

Downs. there are no downs in that county, or within a hundred miles of it. Again, another error is that they were allowed to enter "as a distinct breed" at the Glo'ster meeting of the Royal Agricultural Society of England, in 1852. Now, I happen to have been present at that exhibition, and I have the prize-list before me, in which I read. *Sheep*.—*Shropshires, or other gray or black faced short wools*, SPECIAL PRIZES OFFERED BY THE HON. ROBERT CLIVE, M. P., not, it will be observed, by the R. A. S. at all. The first of these 4 prizes was won by a Hampshire-down, and the other three by Shropshires, and the observations made by the senior steward, Mr. Milward, were as follows: "The new class of Shropshire Downs was very successful. It is to be hoped that the Society will recognise them as a distinct breed." A clear proof that they were not recognised by the R. A. S. as a distinct breed at the Glo'ster show of 1852. Still later, at Plymouth, in 1865, the report of Mr. Dent Dent, the senior steward of the R. A. S. meeting, runs. "There can be no doubt, that in the Shropshires and Oxfords there is some want of agreement as to type among different breeders, and this want of uniformity appears to be the weak point in breeds, which, to an unprejudiced eye, appear most valuable producers of both mutton and wool." The judges, too, spoke in the same strain. At the Chester meeting of the Royal, in 1858, the Shropshires were still lumped in with the other short-wools, including Oxfords, Hampshire-downs, and West-country downs, and even Cheviots! The West country downs, or Wiltshire-downs, as they are sometimes called, are a cross between Hampshire downs and Southdowns, and first rate mutton they are. They won the 1st and second prize for their owner, in the shearing class; Shropshires took first and second for old rams, and the West downs first for young ewes. To this report, the judges add: "This competition of 'other short-wooled sheep, not being South-downs,' requires the consideration of the Council as to whether they can be separated into *distinct classes of established breeds*": a clear proof again that the Shropshires were not considered to have arrived at a fixity of type in 1858. As to the Shropshires claim to purity of descent hear what Mr. Coleman says in his prize essay on the "Management of Sheep stock," v. Ag. Soc. Journal, p. 240, 1865:

"For the production of mutton and wool on soils favourable for sheep-culture, breeds derived from a cross of the Long and Short-wools—such as the Shropshire, the Oxfordshire and the Down-Leicester sheep will generally prove most profitable. * * * — The Shropshire sheep are peculiarly valuable in the West Midland Counties, and are rapidly increasing over a considerable area; they follow the Downs rather than the Long-wools in character." Of course they do, since the Downs to which in part, they owe their parentage, came from the flock of Ellman of Glynde, Sussex, and had been so long bred without a cross that their pre-potency must have been very great indeed. Hear what Mr. Thomas Elman said on this subject, at the meeting of the Weekly Council of the R. A. S., March 2nd, 1865:

"What shall we say of the Shropshires? At the Canterbury show, it was forcibly recalled to my recollection that thirty years ago (i. e. in 1835) I had sent some Down rams to Mr. Whitmore, in Shropshire, when I came across some of his sheep there (at Canterbury) exhibited. I then expressed my misgiving to my companion, who exclaimed, 'What! do you doubt the purity of Mr. Whitmore's breed?' To which I could only say that I did not know whether he had lately made a change, but if not, I *knew* of an admixture in the blood."

And Professor Coleman, heretofore of the Agricultural College at Cirencester, said, at the same Council meeting. "In my opinion, fixity of type may in time be imparted to a breed of mixed origin by a careful rejection of unfavourable

specimens. The Shropshire sheep is an instance of success in such arrangement, for no doubt some South-down blood had been infused into the breed."

The original Shropshire sheep must have carried a fleece of very fine wool, for I find in Smith's "History of wool and the woollen Manufacture" that in 1341 the sack of Shropshire (Salop) wool was worth twenty shillings more than the next best, and sixty-five shillings more than the worst wool grown in England in that year. Anderson, also, in his "Origin of Commerce," quotes Shropshire wool, in 1743, at £9. 6s. 8d. a sack, Oxford at £8. 13s. 4d., Hereford and Glo'ster at £8, and Cornwall at £4.

So, upon the whole, I think we may fairly say that the Shropshire is a cross-bred sheep between the Long wool and the Down, that it has been now for some years carefully bred, until at last fixed type of sheep has been secured, that it is a most valuable producer of mutton and wool, superior to the Southdown in size and, perhaps, in precocity, but inferior to the Hampshire-down in both qualities. If, in a word, I could not get Hampshire-downs, I would breed Shropshires, particularly if my land afforded a rich bite of grass throughout the summer.

Wheat-crop.—So far from following slavishly in the course pursued by their brother-farmers in England, the Scotch, like the rare men of business they are, grow very little wheat. If you tell an Irishman that the climate of his country forbids the profitable growth of wheat, he resents it as an insult—in fact, a great friend of mine, in former days, Mr. Staunton Lynch, took the trouble to send all the way to Galway for a sample to show me, when I hinted that it was hazardous to sow wheat in such a damp climate—; but the canny North Briton finds that oats pay him better, and consequently prefers that cereal. Still, I was surprised to find how very little wheat was really produced in Scotland; for instance, in the year 1854, the county of Norfolk grew 1,290,373 bushels more wheat than all the land north of Tweed, the acreage sown in the English county, three-fourths of which are naturally very poor land, being 202,971 acres, and the yield 6,139,872 bushels, or thirty bushels and a peck to the acre. Scotch farmers only sow wheat on land that is thoroughly fitted to bear that crop, and I have no doubt that on the whole, the yield per acre in Scotland is greater than in England; but, as a general thing, oats pay them better than wheat, and so they sow oats. I wish I could see something of this wise and thoughtful proceeding in this province; but here every man must grow what he wants for the supply of the house, whether it suits the land or not.

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Lawes on Wheat and Turnips.

As I found lately, in a quarter in which I should not have looked for it, an utter misconception of the conclusions at which Sir John Lawes and his coadjutor Dr. Gilbert arrived after long experience in the cultivation of wheat and turnips, I propose to give an account of their earlier experiments in the use of manures for those crops, showing, 1st, why the experiments were undertaken, 2nd, by what means the land was prepared for them, 3rd, what the experiments were; and, lastly, what the experiments proved. If I succeed in my attempt, the readers of this journal will see at any time by a glance at the analysis, whether any special manure which may be offered to him be fitter for one or the other of the two crops treated of in this article.

Somewhere about the year 1840, professor Liebig, of the University of Giessen, published his celebrated work on Organic Chemistry in its relation to Agriculture and Physiology,