

How the Beef Breeds got their Color.

Professor James Wilson, of the Royal College of Science, Dublin, Ireland, has recently completed an interesting inquiry into the question of color variation in Shorthorn cattle, which has just been published by the Royal Dublin Society. Prof. Wilson's report reads in part as follows:—

"The Shorthorn breed originated in the eighteenth century on the borders of Durham and York, in a part of the country which was the meeting-ground of the three races of cattle then existing in Britain—the Celtic, the Roman, and the Saxon. In pre-Roman times the Celtic race inhabited the whole of the island. Its modern representatives are the black breeds of Scotland, Wales, and Ireland. The Romans introduced a white race, which they distributed throughout the parts of the country under their occupation. Its modern representatives are the white cattle of Wales, the wild white cattle of Chillingham, Cadzow, and other parks, and the white Shorthorns.

"The Anglo-Saxons introduced a red race which occupied England south of a line dipping southwards in the middle and drawn approximately from Herefordshire to Lincolnshire till about the middle of the eighteenth century, the mixed Celtic and Roman races having been driven northwards and westwards. The modern representatives of the red race are the Hereford, Devon, Sussex, Norfolk and Lincoln breeds.

"There was thus established a red race, holding the south of the island, and a black race with an admixture of white, holding the rest. Where the southern red race met the northern black and white races, there sprang up a new kind of cattle—the Longhorn—which is now almost extinct, but which, at the middle of the eighteenth century, occupied some of the midland counties and pressed northwards on both sides of the Pennine range into South Lancashire and South-west Yorkshire. These cattle were a mixture possibly of all the three races; but they are not concerned in the present question.

"During the seventeenth century, and part of the eighteenth, and also probably at a somewhat earlier period, many cattle were imported from Holland to the east of England, especially to Durham, York and Lincoln. These cattle were red-and-white and black-and-white flecked. The red-and-whites were most appreciated, and eventually swamped the others. These red-and-white cattle were of the same race as the red cattle brought over a thousand years before by the Anglo-Saxons. Although the cattle of the South of England were called red, they were not all entirely red any more than the black cattle now in Wales and Scotland are all entirely black. Notwithstanding a tendency on the part of breeders to breed it out, a patch of white on the underline is not uncommon among the red breeds; and the Herefords have white not only on the underline, but also on the face and along the back. It is not probable that old Anglo-Saxon cattle were as highly flecked as the red-and-white cattle imported later from Holland. The point is of no present importance, however.

"The earliest progenitors to which present-day Shorthorns can be clearly traced were white cattle, belonging to the Aislabies of Studley Royal (it has been suggested that the Studley Royal herd originated from the cattle of the monks of Fountains Abbey close by), near Ripon, whose herd dated back to the beginning of the eighteenth century. Studley Royal bulls were used by farmers in the neighboring districts. Celtic blood was also introduced to the stream from which modern Shorthorns are descended; and at least two instances are on record, viz.: through Lady Maynard, calved in 1789, which was 'descended from a black cow with white belly and white legs to the knee,' and through Grandson of Bolingbroke, calved in 1794, whose granddam was a 'red Galloway.' But the main stream consisted chiefly of Saxon cattle, more especially of the branch introduced from Holland in the seventeenth and eighteenth centuries. It would not be safe to say that there were none of the old Anglo-Saxon red cattle near the birthplace of the Shorthorn in the eighteenth century; but, if they were there, they were in a minority. The whole of the recruits drawn into the Shorthorn breed during the last 100 years have been drawn from the two branches of the Saxon race, although, perhaps, as time went on, the red branch has been drawn upon more eagerly.

"It happens among polygamous pure-bred stock that, in a few generations, unless it be specially eliminated, a progenitor's blood runs in the veins of numerous descendants. An illustrious sire gets, perhaps, 20 sons; his sons again

get 300 or 400; these again get 4,000 or 5,000; and so on, until it may be difficult to find an animal which is not the illustrious sire's descendant. Thus at the present day there are not many Shorthorns which are not descended from Cruickshank's Champion of England, born in 1860, and none which are not descended from Charles Colling's Comet, born in 1805, and descended from Studley Royal stock, and also from Lady Maynard. Thus the blood of the old Studley Royal white cattle, of the old Saxon red and red-and-white cattle, and of the Northern black cattle, flows in every Shorthorn alive to-day. But the black color, if it can be said ever to have been bred within the breed, was soon bred out. It was unpopular even in the eighteenth century. Mendel's law shows how easily a foreign color, or any other outward signs of a foreign cross may be bred out.

