

give an impetus to stock-breeding in the right, and, as we think, most important direction, admirably suited to the wants and necessities of this Province. It will for many years to come be perfectly impossible for our farmers generally to have their yards filled with pure bred cattle, even of ordinary excellence. It is so at present, even in England. Pure herds of first-rate quality are only here and there to be found:—whether they be Durham, Hereford, Devon, or other established breeds. To acquire such animals involves an amount of pains, judgment, and expense, which few can fully understand.—The quickest and most practicable way of improving our live stock, particularly cattle, is to put our best grade cows to the best pure bred bulls within reach. By such means the cattle of the country *as a whole*, will be speedily increased 30 or 40 per cent in value, thus greatly adding to the wealth of the Province. It is of course essential to the successful carrying out of this plan that individuals here and there should be encouraged to keep up a pure herd of stock of some established breed, who would supply bull calves as well as heifers to all parts of the country. We already owe much to a few enterprising individuals in this respect, to whom Canada is mainly indebted for the great improvement in live stock, which she has of late years made. The Durham bull has already done much service in several parts of this country where as yet very little that is really pure of that invaluable breed exists. It is easy to tell by looking at the ordinary stock of any particular district, whether any pure male animals have found their way thither; the progeny will speak for itself. Not a single pure bred bull has ever been introduced into a township without raising the standard of excellence among its cattle, and the same remarks apply of course, more or less, to horses, sheep and pigs.

We have been much pleased with a paper in a recent part of the *Journal of the Royal Agricultural Society of England*, from the pen of W. C. Spooner, the well-known Veterinary surgeon, on the subject of cross-breeding, and submit the following condensed statement of the various points so ably treated in detail by the talented author, for the information of our readers.

1st. It is clearly shown by the writer that there is a direct pecuniary advantage in judicious cross-breeding; that increased size, a disposition to fatten, and early maturity, are thereby induced.

2nd. That whilst this may be caused for the most part by the very fact of crossing, yet it is principally due to the superior influence of the male over the size and external appearance of the offspring; so that it is desirable for the purposes of the butcher, that the male should be of a larger frame than the female, and should equal in those peculiarities we are desirous of reproducing. Let it here, however, be stated as an exceptional truth, that though as a rule the male parent influences mostly the size and external form, and the female parent the constitution, general health and vital powers, yet that the opposite result sometimes takes place.

3rd. Certain peculiarities may be imparted to a breed by a single cross. Thus, the ponies of the New Forest exhibit characteristics of blood, although it is many years since a thoroughbred horse was turned into the forest for the purpose. So, likewise, is observed in the Hampshire sheep, the Roman nose and large head which formed so strong a feature in their maternal ancestors, although successive crosses of the Southdown were employed to change the character of the breed.

It has been asserted by some observers, that when a female breeds successively from several different males, the offspring often has a strong resemblance to the first male; which is supposed to arise from certain impressions made on the imagination or nervous system of the male. Although this is sometimes or often the case, it is much to be doubted whether it is frequent as to be regarded as a rule.

4th. Although in the crossing of sheep for the purpose of the butcher, it is generally advisable to use males of a larger breed, provided they possess a disposition to fatten, yet in some cases, it is of importance that the *pelvis* of the female should be wide and capacious, so that no injury should arise in lambing, in consequence of the increased size of the heads of the lambs. The shape of the ram's head should be thin for the same reason. In crossing, however, for the purpose of establishing a new breed, the size of the male must give way to the more