

**On the Practical Use of Guano for Spring Crops of Grain and Roots.**

The season for sowing spring crops of grain, seeds, and roots, having arrived, simple directions for the application of guano will be found useful. In giving directions for the application of farmyard manure, it would be wholly unnecessary to enter into a learned chemical analysis of its component parts, or to use any arguments to prove that it is most effective in affording the requisite nourishment to grain, seeds, roots, grasses, and, in fact, to all agricultural crops. It would only be requisite to advert to the various strengths of the different kinds of farmyard manure, inasmuch as a difference is found in the effect of that article where animals are fed upon ordinary food, and upon common cake—the latter being far superior. So, in reference to guano, its excellent qualities have been sufficiently proved by analysis, and its effects upon crops have been tried and proved by the best of tests—experience. It may now be regarded as an established manure of standard excellence, containing the essence of the best farmyard manure confined in a small compass. The advantage of smallness of bulk, both as regards cost of conveyance and application to the soil, is a matter of most serious importance when compared with the great bulk of ordinary manure, especially in those cases where the land lies at a distance from the homestead and is of a hilly character. In purchasing guano, there are two points which demand most serious and especial attention. To purchase the best sort, and to deal only with those persons upon whose honor and integrity implicit reliance can be placed. It has been abundantly proved that the Peruvian and Bolivian guano is by far the strongest and best. Other guano may approximate, but it is just the difference between the manure of cake-fed beasts and of those fed on an inferior description of food. Then, again, in purchasing the article, even if the best be sought and paid for, unless the integrity of the settler can be relied upon, there is no article, not even bone dust, which can be more easily adulterated without detection except by the process of analysis, and which cannot be gone into after the article is brought home and put where it is going to be used in the field. It may be well here to notice that the Messrs. Gibbs, of London, and Myers and Co., of Liverpool, are the sole consignees of the South American guano, they being agents for the contractors with the government; that none can come to this country except

through them; and thus, if the article is obtained from them, or from agents directly connected with them, the genuineness of the article may be relied upon. When purchased from dealers, only those of unimpeached character ought to be resorted to.

It is scarcely necessary that we should cite here any cases to prove the beneficial effects of the application of South American guano to barley, oats, potatoes, turnips, grass seeds, and natural grass; but we shall, nevertheless, quote a few cases at the conclusion of this article.

In the application of guano, it should be especially noted that it should be used when the ground is moist, or during or on the immediate approach of rain. Moisture is essential, not only to induce its beneficial effect, but to prevent injury to the plants when applied as a top dressing. Care should also be taken that it be not applied in its original state directly to the grain, seed, or plant. The failure of the guano, as represented in some few cases, can be traced to error in those points.

1. Procure genuine Peruvian or Bolivian guano from the importer, if possible, or if not, from respectable parties who buy directly from them.

2. If there are any lumps in the guano, pass them through a sieve, and repeat the same until they all disappear. Never mix slack or unslacked lime with the guano. In case of mixing bones and guano together, for a top dressing, it should be done only two days before being applied to the earth. In preparing different soils, &c., place always a layer of the ashes, earth, or otherwise most appropriate for the guano intended to be applied, and one of guano alternately. When done, turn the whole carefully over together; and after it is properly mixed with a shovel, pass the same through a garden riddle, and exclude the whole from the atmospheric air, or damp situations, until taken away for use.

3. It is advantageous to be applied immediately before or after rain. This is to be effected by strictly attending to the weather glass.

4 *Preparation for clay and strong soil.*—Mix wood charcoal, or coal ashes, pass through a sieve, peat sod, or turf ashes, if it can be procured, in preference, and sawdust, if the former cannot be readily obtained, the day before taken up for use, with as much farmyard drainings sprinkled over the whole, and after being regularly mixed together, so that they will pass readily through a