and Shorthorn cattle, at Perth and Aberdeen. Full details or comments must be reserved for another letter. Meantime I may mention that the champion Shorthorn at Perth—Millhills Comet—was secured by J. J. Elliot, Guelph, Ontario, at 6,600 guineas, after a stiff contest with Joseph Shepherd, the Argentine importer. At Aberdeen, the Shorthorn champion, Rothiebrisbane Knight, was secured by Mr. Shepherd at 5,000 guineas. A week earlier, at Aberdeen, the champion Aberdeen-Angus bull, Black Idol 45093, made 3,000 guineas, the record price for the breed. His buyer was A. T. Reid, Auchterarder House, Auchterarder, Perthshire. At Perth, 204 Aberdeen-Angus females made an average of £135 15s., as against £96 19s. 6d. on the same day a year ago for 101 head, and the average for 537 head of both sexes on the two days was £142 8s. 8d., as against £108 12s. 4d. a year ago for fewer numbers. A new Aberdeen-Angus herd has been formed at Dunira, Crieff, in Strathearn, by Mr. Macbeth, Glasgow shipowner who recently bought that estate. He was an extensive purchaser at Perth. Another spirited buyer was Falconer L. Wallace, of Candaeraig, Strathdon, who is also owner of the famous Balcairn herd of Shorthorns, (formerly Edgcote.) Mr. Wallace paid the highest price for an Aberdeen-Angus bull at Perth, viz., 2,800 guineas, for Eclintus of Ballindalloch, and the highest price for a heifer, viz, 1,300 guineas, for the Ballintomb first-prize yearling and reserve for breed championship. Ballindalloch had the highest herd average, viz., £1,149 for seven bull calves, and his first-prize group of three made an average of 1,550 guineas. The second highest average was £1,144 10s. made for five bull calves by Messrs. Marshall & Mitchell, Bleaton, Blairgowrie, Mr. Allan, Ballintomb, Grantown on Spey, had the extraordinary average of £556 10s. for five Aberdeen-Angus heifers.

In spite of these figures, Shorthorns are trumps. Before the sales, Mr. Shepherd paid Captain MacGillivray Kirkton $7,000 for D. S. T., the young bull which won second at Perth a year ago, when Captain MacGillivray bought him for 3,300 guineas. This year at Perth the second-prize winner next to Millhills Comet was Donne Monarch. He was sold to Captain MacGillivray for 3,800 guineas. Three white bull calves were first, second and third in the class for January calves. They made in order, 1,300 guineas, 1,800 guineas and 1,150 guineas apiece. A yearling heifer of the Orange Blossom tribe made 1,000 guineas. She was bred by Robert Copland, Milton Ardlethen, and for fourteen yearling heifers Mr. Copland had the astonishing average of £420 18s. each. The highest herd average was £1,557 10s., made by Lady Cathcart, Cluny Castle, Monymusk, for six bull calves, and the next £1,239 for twelve bull calves by Mrs. Stewart, Millhills, Crieff. At Perth, 603 Shorthorns made the average of £280 9s. 1d., as against £224 0s. 10d. for 512 a year ago. The average for 486 young bulls this year was £302 17s. 3d.

SCOTLAND YET.

Canadian Aberdeen-Angus Association Meets.

The annual meeting of the Canadian Aberdeen-Angus Association was held in the exhibition offices, Brandon, Manitoba, on the 3rd of March, 1920. The President, Jas. D. McGregor, presided, and there was a good representation of western directors. Eastern men found the distance too great, and they presented their views by letter. Mr. McGregor mentioned three steps which the Association had taken during the year just concluded which he believed where of great advantage to the Association and to the breeders of Aberdeen-Angus cattle. First, the report of the accountant of the National Live-Stock Records, which showed quite clearly that the Aberdeen-Angus had made a greater percentage increase in their registrations than any other breed of live stock; second, the establishment of the futurity, which brought out the finest lot of Aberdeen-Angus calves that had been seen at any fair in many years, and third, the establishment of a permanent office and the appointment of a permanent secretary.

When the regular business of the meeting had been disposed of the meeting was taken up largely with the new policy of the Association necessary since the appointment of a permanent secretary. The Association decided to undertake a sale program, whereby sales would be conducted by the Association in various parts of Canada. The provincial associations and the central will co-operate in the conducting of sales so that each provincial association will have the responsibility of deciding when and where a sale shall be held. The first sale to be announced will be held under the joint auspices of the central association, and the Ontario Aberdeen-Angus Breeders' Association at the exhibition grounds, Toronto, on the 2nd of June, 1920. At this sale fifty head of select cattle will be sold, and both the central association and the Ontario association are hoping to interest great numbers of breeders in this sale. Other sales throughout the Western Provinces will be announced at a later date.

