

latter method we discern lameness by positive and negative signs. For example, if there be heat, pain, or swelling in any part of the limb, discoverable by manipulation, the evidence is positive that the cause is in such a part; but if, on the contrary, there be neither pain, heat nor swelling in the limb, nothing in the superficial parts of the foot to account for the lameness, we must conclude that it is deep-seated in the foot, or in some part of the limb thickly covered by healthy tissue, and we must arrive at conclusions by negative symptoms, assisted by peculiarities of gait.

Lameness may be caused by a sprain of a ligament, tendon or muscular tissue; by fracture; diseased bone or cartilage; morbid conditions of the skin; nerve and other tumors; plugging of arteries; accidents, as pricks in shoeing, treads, ulcers, rheumatism, etc.

"WHIP."

LIVE STOCK.

PROF. KING AND MUSLIN-CURTAIN VENTILATION.

Prof. F. H. King, of the Wisconsin Experiment Station, author of the King system of ventilation by means of shafts, recently visited the stables of Mr. F. B. Lord, Cedarhurst, N. Y., where muslin-curtain ventilation was installed, and gives, with considerable detail, in Hoard's Dairyman, the results of his observations. He says:

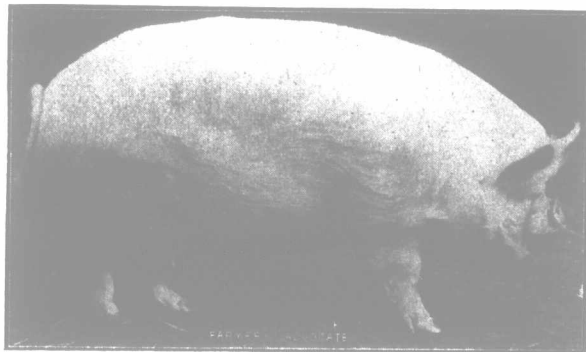
"We measured the rate at which air entered the Lord stable through the open, unobstructed window and through the muslin screen which they had been using for ventilation, as we understand, under recommendation of Mr. Santee (U. S. Department of Agriculture) and instruction. When the air entered the stable through the open window at the rate of 11.53 miles per hour, with the muslin screen in the window, the movement of air into the stable was cut down to only 1.23 miles per hour, an amount scarcely more than one-tenth as much. Mr. Lord had another window screen, made from heavier cloth, more like a very light-weight canvas, with which we also experimented, and found that when the air was moving with an outside velocity of 11 miles per hour, the amount of air which entered the stable through the screen was so little that it could not be measured by the very delicate air-meter which we used, and which was sensitive to one-third of a mile per hour. Here we have positive proof of the great resistance of cloth to the movement of air through it. Mr. Santee gives indirect proof of the same fact when he says that, with the temperature 43 degrees below, outside, a thermometer only one foot from the window screen on the inside of the stable registered not lower than 38 degrees above. It must be clear that only an extremely slow flow of air through the muslin screen could make such temperature relations possible. But extremely slow flow of fresh air into a stable does not mean good ventilation, unless the openings are correspondingly large.

"In one year of continuous wind record, at Madison, Wis., we found 5,239 hours when the wind velocity equalled or exceeded 9 miles per hour, and 3,521 hours when it was less. It is evident, therefore, that if the screen area is adjusted to the higher wind velocities, as it must be, there will be insufficient ventilation when the wind velocities are under 6 miles per hour outside the stable. On the other hand, if the screen area is made adequate for low wind velocities, the stables must be cold in severe weather. This, Mr. Lord's superintendent assured me, was the case with their stables.

