

tribution of cellular tissue throughout the system, ensures a rapid conversion of food into nutritive particles, and the deposition of these into the various tissues. Large lungs, a large heart, stomach, liver, and give size and rotundity to the trunk and width to the bosom. A large stomach is of the utmost importance, because furnishing a large surface. From this the gastric juice issues, and when we consider the inner surface of the stomach, and the air cells of the lungs, we must prize an extended surface in those organs as highly as we do a large surface in a steam boiler, if we expect great results.

Two of the worst faults in the construction of a Short-Horn are the following, viz.: The ribs starting from the spine in a downward direction, giving a wedge shape to the upper third of the chest; the other is a long rib deficient at the lower end, causing a curve upward in the lower line, immediately back of the fore legs. We doubt if any other two defects are so hard to breed out as these. A drooping rump or low carriage forward may be brought up in one or two crosses, so that with after care they may not reappear; but the defects in the chest pointed out above depend upon deficient vital organs within. It is much easier to raise one corner of a house that drops than to remodel the inner walls and fixtures; so it is difficult, even by several well-advised crosses, to plant large vital organs in the offspring where deficient even in one of the parents. The reorganization and enlargement of heart, lungs, stomach and liver, require many discreet crosses to accomplish.

Passing from the chest backward, we would call attention to the importance of the short ribs being long and standing out horizontally from the spine, forming a level plain forward of the hips. This broad, level loin generally keeps company with a round, deep chest, and is a point of excellence that should always be sought. When we reflect that in every inch of additional width we get in the rear third of a beast, we secure what would be represented by a section or cut one inch in thickness, and extending from top to bottom, and front to rear of the hind quarter—a pretty good slice, the cook would say. The hind quarter that holds its width well back carries a large amount of meat not represented in the quarter that narrows in rapidly from the hip back. A perfectly symmetrical or organized frame, with the fleshy part so well distributed and packed as to make it difficult to tell where one portion of the carcass ceases and the next begins—this is the goal to be aimed at.

The third and last part of our subject, 'quality,' we will treat very briefly. No intelligent breeder, whilst striving to increase the depth and breadth of the carcass, loses sight of the equally important point—the texture of those parts of the animal that are to be consumed as human food. This idea of texture is never lost sight of by the fruit grower, and the excellences that fix the value of an apple, viz., fair size, smooth surface, and tender, juicy meat, are the three things upon which we base our estimate of a Short-Horn. Now, the common notion is, that all animals that handle mellow have high flavored, tender flesh. This is an erroneous idea, proved so every day upon the butcher's block. We couple two animals together, expecting to secure well-formed, ready feeders in the progeny, and if the parents possess this fattening tendency, they will generally transmit it. But if both the parents have dark, unsavory flesh, they and all their get, and all the progeny after for all time, will have the same, unless modified and improved by new crosses having light colored, savory flesh.

Profits from Dairying.

For the benefit of farmers in neighborhoods where it is proposed to establish cheese factories for next season, it may be well to give some general statements as to what may be expected. Annual receipts of from \$50 to \$100 per cow are reported, and truthfully, by some dairymen, but such returns as this are not to be expected by farmers generally, especially at the first. The following is probably a fair average, for average cows, on common or poor grass, and with only ordinary care during winter. The cheese factory should be kept in operation at least six months, say from May 1st to Oct. 31st—or say 180 days. During this time the cow should give 3,000 pounds of milk, making 300 pounds of cheese. For this milk the farmer will receive from \$27 to \$30. During three months more the cow will give say 1,000 pounds of milk, making from thirty to thirty-five pounds of butter, worth from \$6 to \$10.

Much better than this is done by many, but the receipts of many fall considerably below these figures.—*Western Farmer.*

A New Food for Horses and Sheep.

A favorite and rather a new kind of mash for horses is coming into use, composed of two quarts of oats, one of bran, and half a pint of flax seed. The oats are first placed in the stable bucket, over which is placed the linseed; add boiling water, then the bran, covering the mixture with an old rug, and allowing it to thus rest for five hours, then stir the mass well up. The bran absorbs, while retaining the vapor, and the linseed binds the oats and bran together; a greater quantity of flax seed would make the preparation too oily and less relished. One feed per day is sufficient; it is easily digestible and is specially adapted to young animals, adding to their volume rather than to their height—giving substance to the frame. Professor Sanson reminds us not to overlook the food, in the nourishment question in connection with the amelioration of live stock. He considers oats, as so generally given to sheep, as objectionable, and approaching the unprofitable; rams generally receive one pound of oats daily, ewes half that quantity. Oats, forming an exciting food, are especially suited for rams during the season when they serve, but for hastening the development of young sheep, they only build up the bones, not the flesh.—*California Farmer.*

Clyde Horses.

The London *Field* says that Clydesdale breeding in Scotland has grown in popularity, and is apparently increasing. The Clydesdale is admittedly the best sire for a farm stud. The great rise in the price of horses has stimulated farmers in breeding, and the encouragement given to this valuable breed of horses by the Glasgow Agricultural Society has aided in the improvement of the Scotch farm horses. The best animals in the country are annually attracted to the Glasgow meeting, and there the agricultural clubs throughout the country have facilities for selecting worthy sires, which are nowhere else obtainable.

Weighing Cattle by Measure.

