

Our Scottish Letter.

At this season there is little else to occupy attention than shows, and the week ending 21st June was perhaps the busiest agricultural-show week of the year. Fortunately, that date also saw the end of a long spell of cold, unseasonable weather, and the week now tapering to a close has been marked by some of the finest weather we have had for many a day. Everything is luxuriating in the sunshine, and but for the tragic postponement caused by the serious illness of the King, the country would have gone a-holidaying to some purpose. The King has always been a keen patron of agriculture, and his influence in popularizing agricultural events has been considerable. The brilliancy of the weather throughout the British Isles on this, the day set apart for the coronation, adds to the intensity of the regret everywhere expressed at what has happened.

There is every prospect now of 1902 yielding good crops of all kinds. The ground was so saturated with moisture that the excessive heat now experienced has made every kind of cereal and root almost grow up sensibly before one's eyes. Hay, however, will in general be a light crop, and early potatoes will not likely, even with the favorable turn in the weather, prove to possess much quality. The first Gervais potatoes were this season lifted by Mr. Andrew Dougan, Straid, about a fortnight ago. This was nearly ten days later than in 1901.

Preparations for the last migratory show of the Royal Agricultural Society, at Carlisle, are now well advanced. The site is most picturesque, lying on both sides of the Eden, just outside the walls of the old city. In 1880, when the Royal Show was last held at the border town, the Citadel joint station had just been completed, and it seems but a thing of yesterday when we tried to make our way through the yard on planks well-nigh afloat. The weather was of the most wretched description, and the officials were almost at their wits' end to know how to provide decent locomotion for the visitors. It makes one feel a little older when he visits two Royal Shows at one center, and 22 years is a considerable item in the life of any man. Many changes have taken place in agriculture during these twenty-two years, and the difference is perhaps more marked in the methods of working crops than in stock. An interesting article on "Hay-making," in the Journal of the Board of Agriculture, just issued, opens up a wide field of reflection on this aspect of things. It would not be too much to affirm that America and Canada have played the chief part in effecting a silent revolution. Few implements manufactured on the other side of the Atlantic can be utilized here without greater or less modification. But the idea embodied in the machinery must ever be retained, and it is in the introduction of these ideas that American influence can be most clearly discerned. The economical benefits accruing to this country from the adoption of such Canadian machines as the Massey-Harris self-binder and cultivator, the Dux plow, and much else, can hardly be overestimated. It has very largely been through the introduction of these and like implements and machinery that the British farmer has been able to keep himself in evidence. That he has done and is doing so does not admit of question, and sooner or later it will be admitted that the agriculture of the Old Country, even in respect of scientific equipment, is fully abreast of the attainments of the new.

Very successful shows of stock were last week held at Glasgow, Stirling, and Cupar-Fife. It would be impossible to name all the other places where creditable exhibits could be seen. The best exhibits at Glasgow were found in the driving-horse section. Perhaps this impression was created by the undoubted fact that this section showed by far the greatest advance on former exhibitions. The Hackney, in spite of the numerous adverse criticisms to which he is subjected, was the principal factor in producing these animals. It is increasingly evident that if the highest class of carriage horses is to be produced in this country, the Hackney will need to furnish the foundation cross. You cannot have a high-class carriage horse without a dash of Hackney blood. If Hackney breeders would keep this steadily in view they would do much to disarm the volume of adverse criticism with which their favorites are assailed.

Clydesdale horses made a good display at Glasgow and Stirling, and enough of novelty was presented in the prize list to give zest to the proceedings. A new sire came right to the front in Mr. Dewar's Royal Favorite 10630. This horse has not been much heard about in open competitions, but his stock out of the ordinary farm mares of Stirlingshire are unusually promising. He was bred by his owner, Mr. Dewar, Arnprior, Kippin. His sire was the Cawdor Cup champion horse, Royal Cartly 9844, while his dam, Rosie of Arnprior 10754, was by the noted Keir horse, Brooklyn 6547. His gr.-dam was by True Blue

