REGISTRY OF IN-BRED STOCK.

Are animals as closely, or incestuously, in-bred as the progeny of the daughter by her sire, or of the dam by her son, eligible to registration in the herd or studbooks for pure-bred stock?

J. B. S.

Ans.—There is no rule in any of the records against the registration of animals so bred. If the sire and dam are recorded, the produce is eligible, however close the in-breeding.

SOOT IN CHIMNEY.

We have a furnace in our house, and burn wood, and are troubled with soot accumulating in the pipes and catching fire often. The pipes are 7 inches in diameter, 40 feet long, and three elbows. The flue is 6½ x 9, inside, and 12 feet high, and 5 feet above highest point of house. No trees or other buildings are near. Can you suggest any way to prevent soot accumulating? Is flue large enough for pipe?

Ans.—I advise that the chimney in this case is in an outside wall. For a wood furnace the chimney is too cold, and the flue too small. The pipe is rather small, the length great and the number of elbows large, the whole combination giving a slow draft, so that the smoke is cooled too much and the soot deposited. I have consulted a practical furnace man and he says that, through actual experience he has discovered, there is practically only one sure way to remedy the effect, viz.: To build a center chimney, with short pipe and few turns, and provision at the bottom for cleaning out the soot. From time to time the pipe may be hammered a little, causing any soot that does accumulate to drop down, when it may be removed. WM. H. DAY.

STEEL AND CONCRETE SILOS.

1. Do you know of any farmers who have steel silos? Are they a success? Will ensilage eat or rust steel? Would 14-gauge steel be heavy enough for a silo 30 feet high and 12 or 14 feet in diameter? What is the best paint for painting the inside of a silo?

2. Is it necessary to reinforce (with steel) a concrete silo, or wall?

Lennox Co., Ont. H. L.

Ans.—1. For information on steel silos, we can only refer our inquirer to the article on page 955 of "The Farmer's Advocate" of June 10th, 1909, and to the editorial on page 985, issue June 17th. If interested, address the firm which has been advertising steel silos in "The Farmer's Advocate" of late.

2. No; but in the effort to economize, by reducing the thickness of concrete-silo walls, reinforcement has been resorted to. A six-inch wall, reinforced with steel wire, is stronger than a much thicker one without reinforcement. Just how thick a cement wall is necessary for a silo of given capacity is a question we have not yet seen settled in a practical way. In Perth County, Ont., many have been built only six inches thick from bottom to top.

QUESTIONS OF DRAFT.

1. What is the extra draft of a wagon on a hard road for, say, 500 lbs., or 1,000 lbs. I remember seeing a bulletin on the subject once, but do not remember when published.

2. How much advantage does one, two or three inches on a whiffletree, give a horse? What is the rule for such calculation?

3. How much advantage does a horse get by letting the whiffletree drop back two, four or six inches (not so as to touch the wagon or cultivator at any point.)? MECHANIC.

Ans.—1. This question is ambiguously expressed. Seemingly, the desire is to know what increased draft would be occasioned by an increase in the weight of the load. On this point, the conclusions of General Morin, who carried on a series of experiments under the French Government, would seem to apply. His first deduction was that "traction is directly proportional to the load and inversely proportional to the diameter of the wheel." His fourth principle was, "upon a macadam or paved road, the traction increases with the speed above a velocity of 2.25 miles an hour." However, upon soft roads of earth or sand, he found the traction independent of the velocity.

2. Evidently, doubletree, and not whiffletree, is meant. When all the bolt holes are in a straight line, the percentage of advantage given a horse by an extra inch or two on the end of a doubletree or evener, depends upon the length of the doubletree or evener, i. e., the distance between the holes where the whiffletrees or doubletrees (as the case may be) are attached. The draft of each horse, or pair, is in inverse proportion to the relative length of the arm. In other words, the draft of each horse, multiplied by the length of his arm of the evener, will equal the draft of the other horse (or pair, as the case may be), multiplied by the length of his (or their) arm. If it is desired that the off horse of a team shall do 60 per cent. of the work, then the clevis-pin of the off horse must be set in until the two ends of the evener are in inverse ratio, or as 40 to 60. This means that his arm of the evener will be just two-thirds as long as that of the nigh horse, or two-fifths of the total effective length of the evener, as finally adjusted. Suppose the evener were 48 inches long to begin with. Half of this would be 24 inches, which would be the length of the long end. The short end should be just two-thirds of this, or 16 inches. The sum of 24 and 16 is 40, of which 16 constitutes the fraction of 2-5.

3. Where the holes for the whiffletree ends are in an exact line with the hole for the draft-pin, the draft will be equal, whether the horse is behind or not. With an ordinary doubletree, where the clevis-holes are behind the draft-pin, the horse which is ahead has an advantage, because his leverage is lengthened, while his mate's is shortened. With a four-foot evener, where the holes for the clevises are four inches behind the draft-pin, the horse which is ahead may have an advantage greater than 25 per cent., if the angle formed is as much as 20 degrees. Even in an equalizer where the three holes are only one inch out of line, an angle of 20 degrees for the evener with the line of draft, may give the head horse nearly as much advantage as would result by setting the clevis of the other horse in one inch.

Where the holes for the clevis-pins are in front of the draft-pin, the horse ahead has to pull correspondingly more, instead of less.

LEAKING TEAT.

A young cow has small hole in teat, about an inch from bottom. As this teat is very inconvenient and disagreeable to milk, can you please advise me, through your valuable paper, if there is any way to permanently sear over this hole?

