

same time injure the laying powers reduce the size of the eggs laid, and the progeny would be uncertain sitters, and not such as we should care to entrust valuable eggs to. In order, therefore, to obtain the benefits from crossing, it must be done in a proper manner, and the characteristics and qualities of the fowls mated must be so blended as to best secure the object in view, or the result is certain to be a great disappointment.

From what I have here stated, it will be seen that one of the first things to do is to ascertain the characteristics of the fowls which it is proposed to use, both as a breed and as individuals. In all the pure breeds there are leading points that we can look for, and which are to be found in all the varieties specially noted either as layers or as table fowls. For instance, all the very best layers are noticeable as having large combs—that is, large for the size of the fowls themselves. Leghorns, Minorcas, Andalusians and Spanish have large single combs, Hamburgs and Redcaps large rose combs, and Houdans large leaf combs, in every case this being a very prominent feature. I do not say that the comb is the invariable sign of good laying qualities, for Dorkings have large combs, and sometimes Cochins also, though in both these cases the comb is not nearly so large in proportion to the size of the fowls as in those cases just mentioned. With these exceptions, it will be found that the size of the comb is a pretty sure indication of the laying qualities of the birds, and in looking out for good layers, this will be found a pretty safe guide, when in conjunction with a rather small body.

On the other hand, the qualities which indicate the best table fowls are to be looked for in the body rather than in the head, though, as I have already mentioned, in France a small neat comb is regarded as the *sine qua non* of a good table-fowl. Dorkings, Crêves and Game, which stand in the fore front in this section, have thick set bodies, showing the greatest depth from the breast to the back, and have flesh upon the bodies rather than upon the thighs. Game fowls are not bred long on the leg for show purposes, but for producing table-fowls, I prefer them shortish in this respect, and both Dorkings and the best varieties of the French breeds are, or should be, of this stamp. Birds with a lot of flesh on the thighs are not well furnished in that respect on the breast, and as the quality of the meat on the former is decidedly inferior to that on the latter, such fowls are by no means so good for table purposes. Hence it is that the Asiatic varieties, *i. e.*, Brahmans, Cochins, &c. are not in Europe regarded as first-class on the table. What is known as depth of keel should always, therefore, be looked for in selecting birds intended for table purposes. All round fowls are those which, while not excelling in any one quality, are yet good in all. These are very good indeed, where it is found that a fowl which is at once a fairly good layer, and yet a passable table fowl, pays best. Of course, in such a case as this the profit will not arise from the one quality, but from the combination. It is necessary in crossing, therefore, to remember that what is wanted is to have sympathetic breeds put together; that is, breeds which will reproduce their good qualities in an even stronger form in their progeny. Unless care is taken to secure this the crossing will only result in greater hardiness of the fowls, but will not in any way add to the profits of the owner. This hardiness may be at the expense of some intrinsic merit, and thus be purchased too dearly. I do not say that if a man has a good table fowl which he wishes to make a better layer without losing the good table quality, he cannot succeed. But unless he exercises very great care in the selection, he will injure the latter. As a rule, we may take it as certain that a really first class layer cannot be a good table fowl.

STEPHEN BEALE. *H—, England.*

Although tobacco has hardly been a profitable crop for the past year, about the usual area has been planted, chiefly because it is difficult to get out of a long continued routine, and because no other "money crop" can be so easily raised by the growers. The outlook is reported fair, though it is much too early yet to speak definitely. Hops have been a very unprofitable crop the past year. While it costs from 13 cents to 14½ cents a pound to raise and handle them, they have been selling for all the way from four and one-half to 12 cents. There has been some decrease in acreage, chiefly by the plowing up of old yards and the dropping out of those who were not regular growers, but who were induced to enter the business by the high prices that ruled a few years ago. Until a few days ago reports from all the hop-growing sections were exceedingly favorable, and a continuance of over-production and low prices seemed inevitable; but for a few days complaints have been coming from Otsego County and the adjoining hop growing parts of this State to the effect that the yards were in danger of destruction from insect pests and "honeydew" on the vines. (1)

On referring to the *Journal* of the Royal Agricultural Society of 1876, I find the following in Dr. Voelcker's article on value of manure from food:

"Mr. Lawes' estimate of the manure value of different kinds of feeding stuffs however are based on carefully ascertained facts, and so far have a permanent value; but in their application in practice it appears to me that we should be nearer the mark if we deduct from 30 to 40 per cent. from the estimated money value which is given in the table." He says further on: "Mr. Lawes is fully alive to the fact that it is not possible to recover in practice the full estimated manure value of purchased foods, for in his valuable paper on the valuation of unexhausted manure, Vol. XI. of this journal, he says: 'If purchased food be consumed with a root crop by the outgoing tenant, and he takes no crop grown by the manure produced, he should be allowed 17s. for every 20s. of the original manure value of the food if it had been consumed on the land. (2) or 16s. if consumed in yards, Mr. Lawes thus makes a deduction of 20 per cent. from the calculated manure value of the purchased food, while I am inclined to allow the larger deduction of from 30 to 40 per cent. if the food be made into bulky farm yard manure. If the food be consumed by sheep with a root crop, Mr. Lawes' estimated manure value of linseed and similar nitrogenous articles of food, with a deduction of 20 per cent., I believe gives a fair and correct estimate of the practical manure value of oil-cake and similarly constituted foods."

From these quotations we may assume that the late Dr. Voelcker considered that when cake was fed on the land the deduction should be 20 per cent. of its calculated manure value, and when fed in yards the deduction should be 30 to 40 per cent. While therefore it is evident that the late Dr. Voelcker's authority cannot be quoted as sanctioning a general deduction of 40 per cent. from the calculated manure value of a cattle food, it should be pointed out in justice to Mr. Punchard that at the time Dr. Voelcker wrote, ten years ago, his valuations would have been confined to the cake consumed in the last year or two of the tenancy, and it does not appear probable that any material change would be made in Mr. Punchard's estimates if they had been calculated upon our more recent tables, which extend the compensation over eight years.

(1) Hops, to pay should average 15 cents a pound one year with another. Tremendous crop in England this year. A. R. J. F.

(2) *i. e.* by sheep, or by cattle in the pastures.