

Islington; Mr A Morison as usual, is invincible with his wethers, under 23 months; the heavier pen weighed 976 pounds.

In Shropshires, Lord Chesham takes all the 1st prizes and one 2nd. The weights, however, and quality are below the Hampshire-Downs. The 1st prize Shropshire wethers, under 23 months, weigh 788 pounds, i. e. 188 pounds less than the Hampshire-Downs.

Mr Albert Brassey takes three out of the seven prizes for Oxforas. The top weights of these big looking sheep are, however, below the Hampshire-Downs—964 pounds being the weight of the best pen of 3 year old wethers."

AG. GAZETTE, ENG.

Mr Stratton's Shorthorn heifer Lillian cleared the road at Islington for fat beasts. She won 1st for best female, 1st for best in her class, breeder's cup, and 1st for the best beast in the yard.

TO THE EDITOR JOURNAL OF AGRICULTURE.

Dear Sir,—It is our intention of taking off Beloeil Mountain a considerable portion of lumber, leaving all 5 inches diameter trees. Now, can we turn a portion of this Mountain with advantage into a sheep ranch? Will it be necessary to enclose the portion we intend to convert into a ranch? Will the mosquitoes affect the sheep. Would a couple of shepherds do as well as a fence? How should we go to work preparing the part of the Mountain in question? Some parts are very rocky, other parts excellent rich land. Would sheep farming pay? What sort of sheep would be best adapted? How should they be housed in winter, and how fed? Hoping to receive answers which can give one sufficient practical information so as to be able to go to work and meet with success, I remain yours truly,

BRUCE F. CAMPBELL.

First Steps in Farming—Young Man's Department—

We have seen, roughly it is true, the process by which digestion is carried on in the internal economy of the animal. I pass over, for the present at all events, the more intricate subject of the digestibility of foods, for, though the German investigations on this point afford much information, I feel convinced, from the addresses I listened to at the meeting of the American Association in Montreal last September, that the matter is not yet as fully cleared up as we may expect it to be at some future time. But it is necessary before we go further that you understand what is meant by "albuminoid ratio" of food. It is the proportion which exists between the digestible nitrogenous (albuminoid) and the digestible non-nitrogenous matters therein contained. For the purpose of calculation, all the non-nitrogenous matters are reduced to their equivalent in starch: thus the amount of fat in any food multiplied by 2.44 gives its equivalent of starch; 10 of milk sugar multiplied by .9 equals 9, its equivalent of starch, &c.—So, we find in our common farm-foods the following proportions:

Cotton cake, decorticated.....	1: 1.5
Linseed cake.....	1: 2.3
Beans	1: 2.4
Pease	1: 2.9
Oats.....	1: 5.5
Indian corn.....	1: 9.0
Clover hay	1: 5.9
Meadow hay.....	1: 8.0
Swedes.....	1: 5.9
Mangels	1: 8.0
Potatoes	1: 10.6
Wheat straw.....	1: 64.4

The following table is important, as showing the average results obtained with the sheep, the goat, and the ox—all ruminants—when fed upon the stuffs mentioned above. You will observe that all the ruminants possess four stomachs, besides the intestinal organs. In experiments on different foods; it is necessary to allow a certain time to elapse before each change of diet. In the case of an ox, five days, perhaps, will elapse before the remains of the former food will have been completely got rid of:

DIGESTED FOR 100 OF EACH CONSTITUENT SUPPLIED.

Food	Total organic matter	Albuminoids	Fat	Sol. carb-hydrates	Fibre
Linseed cake....	80	81	90	78	doubtful
Beans.....	90	88	93	03	"
Oats.....	71	79	84	76	24
Barley.....	81	77	100	87	doubtful
Indian corn....	88	79	85	91	"
Wheat bran....	67	75	50	70	37
Meadow hay....	59	56	47	62	57
Clover hay....	59	55	56	60	44
Lucerne hay....	59	76	38	67	40
Oat straw.....	51	38	36	43	61
Wheat straw....	40	20	36	39	56
Bean straw....	50	51	35	60	36

You will observe, that turnips, beets, and potatoes, are not mentioned in the list; they appear to be almost, if not quite perfectly digested. Remark, also, the four cases in which the amount of fibre is stated as "doubtful." The whole subject, as I said at starting, requires many more experiments before perfect knowledge can be arrived at.

Wheat straw is evidently less digestible than oat straw. In fact, allowed to ripen thoroughly, as our wheat is here, the straw is worth very little indeed. Oat straw is cut greener, but pea-straw, if cut early, is not only more digestible, but is a richer food both in albuminoids and in carb-hydrates. Pease are generally allowed to stand much too long in this country: the straw becomes almost rotten. Whenever the straw and pods become brown, pease should be cut at once. In Scotland, in damp, growing seasons, I have seen the crop cut when the lower part was quite green; but the pease, when threshed were plump and well nourished. I don't think the straw is half valued enough. If people could be only persuaded to sow pease in drills 27 inches apart, and horse-hoe them once or twice, I am convinced that, with the aid of plaster, the yield would be nearly doubled. For this system, 3 bushels of seed per acre are necessary. As pease are sown now, half a crop is all that can be expected, and hardly that is the ordinary result. The influence of the quantity of water consumed by an animal is very much more emphatic than is generally supposed. Should a sheep drink as much as an ox in proportion to the food consumed, and if not, why not? A bullock, with his slightly covered skin, sweats copiously, and a sheep with his wool on does not sweat half as much; consequently the ox gets rid of more water than the sheep does, in the proportion of 2:1.

When sheep are feeding off turnips in the field, as is the rule in England, if the weather is warm it is hardly worth while giving them chaff, as they won't look at it. But towards winter, when the first frosty mornings make their appearance, the sheep may be seen standing about, waiting for the arrival of the shepherd with his sacks full of clover-chaff, which they eagerly devour the moment it is put into the troughs. This is the *practical* result: does it agree with theory or not?

The average consumption of a sheep in the open air is 20 lbs, about as many pints, and 6 as lbs are sufficient liquid for a sheep each day, it follows, that the animal takes 14 lbs more than enough. Now, the turnips are abominably cold—