E. M.

Ans.—Nothing can be safely done while the cow is milking, but when she is dry, by scarifying the edges of the extra opening with a lance, or a sharp knife, and dressing with carbolized oil, the new growth, or healing process, will probably close the hole.

CHAIN TIES OR STANCHIONS?

I have under consideration the erection of a new cow stable, and am in doubt whether to fix the latest pattern of stanchions, or the usual sliding chain, as used in the majority of old stables. I have consulted several neighbors on the matter, men who have tried both methods, and get rather varied opinions on the matter. The majority of them seem to think the stanchions are all right in every respect, except that they do not always make for the best comfort of the cow, one of the objections being that the cow has some difficulty in rising, as it cannot lunge forward when in the act of rising, when fastened to the stanchions, as against the comparatively easy way of rising when fastened by the chain.

Now, I should like to know if you could tell me whether this is so; also any other disadvantage or advantage of the stanchion over the older chain way of fastening? J. O.

Ans.—We think you have stated the case pretty fully and fairly. Swinging stanchions are used with complete satisfaction by thousands of dairymen. They are convenient, and help to keep the cows clean, while allowing considerable freedom. The writer confesses, however, that he is somewhat of a crank on the question of animal comfort, and is not yet convinced that the stanchion is quite so comfortable as the chain tie, hence, if building a stable, would probably choose the old-fashioned method. However, every man to his choice.

SCHOOL FENCE.

The public-school lot, or grounds, lies set into my farm, with its front on a street allowance.

There is needed to be built a new fence around it. The old fence, which was built some years ago, was put there by the school section, it being a picket fence. Since then, a rail fence was put on the back and one end, leaving the old picket fence along one end and the front, which is on the street allowance. Now the trustees ask me where my share of the fence is, saying that they are willing to build the front along the street and where the rail fence now is, which is one end and the back, intimating that they think my share is, or ought to be, the other end.

1. Have I any right to maintain, build, or keep in repair, any part of a public-school fence?

2. Can the trustees force me, by law, to build a share of the new fence?

3. If I can be, and am forced to build a share of the fence, can I be compelled to put up the same style of fence built in the same way as the one built by the trustees on the other three sides?

Ontario.

Ans.—1. No.

2. No.

3. Such fence as may be necessary, or the regulations of the Education Department require for the enclosure of the school premises, must be erected and maintained by the Board of Trustees, at the expense of the Section.

RIVERSIDE FENCING.

Y and L's farms are divided by the river running between them; each has a deed to high-water mark. The land on Y's side is low and flat, and any fence that would be erected there, would be carried away every spring by the ice and freshet, and sometimes by summer floods. The land on L's side rises abruptly, within a rod from the water, and a fence there will stay. What is the legal aspect of the case? Should Y be at half the expense of building the fence on L's side of the river to keep his own cattle out and L's in? Is this not a fair proposition between man and man? If not, what other plan would you suggest?

Ontario.

Ans.—Your suggestion seems reasonable, but Y cannot be legally compelled to fall in with it. It is a case where neither party is obliged, by law, to do boundary-line fencing. Either one desiring protection must arrange for it, either by agreement with his neighbor, or independently.

PURCHASE OF CATTLE.

A farmer has a number of cattle for sale. Drover No. 1 comes along and buys said cattle, to go away in two months' time, and pays farmer one dollar on bargain. Drover No. 2 comes along in the meantime and offers the farmer more money for the same cattle. Can drover No. 1 do anything on the farmer if he sells the same cattle to drover No. 2?

READER AND FRIEND.

Ans.—Yes; the sum paid down has bound the bargain.

DESTROYING ANTS.

Will you kindly let me know some sure way of getting rid of little black ants?

F. C. F.

Ans.—If the nest can be found, and it is out of doors in the ground, the ants may be destroyed by pouring bisulphide of carbon into the hill. An ounce will suffice for a large nest. Just before dusk, when the ants are all at home, the bisulphide should be poured into the openings, or, if they are closed, into holes made by a slender stick. After pouring in the liquid, the openings should be closed by rubbing with the foot so as to prevent the escape of gas. This will penetrate through and through the openings, destroying all animal life with which it comes in contact. Bear in mind that the vapor of carbon bisulphide is very inflammable, for which reason the liquid should not be used or handled near any light or fire. Instead of using bisulphide, some pour lye or boiling hot water into the nest—but the carbon bisulphide treatment is probably more thorough.

If the ants come into the house from unknown sources, a sponge, moistened and sprinkled with sugar, may be placed in their haunts. As the sponge fills with ants, it should be dropped into hot water, and the process repeated.

GOSSIP.

At the Flynn Farm Company's sale of Shorthorns at Des Moines, Iowa, on June 16th, eight bulls sold for an average of $375, fifty-two females averaged $233, and sixty head sold averaged $252. The bull, Good Lad, a son of Choice Goods, brought $1,450, and City Marshall sold for $625. The highest price for a female was $695, three others selling at $500 to $650.

The dispersion sale on July 1st, of the high-class Shorthorn herd of James I. Davidson, Balsam, Ont., should attract a large attendance of breeders, as half-fare railway rates will be available owing to the holiday, and the probability is that good bargains may be secured, as all must be sold, owing to the broken health of the owner. The sale will afford a rare opportunity to secure richly-bred animals which will make good foundation stock for a herd or a family.