The wool is strong and coarse, standing up round the shoulders and down the breast like a mane. The forehead has a topknot, and the tail is well covered.

The *Limestone* is a breed of which little is heard. It is almost restricted to the fells of Westmorland, and is probably nearly related to the Scotch Black-face. The breed does not thrive off its own geological formation, and the ewes seek the ram early in the season. The so-called “ Limestones ” of the Derbyshire hills are really Leicesters.

The *Welsh Mountain* is a small, active, soft-woolled, white- faced breed of hardy character. The legs are often yellowish, and this colour may extend to the face. The mutton is of excellent quality. The ewes, although difficult to confine by ordinary fences, are in high favour in lowland districts for breeding fattening lambs to Down and other early maturity rams.

The *Clun Forest* is a local breed in W. Shropshire and the adjacent part of Wales. It is descended from the old Tan-faced sheep. It is now three parts Shropshire, having been much crossed with that breed, but its wool is rather coarser.

The *Radnor* is short-limbed and low-set with speckled face and legs. It is related to the Clun Forest and the Kerry Hill sheep. The draft ewes of all three breeds are in high demand for breeding to Down and longwool rams in the English midlands.

The *Ryeland* breed is so named from the Ryelands, a poor upland district in Herefordshire. It is a very old breed, against which the Shropshires have made substantial headway. Its superior qualities in wool and mutton production have been fully demonstrated, and a demand for rams is springing up in S. as well as in N. America. The Ryeland sheep are small, hornless, have white faces and legs, and remarkably fine short wool, with a topknot on the forehead.

The *Dartmoor,* a hardy local Devonshire breed, is a large horn­less, longwool, white-fleeced sheep, with a long mottled face. It has been attracting attention in recent years.

The *Exmoor* is a horned breed of Devonshire moorland, one of the few remaining remnants of direct descent from the old forest breeds of England. They have white legs and faces and black nostrils. The coiled horns lie more closely to the head than in the Dorset and Somerset Horn breed. The Exmoors have a close, fine fleece of short wool. They are very hardy, and yield mutton of choice flavour.

The *Dorset and Somerset Horn* is an old west-country breed of sheep. The fleece is fine in quality, of close texture, and the wool is intermediate between long and short, whilst the head carries a forelock. Both sexes have horns, very much coiled in the ram. The muzzle, legs and hoofs are white; the nostrils pink. This is a hardy breed, in size somewhat exceeding the Southdown. The special characteristic of the breed is that the ewes take the ram at an unusually early period of the year, and cast ewes are in demand for breeding house lamb for Christmas. Two crops of lambs in a year are sometimes obtained from the ewes, although it does not pay to keep such rapid breeding up regularly.

The *Merino* is the most widely distributed sheep in the world.

It has been the foundation stock of the flocks of all the great sheep countries. A few have existed in Britain for more than a

hundred years. They thrive well there, as they do everywhere, but they are wool-sheep which produce slowly a secondary quality of mutton—thin and blue in appearance. The Merino’ resemble the Dorset Horn breed. The rams possess large coiling horns—the ewes may or may not have them. The muzzle is flesh-coloured and the face covered with wool. The wool, densely set on a wrinkled skin, is white and generally fine, al­though it is classified into long, short, fine and strong. Merino cross with early-maturity longwool, Down, or other close-wooled rams, are good butchers’ sheep, and most of the frozen mutton imported into the United Kingdom has had more or less of a merino origin. (W. Fr.; R. W.)

*Lowland Sheep-breeding and Feeding.—*A Shropshire flock of about two hundred breeding ewes is here taken as a typical example of the numerous systems oí managing sheep on a mixed farm of grazing and arable land. The ewes lamb from early in January till the end of February. The Iambs have the shelter of a lambing shed for a few days. When drafted to an adjoining field they run in front of their mothers and get a little crushed oats and linseed cake meal, the ewes receiving kail or roots and hay to develop milk. Swedes gradually give place to mangolds, rye and clover before the end of April, when shearing of the ewe flock begins, to be finished early in May. At this time unshorn lambs are dipped and dosed with one of Cooper’s tablets of sulphur-arsenic dip material to destroy internal. parasites. The operation is repeated in September. The lambs are weaned towards the end of June and the ewes run on the poorest pasture till August to lose surplus fat. In August the ewes are culled and the flock made up to its full numbers by selected sheading ewes. All are assorted and mated to suitable rams. Most of the older ewes take the ram in September, but maiden ewes are kept back till October. During the rest of the year the ewes run on grass and receive hay when necessary, with a limited amount of dry artificial food daily, ¼ lb each, gradually rising as they grow heavy in lamb to I lb per day. Turnips before lambing, if given in liberal quantities, are an unsafe food. To increase the number of doubles, ewes are sometimes put on good fresh grass, rape or mustard a week before the tups go out—a ram to sixty ewes is a usual proportion, though with care a stud ram can be got to settle twice the number. With good management twenty ewes of any of the lowland breeds should produce and rear thirty lambs, and the proportion can be increased by breeding from ewes with a prolific tendency. The period of gestation of a ewe is between 21 and 22 weeks, and the period of oestrum 24 hours. If not settled the ewe comes back to the ram in from 13 to 18 (usually 16) days. To indicate the time or times of tupping three colours of paint are used. The breast of the ram is rubbed daily for the first fortnight with blue, for a similar period with red, and finally with black.

Fattening tegs usually go on to soft turnips in the end of September or beginning of October, and later on to yellows, green-rounds and swedes and, in spring and early summer, mangolds. The roots are cut into fingers and supplemented by an allowance of concentrated food made up of a mixture of ground cakes and meal, ¼ lb rising to about ½ lb; and ½ lb to 1 lb of hay per day. The dry substance consumed per 100 lb live weight in a ration of ½ lb cake and corn, 12 lb roots and 1 lb hay daily, would be 16½ lb per week, and Vais gives an increase of nearly 2 % live weight or 1 lb of live weight increase for 8¼ lb of dry food eaten. Sheep finishing at 135 lb live weight yield about 53% of carcass or over 70 lb each.

*Management of Mountain Breeds.—*Ewes on natural pastures receive no hand feeding except a little hay when snow deeply covers the ground. The rams come in from the hills on the 1st of January and are sent to winter on turnips; Weak ewes, not safe to survive the hardships of spring, are brought in to better pasture during February and March. Ewe hogs wintered on grass in the low country from the 1st of November are brought home in April, and about the middle of April on the average mountain ewes begin to lamb. One lamb at weaning time for every ewe is rather over the normal amount of produce. Cheviot and cross-bred lambs are marked, and the males are castrated, towards the end of May. Nearly a month later black-face lambs are marked and the eild sheep are shorn— the shearing of milch ewes being delayed till the second week of July. Towards the end of July sheep are all dipped to protect them from maggot flies (which are generally worst during August) with materials containing arsenic and sulphur, like that of Cooper and Bigg. Fat wethers for the butcher are drafted from the hills in August and the two succeeding months. Lamb sales are most numerous in August, when lowland farmers secure their tegs to feed in winter. In this month breeding ewes recover condition and strength to withstand the winter storms. Ram auctions are on in September and draft ewe sales begin and continue through October. Early this month winter dipping is done at midday in dry weather. Early in November stock sheep having lost the distinguishing “ buist ” put on at clipping time with a large iron letter dipped in hot tar, have the distinctive paint or kiel mark claimed by the farm to which they belong rubbed on the wool. The rams are turned out to the hills between the 15th and the 24th of November.