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weather will it not freeze up? Perhaps some of your readers who have such floors will kindly throw some light on the subject

Shoal Lake, Man.

A. NICHOLSON.

In laying the floor the concrete should be mixed in the ordinary way in proportions depending upon the quality of the cement. As a rule horse stable floors should be made of two layers; the first layer may be made of about one part of cement, to from six to ten parts of sand and gravel depending upon the strength of the cement, and should be about two to three inches thick. The second layer should be much stronger and about one half to three quarters of an inch thick.

We give it as our opinion, but would be glad to have others, that stables should not be built so that the liquid can drain away. The stalls should have a slope of about one inch from front to back and the passage behind a slope of about one inch to each six feet in width. This would drain the liquid to a division between the stalls and the passage, and when there should be absorbed by straw or some other absorbent. Sometimes dry earth is used.

It is not simply that it is wasteful to drain the liquid through the floor, but it gives rise to the most unhealthy conditions, both for the stock and for people.

In finishing we should advise a rough surface. When a concrete floor is finished with a steel trowel or float it is so smooth that the horses slip easily on it. If levelled with a wooden float the surface is more like sandpaper, and although not so easily kept clean, is safer.

Some horsemen would not have concrete floors in the stalls, while others do not object to them. Where an abundance of bedding is given and horses are not kept standing in the stalls for days at a time, little harm results from cement floors, and it might be said that no horses should be so kept. If any of our readers have different views upon horse stable floors than these expressed we should be willing to publish them and also any that agree with the above, that our correspondent may have plenty of evidence.

Is the Sire or the Dam Responsible for Twin Births?

EDITOR FARMER'S ADVOCATE:

If you remember last year your paper had the photograph of the registered Clyde mare Annie Scott and her twin foals (colt and filly) and as she has produced twin foals again this year (colt and filly) I think it will be of interest to readers of the ADVOCATE to hear of the grand old dam 15 years of age. The point I wish to bring forward is this: The dam had produced 11 foals in her day, and never had twins before. She was bred to the same stallion in 1905 and 1906, with result of twins at each foaling. Last year twins were from the first service the stallion ever gave. The owner of stallion, Wm. Moodis, bred the second mare to him, and the result was twins.

Most veterinary surgeons and expert horsemen claim the sire has nothing to do with the producing of twins. It certainly looks in this case as if he has a bit to do with it. I hope the ADVOCATE will give their opinion on this topic. I should like to have some horse breeders' opinions on this matter later on. Thanking you in anticipation.

Alta.

HAROLD BANISTER.

Our correspondent's enquiry has raised a question which has been debated ever since the

command went forth "to be fruitful and multiply." The phenomena of generation or reproduction are not all visible. The actual wedding of cell unit with cell unit is unseen, yet physiologists tell us approximately what takes place. From the reproductive organs (testicles) of the male come sperm cells (spermatozoa). From the reproductive organs (ovaries) of the female come the ovum or ova (egg or germ cell). The male vitalizing element is usually released during the act of coition (mating); that of the female the germ cells (ovum or egg) at each period of heat. In the case of the male more cells are released than are necessary to impregnation, but it is claimed by physiologists that usually only one germ cell is thrown off at a time by the ovary. The ovum is said to be met by the fertilizing spermatozoon (which resembles one of the little wigglers one sees on the surface of stagnant water) in one of the tubes (Fallopian) connecting the ovary and the uterine cavity (womb), and is there fertilized. Should more than one egg or germ cell be thrown off there are sufficient living (male) sperm cells to impregnate each one, as is exemplified in the case of sows and bitches. The semen of the male contains a great number of spermatozoa, as may be demonstrated by an examination of a drop of the fluid under a microscope. The opinion of scientists is that the female is responsible for twinning, the result of super-activity or fertility of the ovaries. It is well known by students in physiology that the tendency to produce twins in human beings and in mares, is inherited. In the latter it is considered most undesirable by horsemen, for the reason that few equine twins are born alive, or if born have sufficient vitality to live. The case above is certainly unique, but as far as the stallion is concerned it only goes to show that he is very virile, and that the sperm cells ejaculated by him contain vital spermatozoa which when deposited on fertile soil, grow and flourish.

A Canadian Record Needed for Percherons.

One of the features of the horse business in the West the last five years is the coming of the Percheron, which may be largely attributed to the tremendous influx of settlers from south of the international boundary. Several breeding studs have been established and it is now up to the breeders of the grey and black drafters to get together, form a Percheron Association, affiliate with the National Record Association and register their horses at Ottawa. This move is especially necessary with regard to Percherons, as in the U. S., there exist more than one record which induces confusion; and further, all registration fees go to the Percheron registry offices in the U. S. Once a breed society becomes strong there is some profit in recording live stock; and it is the custom in Canada since the National Records have been in existence to return the profits, in the form of grants to live stock associations, for prizes at shows, to the breeders, and by this method place the breed more and more prominently before the public. Breeders and purchasers of Percherons would, if a society were formed and affiliated with the National Live Stock Association, be protected from bogus pedigrees, for the authenticity of each pedigree

coming from the National Records Office is verified by an official before the pedigree is stamped for the Government. In addition, the establishment of a Canadian record for Percherons would put the Customs Department in a better position with respect to the importation of horses, and the home-breeders would stand to benefit thereby. The breeders of Percherons in the West might meet at the time of one of the big summer shows, Winnipeg, Brandon, Regina or Calgary, and form a society and start a register under the auspices of the Dominion Government.

Never use an Unsound Stallion.

The present enrolment ordinance is all right and it has to some extent improved the breeding of horses in this locality, but you cannot do too much towards advising the readers of your paper to breed to none but sound stallions. I am surprised to see so many that think it is just as good so long as the horse looks all right, other ways. A horse of mixed breeding or a grade horse may be used sometimes to an advantage, but a blemished horse never.

Alta.

JOHN LENNAN.

STOCK

When the Cow Does not Clean.

Experience both as a farmer and as a veterinarian demonstrates to one that far too many farmers are apt to neglect the cows after calving, especially when such have failed to clean or get rid of the afterbirth in the natural way. In some stables visited a strong, nasty-smelling odor has been noticed, which on examination has been found to be produced by the decomposing mass of afterbirth partially or wholly retained by the cow. In many cases, the cow shows signs of general ill-health as a result of the retention of the putrescent material, such ill-health being nothing more or less than a slow form of blood poisoning, during which time the milk is unfit for use by man or beast. This by-product of parturition should be removed within a few days after the birth of the calf, at least before decomposition is in evidence. Removal is not a serious matter if commonsense and caution are observed, and in the majority of cases, where possible, it were better to purchase such by the employment of a properly qualified veterinarian. If the help of a man so skilled is not available, the farmer should undertake the removal of the membranes himself, remembering the method by which the attachment is made to the internal surface of the womb. An examination of that surface by the hand reveals the presence, here and there, of little buttons (cotyledons) from which (it can be described no better way), the afterbirth must be gently unbuttoned, each cotyledon as it is come to being gently stripped of its abnormal (at that late date) covering. With one hand stripping the buttons carefully, and the other hand gently exercising traction, it is only a comparatively short time before the cow will be rid of this foreign irritant membrane, for such it has become. The hand



A PAIR OF PARKER AND FRASERS'S (LACOMBE) PRIZE WINNING HEREFORD BULLS, AT THE RECENT CALGARY SHOW AND SALE.



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