"Thus in the matter of color, at any rate, the modern Shorthorn is descended from two races, the White Roman and the Red Saxon, the 'red' including red, red with little white, and red and white. The table of coat colors should, therefore, be reconstructed on the basis that the Saxon 'reds' are one of the ancestral races, and the Roman white cattle the other.

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An English swine raiser says: "I have only one remedy for a sick pig. It is a simple one. Rheumatism, paralysis, blind staggers, thumps, scours, etc., I treat all alike, though in varying proportions. My cure-all is nothing more than fresh new milk and turpentine. For a young pig, say six weeks old, administer a teaspoonful of turpentine in, say, half a pint of milk. Unless the pig is sick it will readily drink this. If too sick to drink, it must be administered with a spoon. An older pig, however, will seldom refuse new milk, even when a tablespoonful is given in a quart or more. Grade the dose from a teaspoonful at 6 weeks to a tablespoonful or more for a mature hog."

FARM

Comment upon farming operations invited.

Canada at the Franco-British Exhibition

■ The Franco-British Exhibition, in London, England, is, in reality, as well as in name, French and British. The exhibits, which are well divided between the two nations, are comprehensive and very representative of the arts and manufacturing industries. Grounds consisting of 120 acres are used, 40 acres of which are under cover; they are conveniently situated, being within 25 minutes of the Bank (the heart of the city), and are reached by "Tube," which is an electric railway in a tunnel over one hundred feet below the surface of the ground, the "Underground," which is another rail-

way, running just under the surface of the ground; and street-cars, and motors and horse omnibuses by the thousand.

On a recent holiday, over half a million people passed through the turnstiles, and the exhibition had just got nicely started. The stadium encircling the sports ground has a seating capacity for 60,000 spectators.

The buildings are white, of most artistic architecture, and they are very beautiful. The uncovered grounds are well laid out in gardens, presenting a profusion of bloom and foliage.

Great Britain beyond the seas is extremely well represented. New Zealand, Australia and Canada have separate exhibits in buildings constructed by their own governments. Australia has made a most attractive display, the produce of each of her provinces being well arranged in sections.

Canada, under the experienced and capable management of Colonel Hutchinson, has done herself proud; there has been no stinting in expenditure; \$60,000 was paid for the rent of the ground upon which the building, 350x150 feet, has been erected, at a cost of \$120,000. It is estimated that the total expenditure for this advertisement will amount to about \$300,000. There is nothing Provincial about this exhibit. It is Canada as a whole; Canada, Great Britain's granary; Canada, the great wheat-producing country, is the predominating characteristic of the whole exhibit. The interior of the building on all sides is made up of representations of large trees, the trunks, branches and leaves being made of heads of wheat, the trees being introduced as emblematic of strength—Canada's strong wheat. The idea is most distinctive, and is well carried out; every man, woman and child visiting the building must come away with the desired impression: Canada for wheat.

While wheat is the dominating feature, other branches of agriculture, manufacture and other industries are not overlooked, but touched with a lighter hand. In a large, refrigerated chamber, with double-glass sides and ends, there are life-sized figures, modelled in butter, of Jacques Cartier, standing in a row-boat about to land on the banks of the St. Lawrence, where an Indian is seen in possession. In another section are life-sized figures of the King of England shaking hands with the President of France; another is the bust of Hon. Sydney Fisher, Minister of Agriculture. All are well done, being good representations—and all butter. Of course, cheese and bacon have also a place in this section. On one side of the pavilion is a large and comprehensive display of apples set out on glass dishes placed on small round tables. Very mouth-watering do they look and smell, and a few million visitors will, like myself, reluctantly turn from these with the regret that they are not giving samples away.

On the opposite side of the pavilion are displayed some of the pulpwood and timbers of Canada, at the base of which is a beaver dam, and a beaver pond, and in it live beavers—our first engineers. These industrious little wonders are proving a great draw; they always have a large audience.

At one end of this great building are large oil-paintings of the late Sir John A. Macdonald and Sir Wilfrid Laurier, coupled by the words, "Nation Builders." And just here, the importance



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CANADIAN FRUIT EXHIBIT AT THE FRANCO-BRITISH EXHIBITION