be exhausted. Written documents can be found, by inquiring of L. Whitney, Globe Hotel, which will satisfy the most skeptical."

No mention is made of guano in McCulloch's Commercial Dictionary; and in Waterston's more recent Encyclopædia of Commerce, we find only the following brief allusion to the article:—

"Guano, a highly concentrated manure, is a dark yellow substance, of a strong ammonia odor, found in deposits 50 or 60 feet thick, and of considerable extent, upon the coasts of Peru; the islands of