

Bates' Duchess tribe, and of Buckingham on the herd of Richard Booth. Buckingham was not himself a very fine animal to look at, and no visitors to Warlabay, we are told, could appreciate his merits until they saw his offspring. Never, says Mr. Carr, were calves with backs so broad, ribs so round, shoulders so shapely, flanks and fore-quarters so full and deep; and there seems no reason to doubt that the freshness of the blood had much to do with the effect Buckingham had on the Warlabay herd.

VARIABLE FORCE OF INHERITANCE.

In improving any race of animals, breeders have proceeded upon the principle that like begets like; or, in other words, that the offspring will inherit the qualities of the parents. They have therefore gone to work by continually selecting the best animals to breed from, and it is by this constant selection of the best, carried on for a long series of generations, that our present breed of domestic animals have attained their high degree of excellence.

Although every one admits the truth of the proposition that the characters of the parents may be expected to re-appear in the offspring, yet the rule is subject to much modification, for we constantly see that the degree of resemblance varies much even in members of one family, all proceeding from the same parents. Some of the offspring will resemble the father, some the mother, while in others the features of both will be blended, or the resemblance may take after some of the grand-parents or collateral branches of the family, or even revert to some remote ancestor. Breeders of animals also observe that some individuals transmit their characters to their progeny much more strongly than others; and, in short, one would be inclined to say that the laws of inheritance are very capricious and unaccountable. This, however, no doubt arises from our ignorance, for the subject has not been studied with that amount of attention which it deserves.

INTENSITY OF BLOOD.

The laws that regulate inheritance have been surprisingly little studied, considering their vast importance, and are consequently but very imperfectly understood. Most breeders, however, seem to believe that long-continued transmission of any character tends to implant it more firmly in the race; and hence pure-bred animals, which are descended from a long succession of ancestors, endowed with the same features and qualities, will transmit these characters with a considerable degree of certainty to their progeny. This is what is meant by pure blood, or high blood; and it is alleged that, if we match two animals, one of pure blood, and the other of mixed descent, the characters of their progeny will generally most resemble the pure-bred parent. If, for example, we use a well-bred Short-horn bull with a set of cross-bred cows of no particular

breed, the features of the Short-horn will generally predominate in the offspring. As Mr. Berry expresses it, the excellencies of the one are the accumulated acquisitions of many ancestors; they are positive, and in comparison fixed, while the cows possess little or no determinate character, having been bred without regard to any point save to increase the stock on the farm where they were reared. If, on the other hand, the sire and dam are equally well bred, and alike in point of individual excellence, then the produce may be expected to have an equal chance of resembling either parent. For example, it may be observed that pure bred cows of the Black Polled breed, when crossed with the Short-horn, have often calves which are entirely black, without horns, and show little of the Teeswater type. Certain French breeders have found the same rule hold good with sheep.

Cooked vs Raw Feed

Various have been the experiments on the best way of preparing feed for hogs. The Hon. L. W. Stuart, of Maquoketa, Iowa, has been adding valuable facts to this subject by his careful experiments, which he gives in a late number of the *Excelsior*. He says:

Having made a series of experiments in feeding hogs upon corn prepared in different ways, I now desire, through the agency of your paper, to give the results to the public.

I commenced my experiments, Oct. 24, 1870, by weighing 20 hogs. With the exception of four, they were one year old in October and September. They had been fed two weeks previous to weighing for the experiment. The weight was 4,070 pounds. They were put upon the scales and weighed every Monday morning during the experiment. There was also an accurate account kept of the feed consumed each week, reckoning 56 pounds for a bushel of corn or meal. They were fed in a floored pen, and in troughs so arranged that no feed was wasted. Their sleeping apartments were also well provided with wheat straw. They also had the range of a small lot. When they were fed on dry feed they were well supplied with plenty of water. They were fed regularly three times per day. The experiments were continued for 70 days, closing on the second day of January, 1871, which day I sold them for five cents per pound as a basis for calculation in making up my estimates. The sum total in corn consumed in conducting my experiments the seventy days was 232 bushels. The net gain on the 20 hogs was 2,817 pounds, a trifle over two pounds per head per day. The weight at the time of selling was 6,877 pounds. The result of feeding was as follows:—

They were fed for 28 days on dry shelled corn, and consumed 83 bushels; made a net gain of 837 pounds, which is equivalent to

10.89 pounds per bushel, which sold my corn thus fed at 50 cents and 4 mills per bushel.

They were fed 14 days on meal, ground fine, and fed dry, and consumed 48 bushels; made a net gain of 553 pounds, which is equivalent to 11.76 pounds to one bushel of corn, which brought my corn to 58 cents and 8 mills per bushel.

They were fed 14 days on meal mixed up with cold water, and consumed 55 1-2 bushels; made a net gain of 731 pounds, which is equivalent to 13.17 pounds per bushel. In this trial I realized for my corn 65 cents and 8 mills per bushel.

They were fed 14 days upon cooked meal, and consumed 46 1-2 bushels; their net gain was 696 pounds, which is equivalent to 14.76 pounds per bushel; this sold my corn for 74 cents and 8 mills per bushel. Now taking the two extremes, I find I got 21 cents and 4 mills more per bushel for my corn by grinding and cooking than when fed whole and raw. After deducting one-seventh for grinding, leaves 21 cents per bushel. Now in making an estimate on feeding 100 hogs for the same time (70 days), I find I shall net \$245 62 more for my corn by cooking than by feeding raw, and after deducting one-seventh for grinding.

Had I ground and cooked the food for my 20 hogs, I should have made 663 pounds more pork than I did, which would have given me \$33 more had I cooked all the food; then my hogs would have eaten one-half bushel of corn more, so I deduct 15 cents, which would just leave me \$33 more profit. Had I fed whole corn for the 70 days, the 20 hogs would not have consumed as much corn within 24 1-4 bushels; at 30 cents a bushel the corn saved would bring \$7 62, but the lack in the gain of the hogs would be 1,387 1-2 pounds; at five cents this would bring \$69 37; deduct \$7 62, the cost for the less amount of corn consumed, and we have \$61 75 in favour of cooked feed on 20 hogs.

I find it will require 245.1 bushels of raw corn to make 3,480 pounds of pork, and only 232 1-2 bushels when cooked, a difference of 112.6 bushels in favour of cooked feed.

In order to make the same number of pounds of pork in the same length of time, it will require 33 1-3 hogs to consume a sufficient quantity of raw corn to equal 20 hogs fed on cooked feed, which would be equivalent to 100 hogs fed on raw corn. The 60 hogs would consume in 70 days 697.5 bushels of corn cooked, and the 100 hogs fed on raw corn would consume 1,035.3 bushels to make an equivalent amount of pork. In writing this article my only object is to give facts and figures.

A correspondent of the *Country Gentleman* says:—"The first milking of a cow that has just dropped her calf, and new buttermilk, should never be fed to swine, but should be poured into a swill barrel and diluted; then no bad effects would be likely to arise."