1334, and his g.-gr.-dam by Black Comet 66. Through his sire he has a strong dash of Prince of Wales blood. On his dam's side he gets the Darnley dash from the dam of Brooklyn, an uncommonly true specimen of the low-set, wide Clydesdale mare, and another dash of Prince of Wales blood. From True Blue comes the strong, weighty blood of Drumflower Farmer 286, and from Black Comet comes the Comet strain, long favorably known in the north of Scotland. This breeding is not what has been in more recent years regarded as strictly orthodox, but it involves a blending, the issue of which will be worth studying. The sensational animal of the show was Mr. Henry Gray's yearling filly, Nellie. She was bred by her owner at Hawkhill, Kincardine-on-Forth, and got by Royal Favorite, out of a mare by Flashwood 3604, own brother to Macgregor 1487; gr.-dam by MacVicar, a son of Macgregor. This filly was first in her class both at Stirling and Glasgow, and at Glasgow was awarded supreme honors as the best female Clydesdale exhibited. It is nearly 20 years since a similar award was made at Glasgow. In 1884, Lord Arthur Cecil was successful in carrying off supreme honors with the famous yearling, Edith Plantagenet. Mr. Gray's filly has rare quality of limbs and the best of feet and pasterns. Her movement is faultless both in front and in rear, and she takes the eye of the judge right away. Other good fillies were shown at Glasgow by Mr. St. Clair Cunningham, whose three-year-old White Heather, by Baron's Pride 9122, was runner-up for the supreme honors; and by Mr. Davie, Cathcart, whose first two-year-old filly, by Up-to-Time, was first at Paisley and East Kilbride. The best mares were shown by Mr. Alex. Guild, whose magnificent big mare, Lady Margaret, was first in the yeld class; and Mr. J. Ernest Kerr, Harviestown Castle, showed a capital brood mare in Lady Garnet, another daughter of Baron's Pride. The male championship at Glasgow went to Mr. W. S. Park, Hatton, Bishopton, for his Paisley champion, Royal Chattan. This colt is two years old. He was bred by Mr. John Findlay, Springhill, Baillieston, and was got by the Glasgow premium horse, Clan Chattan, out of one of a first-class race of mares. Neither the three-year-old nor the yearling colts at Glasgow were much to boast about, but there is a marvellous gelding in this country called Perfection which is well worth looking at. He is four years o'd, and owned by Mr. Wm. Clark, Netherlee, Cathcart. His sire was Royal Cartly 9844, and, if report speak truly, he has been sold to an American millionaire firm for £250. Be that as it may, the likelihood is that he may find his way across the Atlantic unless some of our home fanciers develop pluck enough to retain him here.

Ayrshires at Glasgow made a creditable display. The leading winner was Mr. James Lawrie, West Newton, Strathaven, whose stock meet the requirements of the fancy. He has been very successful with a bull called Silver Heels, and two of the produce of this sire were first both in the older and in the three-year-old classes of cows in milk. The vessels are correct, level and tight, and the teats will do. Generally at Glasgow there was too much evidence that we have not yet got quite rid of the stupid craze for tight vessels and small corky teats. The vessels are right enough, but the teats have nothing to do with dairy business.

"SCOTLAND YET."

Germ Infection at Birth.

In an address to the St. Probus Farmers' Club (Cornwall), the other day, Mr. F. T. Harvey, F. R. C. V. S., gave some information of value to stock-owners. His remarks dealt largely with the danger of germ infection at the birth of colts, calves, and sheep. He said that such infection often caused in young animals rapid and almost sudden death, diarrhoea or white scour, lameness, lung and mouth diseases, abscess, and paralysis. It had been proved over and over again that infection occurred either at birth or immediately after. To guard against infection, animals should be born in clean pastures or houses. Germs work so quickly that they must be dealt with on the first day, and an attempt made to stop infection. The prevention of these diseases was most important to breeders of stock. Investigation had proved that diseases in young animals were mostly due to infection at the start. In colts the worst things they had to guard against were joint evils, which made colts of small value. These diseases were often due to something being wrong at birth. Tetanus was now acknowledged to consist in wound infection, and the germ was very common in moulds, earth of all kinds, and stable manure. Horses were more liable to it than other animals. In view of these facts, wounds should be kept in a clean condition. The principal causes of the disease to day were harness galls and rubs, small abrasions, and pricks and stabs. In the course of the discussion which followed, Mr. T. Oliver, M. R. C. V. S., expressed agreement with Mr. Harvey, and said if some of them had realized that cleanliness was next to godliness they would be richer to-day. Light and air were necessary to health, and the sun was the best disinfectant.

Iowa College Feeding Experiment.