"When the dampness from the ceiling disappears when the muslin screens are used, it simply means that enough air has gone through the stable to remove it. The same thing would happen quicker with the windows open and on the coldest day. Every dairyman knows this fact from his own experience. So, if damp stables are associated with any system of ventilation, it simply means that the air movement is too slow to remove the moisture as rapidly as it is produced. Whoever teaches differently is himself deceived, and is deceiving others. There are extremely rare days when extremely damp air outside, associated with a sudden rise of temperature after a severe cold spell, may cause dampness to appear for a brief period in a closely-crowded stable. But if anything like this persists, there is something wrong with the interchange of air. If there is any doubt about this, throw the stable open wide and see if the moisture does not disappear.

"If it is desired to ventilate stables without

the positive aid of the tall-chimney principle, there are many ways of providing intakes for the fresh air which will better conserve the heat of the stable, and which do not have the characteristic of frailty possessed by the muslin. And it should be remembered by whoever uses the muslin screens for ventilation that whenever they become wet, either by the outside rain or by the condensation of moisture from within, their openness is very materially reduced, so that it cannot be regarded at all safe unless some method of regulation is combined with it. We know of a Canadian instance where a bunch of steers were being fattened loose in a hay bay without being taken out to water which came so near suffocation that two were found down one morning and others very uneasy. Examination revealed the fact that, during the continuous severe weather the moisture from the animals had so frozen into the openings which provided the accidental ventilation as to nearly shut out the fresh air during the still night.

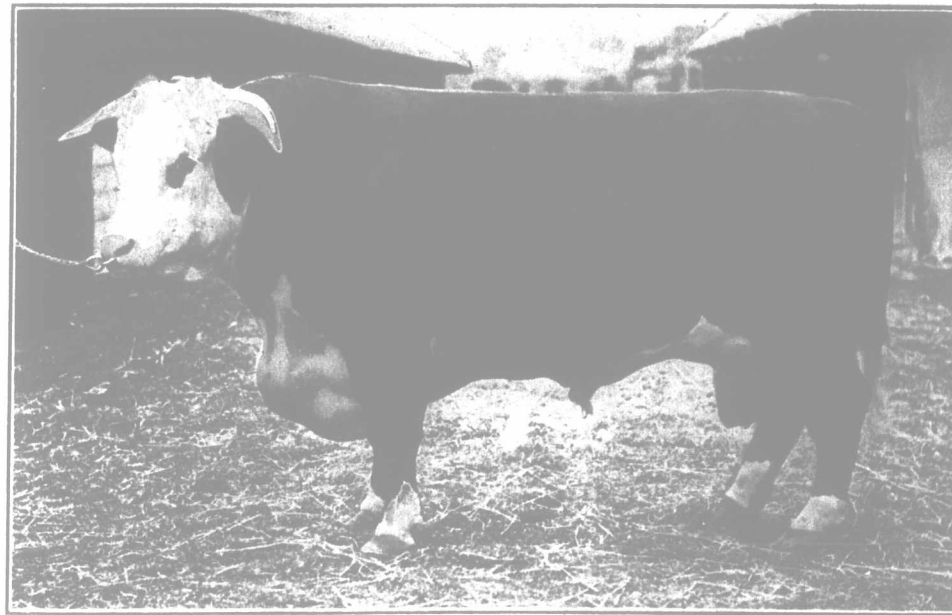


Walton Rose 39th.

Middle White sow. First and champion, Royal Show, 1907. Property of Sir Gilbert Greenall.

"The fermentation of the thick layer of manure and bedding in the bottom of the bay, which extended into the stone basement, and which had then become some two or three feet thick, may have added to the difficulty, but the case is a forceful illustration of the need of insuring the removal of air from the floor level by one means or another which is positive and certain. It is this which the chimney principle insures at times of the stillest air outside, provided intakes for fresh air are also provided. The muslin screen, however installed, cannot, in itself, take advantage of the stronger wind movement higher up which prevails in calm weather, or of the difference in weight in long columns of air at different temperatures, both of which are important factors in the draft of chimneys.