The following are rules by which the weight of cattle can be ascertained approximately by measurement:—

Take the length of the back from the curve of the tail to the fore-end of the shoulder-blade, and the girth around the breast just behind the fore legs. These dimensions must be taken in inches. Multiply the girth by the length and divide by 144. If the girth is less than 3 feet, multiply by 11; if between 3 and 5 feet, multiply by 16; if between 5 and 7, multiply by 23; if between 7 and 9, multiply by 31. If the animal is very lean, one-twentieth must be deducted, and if very fat, one-twentieth must be added. Another rule: Take all dimensions as before, in feet, and then multiply the square of the girth by the length, and that product by 3.36. The result will be pounds. If you desire to know what an animal will dress, multiply the live weight by the decimal .065: the product approximates to the actual net weight very closely.

Stable Floors.

Upon the proper arrangement of the floors of stables depends much of the comfort of the stock and economy in saving manure. Nothing is more detrimental to the health of farm animals than foul earthen stable floors. They are saturated with liquid manure, they are always damp, an unhealthy mould smell constantly pervades them, and millions of the germs of possibly poisonous fungoid growths are constantly inhaled. It is no wonder that there are in consequence constant blood disorder or bronchial or lung diseases. Besides, the appearance and the comfort of the animals are sacrificed, because cleanliness is impossible under the circumstances. We very early in our experience discovered this, and for many years were constantly experimenting to discover the best stable floor. There are two, of which we can hardly determine which is the better. One of these is a double plank floor. The bottom plank is of hemlock—which is as good as any if kept dry, and is the cheapest—ten feet long and two inches thick, if for single stalls. This lower floor being laid, is well saturated with hot gas-tar, and the upper layer of plank, also of hemlock, which under these circumstances is durable, and which does not become so smooth or slippery as oak or yellow pine, and is therefore safer, is laid upon it. The planks are first coated upon the under side with the tar, then laid so that the joints are broken and finally firmly spiked down. These planks should be 1½

inch thick and 7 feet long. They form the bed of the stall, of which 2½ feet are occupied by the feed-trough, and 4½ feet give standing room for a cow. At the ends of this bed or floor of the stall is a depression 1½ inch deep, into which all the manure drops or drains. This may be made of any width that is desirable. When the stalls are single two feet is a sufficient width, with a sidewalk of one foot wide. If the stalls are double, four feet give plenty of room. The depressed portion of the floor should be kept well coated with gas-tar and sprinkled with sand while the tar is hot. The tar is a great preservative of the wood. Such a floor is quite impervious to water, and is equally good for a hog-pen as for a cow-stable. For horses, the floor should be laid with the best white oak, hemlock being too soft to stand contact with the shoe calks.

The other floor is the cobble-stone and cement floor. The floor being graded with a gentle slope, or half an inch to a foot, is paved with cobble-stones selected for evenness of size and for their shape, which should be that of an egg with one broad and one pointed end. The smaller end is laid in the earth and the broader one uppermost. They should be well rammed down, and when the floor is laid all loose sand is to be swept off from it. The finishing of the surface is thus performed: One part of good hydraulic cement and seven parts of sharp sand are well mixed dry, and then water is added sufficient to make a thin mortar. This is thickly spread over the paved floor and worked into the spaces between the stones with an old stiff corn broom. It is laid on thick enough to fill the spaces evenly, and with the bottom a fair smooth surface is formed through which only the tops of the stones are seen. A thin wash of pure cement is spread over the whole, and it is left to dry. The next day a coating of hot gas-tar is laid upon it until no more is absorbed, and fine sand scattered upon it. Then we have a floor which will last indefinitely if only care has been taken to make a solid foundation and to ram the stones down solidly. It is entirely rat-proof, dry, and therefore healthy. This floor is also pig-proof, and suitable for hog-pens which have nothing beneath them but the ground. It is obvious that this paved surface is solely a ground floor, and can not be used over a cellar.—*American Agriculturist.*

The Great Short-Horn Question.

From a long and able article on this subject in the last number of the English *Live Stock Journal* and *Fancier's Gazette*:—

We consider it no part of our duty to decide between any rival strains, or to pronounce upon the degree of credit to be attached to various statements published as Short-Horn history. It has long appeared to us that the aggressiveness often charged upon admirers of Bates, is fully equalled by advocates of the supposed contrary lines, and that as the real question between these may be said very much to resolve itself into one as to the value to be attached to "handling," it would be far better to argue it out, if at all, on that general ground. We cannot but consider it a real misfortune for both the memory and reputation of the great Kirklevington breeder, that the only professed history of his herd and proceedings should have assumed such an unfortunate character as it has done, and by its too evident partisanship and inability to distinguish between what is evidence and what is not, thrown much doubt even over what may be really true, and added tremendously to the difficulties of those who desire, for their own guidance, to ascertain the real facts. We cannot but express a hope that some admirer of Mr. Bates, of adequate knowledge, some literary ability and competence to sift the proved from the merely probable, and the latter from the merely fanciful, will yet make an effort to place the history of the Kirklevington herd on a more satisfactory basis.

Taking the question, the "Value of Pedigree," we tried to show why a pedigree might be almost priceless in value, from its effects in fixing what had been long and steadily sought; but a pedigree of mere names is, so far, worthless. For instance, supposing in it four Duke crosses in succession; the value of the product does not depend on these crosses having been four "Dukes," but four Dukes of the right sort, all possessing the points in shape, handling, strength and constitution, which are desired. If the breeder who buys a Short-Horn with a pedigree knows that the ancestors were thus valuable, and he sees by the good result that they have been blended with skill and judgment,