An experiment of more than usual interest to stockmen has lately been completed by Iowa Experiment Stations. The object of this work, as outlined by Prof. W. J. Kennedy, was to compare the relative flesh- and fat-producing power of the different stock foods which are upon the market when used with a main ration of corn meal. An important feature of the test was the large number of animals made use of. No less than 220 ordinary range-bred steers were selected by Prof. Marshall and divided into eleven equal lots. In addition to their daily ration of corn meal, they were supplied with wheat straw for roughage and water and salt at will. All through this experiment, great care was exercised to insure uniformity of conditions for each lot. They were marketed in Chicago on June 14th, and complete details of the result will be issued by the station staff in a short time. A synopsis of this report will be published in the "Farmer's Advocate" as soon as received. Meanwhile, the following table, showing the average weight, supplementary feed used, and the valuation of each as determined by a committee of expert buyers, will be interesting:

LOT.	Supplementary Feed.	Head.	Average Weight.	Price.
I.....	None.....	19	1,244 lbs.	\$ 7 45
II.....	Oil-meal.....	20	1,285 lbs.	7 50
III.....	Cottonseed meal.....	22	1,292 lbs.	7 40
IV.....	Gluten meal.....	19	1,311 lbs.	7 55
V.....	Gluten feed.....	19	1,276 lbs.	7 00
VI.....	Germ oil-meal.....	20	1,265 lbs.	7 40
VII.....	Blood-meal.....	20	1,253 lbs.	7 60
VIII.....	Iowa Stock Food.....	20	1,301 lbs.	7 40
IX.....	International Stock Food.....	20	1,167 lbs.	7 20
X.....	Standard Stock Food.....	20	1,198 lbs.	7 00
XI.....	Pasture.....	20	1,240 lbs.	7 55

It is well to remember that the places occupied by the different lots in the above list may be by no means taken as conclusive. Animals bringing the highest price per hundredweight do not always bring the most profit to their feeder. Hence, some group at present standing near the bottom may find a place much higher when all is told.

The Stomach Worm

(*Strongylus contortus*).

Ravages of the stomach worm affecting sheep, goats and many cattle are usually felt in infected flocks late in July, August and September, the lambs and yearlings being the ones to succumb, or, at least, show symptoms earlier and more pronounced than older animals; yet the latter are by no means exempt. The symptoms are not very characteristic and scarcely permit a precise diagnosis. There is dullness, languor, intense thirst, anæmia and emaciation. There may be subacute colic and black diarrhoea, which usually terminates fatally, especially in lambs, a post-mortem of which reveals the true identity of the disease. The sheep, as with all ruminants, is provided with four compartments in its stomach: 1st, the rumen, or paunch, acting as a receptacle for coarse particles of food not fully prepared for digestion; 2nd, the reticulum, which aids in returning the coarse food from the rumen to the mouth, to be remasticated; 3rd, the omasum, or manyplies, which also prepares the food for digestion; while the 4th, abomasum, is the true digestive stomach (and immediately precedes the small intestines). It is in this true digestive stomach where the stomach worm lives, abstracting blood from its mucous membrane, causing great and rapid emaciation and death from the irritation therein produced. In holding a post-mortem, care and close observance is necessary, that the worms may not be overlooked. The stomach's lining membrane will be noticed to be somewhat inflamed, which, if examined immediately after death, great numbers of living worms, of a pinkish brown color, will be seen to move. (The writer has seen the stomach walls a living mass and in constant motion.)

Scientific investigations have proven that the stomach worm is aided much in its life-history by the presence of pools of stagnant waters, if, indeed, the presence of such is not absolutely necessary for their existence. The ova of the parasite passes away in the animal's droppings, which become washed into the stagnant water, from which, in too many cases, animals have to depend for their drink. The ova there hatches and assumes its larval form, which, if taken up by the sheep, again completes its life cycle. It is, therefore, evident to the thoughtful flockmaster how important it is not only to supply fresh running water to their animals, but also to fence or drain such sources of contamination to insure the safety of their stock. In the treatment of stomach worms, when their presence has been established beyond doubt, many agents (vermicides) are within reach, and many experiments have been tried within the past five years, especially in the United States, where great ravages have been wrought in many sections. The writer has found the most satisfactory results from fresh powdered arcanut, in small-teaspoonful doses to a 75-lb. lamb,