"No one can be more glad than the writer to welcome a cheaper, efficient system of stable and house ventilation than any now in use, but we feel sure that Mr. Santee has not found it in the simple muslin screen, and that to issue a bulletin from the Department, as he tells me he intends



Pearl King.

Champion Hereford bull, Royal Show, 1907. Exhibited by Allan E. Hughes.

soon to do, will be a severe blow directed against better stable sanitation. We hope he will wait until after he has made still more very exhaustive experiments on so important and vital a subject. Nature has always striven for the highest economy, but she long ages ago gave up the idea of getting something for nothing, or of accomplishing results without the expenditure of energy.

Every farmer in Canada needs "The Farmer's Advocate."

PROFIT IN BABY BEEF.

Ernest G. Rityman, B. S. A., of the United States Bureau of Animal Industry, in the course of a thesis on the subject of "Baby Beef," draws the following conclusions:

"Earlier maturity has been the continuous aim of progressive breeders of live stock, and its imperative necessity is one of the chief features brought out by the fat-stock shows of the present day. Most hogs (except breeding stock) are now matured and sold before they are 12 months old, and a large proportion of the sheep of mutton breeds are fed for the market and sold before they have reached that age. While the minimum age of maturity seems to have been closely approached with both hogs and sheep, this does not seem to be so generally the case with cattle. At a time when steers were marketed at four and five years of age, finished two-year-olds were considered an early-matured product. Five years ago, and even more recently, a prime steer up to 24 months of age was classed as baby beef, while to-day it is becoming questionable whether an animal over 18 months of age should be considered as such.

"Some of the principal advantages derived from the production of baby beef, as compared with older beef, are, (1) the quick returns on the investment, (2) the greater demand for the product, and (3) the greater amount of meat produced per pound of feed consumed.

"In feeding baby beef, the profit comes in within two years after birth of the calf. In case, also, of the loss of an animal, this would be considerably smaller in a young animal, because the latter represents a smaller bulk, and has, moreover, been produced at less cost per pound of live weight. On the other hand, the lighter the animals are marketed, the more breeding stock is necessary to produce an equal amount of marketable beef. The extra cost of keeping this additional number of breeding stock, however, is offset by doing away with the cost of keeping steers the third year; thus, the number of marketable stock kept on the farm is increased.

"The production of baby beef involves a question of economics, based on the law of 'diminishing returns,' which has already lowered the age at which stock is matured by one-half of what it once was. No feeder of the present day would think of keeping a steer four, five, or more years, even if he could sell him at the same price per pound as younger stock, because it would decrease the number of marketable stock; and the same principle is true as regards two-year-olds, and yearlings, only in a less degree.

"There are two factors connected with the attainment of earlier maturity, (1) better breeding, and (2) better feeding, and it appears certain that those breeders and feeders who make the most of their opportunities along these lines will make the greater profits."

RECOLLECTIONS OF A SHEPHERD.

(Continued.)

The list of flockmasters I have known would be

sadly incomplete did I fail to mention the late Henry Arkell, of Teeswater, who for many years was manager of Mr. Stone's flocks and herds at Guelph, succeeding Joseph Kirby. A grand, good man was Henry, intelligent and well informed, ever faithful to duty, courteous and kind, a hard worker and a first-class stockman, who left a good flock of Oxford Downs to his son, W. H., who succeeds him in its possession, while another worthy son is Professor H. S. Arkell, late of Macdonald College, Ste. Anne,

Quebec, who is off to Europe for an importation of stock for that institution. Arkell, by the way, is a familiar name in the list of present-day Canadian sheep breeders, Henry, of Arkell, near Guelph, a cousin of the other Henry, being one of the best-known and successful importers and exhibitors of Oxfords, and a good fellow, too; while his brother, Peter, of Teeswater, recently deceased, left a grand flock of the same breed to his sons. The list of early Oxford breeders would be incomplete without the name of that kindly and clever gentleman, James Tolton, of Walkerton, in Bruce County. Another very worthy man on the