

mistry an farm practice. The tables given, throw a preliminary light upon it, and serve only to present it as a matter for further consideration. *Exchange.*

Artificial Manures for Grass Land.

Dr. Voelcker was surely wrong about the application of artificial manure to grass land. About two years ago the writer dressed over 100 acres with 4 cwt. of mineral super phosphate (costing with carriage and carting to the farm, under £4 per ton), 26 to 28 0/10 of soluble phosphate, and 2½ cwt. of Peruvian guano. The dressing has changed the grass completely. The pasture during the summer was almost white with clover. One field had scarcely anything in it but pink grass, but now there is scarcely a bit to be seen, and it has carried about one beast to the acre. Before, it would have taken 3 or 4 acres to keep one, and you could see but little improvement in them. On another field, exceeding 30 acres, 7 cwt. of boiled bones and 2 cwt. of guano were put to the acre, and on the coarsest part 1½ cwt. of nitrate of soda in place of the guano. There has been a great change for the better in this field, but one part of it was dressed with superphosphate and guano, and, according to present appearances, that is the best. The land is a loamy soil on a marl subsoil, and was drained before these manures were applied. That part which was left unmanured was not worth a third as much rent as the land that had been dressed. A 20-acre field had 3 cwt. of superphosphate and 1½ cwt. of guano. It has done very well, but the 4 cwt. of mineral and 2½ cwt. of guano seem to be the best spent money. The manure should be put on in January. It takes some time for the phosphate to change the herbage, but all who have seen the land say they could not have believed so great a change could have been made in the time. Many people, hearing of the good bones have done in Cheshire, have tried them, and seen no benefit come from them. A field had £60 worth of bone put on, which did not do a bit of good. Bones do not seem of any use put on and near a smoky town. On a large poor field for swedes 5 cwt. of mineral superphosphate and 2½ cwt. of guano were put on, and it has grown a good crop; but another field received the same quantity of artificials and a good dressing of farmyard manure as well, and it has produced an extraordinary crop.

Ag. Gazette.

Birmingham Cattle Show.

There are only four entries for the four prizes, amounting to £40, for Oxford Downs. The 1st goes to a good pen bred and fed by Mr. Albert Brassey, Heythrop. The three sheep weigh 7 cwt. 2 qr. — the heaviest pen of sheep in the show. Mr. H. Cooper, Houghton, Dunstable, takes 2nd, and Messrs. J. & F. Howard, of Bedford, 3rd.

In the Hampshire, Wiltshire, and other Downs, the three entries of Mr. Alfred Morrison, of Fonthill, are magnificent sheep. Few breeds have made greater strides within the last twenty years than the Hampshires, and, on suitable soils, no breed is more profitable. One pen weighed 6 cwt. 1 qr. 1 lb. The quality of the mutton is first rate.

It should be remembered that the Oxford Down is a cross between the Cotswold and the Down sheep; whereas the Hampshire is a pure breed, and worth a halfpenny per pound more than the Oxford in any market in England. A. R. J. F.

ROOTS.—For size, quality and number of entries the show of roots has never been equalled in England. Throughout the whole of the Midland, West, and Northern counties the season has been remarkably favourable for the growth of swedes, whilst throughout the same district, the low mean temperature has been unfavourable to the full development

of the mangol crop; hence by far the best specimens of that root this year come from the south. In class 1, for the best collection of three varieties of mangol and one of swedes, six roots of each, there are sixteen competitors. Mr. R. Webb, Beenhams, carried off the cup with a magnificent collection. Some long reds averaged 36½ lb. each and swedes over 22 lb. each; the general quality of the roots was far superior to anything we have ever seen. We are apt to associate coarseness and inferior quality with heavy weight; it is not so in this instance, all the largest and best swedes were fine in the neck, and particularly free from a profusion of sid roots. Mr. John Perry, a successful exhibitor of former years, carried off the prize in class 2 for twelve swedes and twelve globe, or intermediate, mangol. The same exhibitor was successful in the next four classes. Mr. Thomas Penn, Morninghall, Thame, Oxon, was successful for the best six roots of long mangol, with an average weight of 42½ lb. per root. For globe or intermediate varieties, Mr. H. W. Champion, of Witley Manor Sewage Farm, Reading, was successful with an average of 32 lb. per root. For the best twelve swedes, Mr. Perry was 1st with an average of 17 lb. per bulb. For the best six specimens, Mr. Perry was again 1st with an average of 21 lb. per root. Common turnips, carrots, and cabbage, were a magnificent collection. The show of potatoes is very extensive and exceedingly interesting. All the known varieties of this useful esculent are shown in perfection. The value of such an exhibition for educational purposes cannot be over-estimated.

PROTECT THE BIRDS.

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Providence, we must acknowledge, has cast our lot in a country richly endowed by nature with all that can please the eye and satisfy the imagination. Our climate is healthy, our territory unlimited, and its productions are as rich in quality as they are varied in number. Still, it cannot be

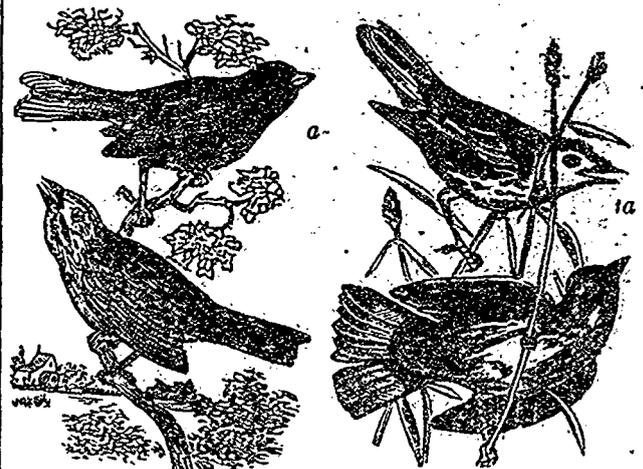


Fig. 1 — a Snowbird, *Lunco humalis*, Plator.
Song sparrow, *Melospiza melodia*, Baird.

Fig. 2 — a Tit-lark, *Dendroica maculosa*, Baird.
Gold-finch, *Chrysomitris tristis*, Bonap.

denied that our use or, frequently, our misuse, of the benefactions is marked with an extravagance, with a want of foresight, that may not unreasonably call in question our wisdom and intelligence.

The time will come, nay, in some places it is already come, when our folly will appear clear even to ourselves; when we shall be forced to acknowledge and condemn the prodigality with which we have dissipated the incalculable wealth which we once possessed, and to seek with many a weary effort, and