The Association wishes it to be distinctly understood that the central office at Brandon, Manitoba, will endeavor to give immediate and careful attention to all matters concerning the Aberdeen-Angus breed of cattle. It has been established for the use of the members of the Association, the breeders of Aberdeen-Angus cattle and the general public who may be interested in Angus cattle. Jas. D. MacGregor was re-elected President of the Association, and Jas. Bowman, of Guelph, Ont., Vice-President. The Directors for Ontario are Jas. Bowman, John Lowe and Col. McEwen; for Manitoba Jas. D. McGregor, Kenneth McGregor, Jas. Turner and John R. Hume; for Sask., Jas. Browne, S. A. Ferrie, and F. J. Collyer; for Alta., Prof. Hutton and A. E. Noad. F. W. Crawford was elected Secretary-Treasurer.

The Perfect Male.

A first-rate bull, placed fourth in his class at the Royal Agricultural Show held at Cardiff in 1919, was imperfect as a male in so far as he possessed only one visible testicle, the other being presumably retained in the belly, as is generally the case, and more or less undeveloped. To produce spermatozoa—the male seed—of good fertilizing powers, one testicle fully descended into the scrotum is sufficient, and therefore a bull with only one visible and fully formed testicle could effect service and stock as many cows as one having the two organs each of proper size and hanging visibly in the scrotum. Accordingly, there is no objection to the use of a bull with only one testicle showing on the score of his inability to serve and to propagate his kind. As a matter of fact, it is well known that the single testicle bull—monorchid as he is called—is as effective in service and in stocking as a perfect bull. If, however, a single testicle bull be used in a herd evil consequences follow and they are such as every breeder, and indeed every feeder, of stock desires to avoid at any cost. These observations do not, I need hardly state, apply to a bull that has been deprived of one testicle by an accident or by operation to remove disease.

Animal bodies are composed of two more or less symmetrical halver, each half having corresponding to it a sexual apparatus. In other words, the organs which produce seed are bilateral, each being complete in itself and the spermatozoa being just as good from the one as from the other to fertilize the egg of the female and to create a new being; consequently one testicle is all that is required for propagation of the kind. Therefore the spermatozoa from one testicle can produce fertilization of the egg in the female a complete animal, with its body perfectly developed and its bilateral sexual apparatus well formed. But if the male be imperfect in one-half of his sexual apparatus, even while the other half is perfect, the progeny after sexual union is usually found to be made up of a certain proportion of males that are imperfect, though their bodies may be well and perfectly moulded and developed. The imperfection seen in the sex apparatus may involve one or both sides. Accordingly the use of a monorchid bull results in the creation of imperfect bulls among the offspring, and although the imperfection may only involve one side in some, in others the right and left organs will be similarly affected. All the sons will not be malformed, for some escape and come to make perfect male animals, and those sons in which the imperfection involves both right and left sides are seedless and useless for propagating their kind, though they may be well and perfectly formed in their bodies, and even as capable of serving as the perfect male bull. A bull with his testicles undescended gives all the appearances that characterize the male, and behaves like one, yet he is incapable of fertilizing the female, for his seed does not contain spermatozoa, the essential element. The undescended testicles, while incapable of producing spermatozoa, are yet capable of inducing in the body the development of all those attributes by which we know a male, and owing to which he behaves as if he were capable of fertilizing like a perfect bull.

THE DESCENT OF THE TESTICLE.

One of the most remarkable as well as interesting phenomena in nature is the descent of the testicle in the higher mammals. For the information of those readers who are not aware of this, I will briefly refer to it. In most of the higher mammals, in which man is included, the testicle is originally formed near the kidney in the loin, and, with few exceptions, of which the elephant is a good example, it passes tailwards until it reaches the groin, where there is a way for its escape into the bag or scrotum, already prepared for its reception. There it remains, except in those animals in which there is a "rutting season," and in which the testicle is withdrawn into the belly at the close of the season, to descend into the scrotum at the onset of the next. Accordingly the testicle travels or descends from the interior of the belly into the scrotum outside it, and, as a general rule, this journey is accomplished at or soon after birth. This is so in all the domesticated animals. Why it should occur remains unexplained, but we know complete descent is essential in all our domesticated animals to ensure the proper production of spermatozoa, or seed, and, of course, to make a perfect male. While complete descent of both testicles is essential for the making of a perfect male, not, of course, a male that is capable of producing seed, yet a male endowed with the usual external characters and with the special mental properties of the sex is produced whether the testicle remains where it is originally formed or stops at any point in its journey of descent. Such an analysis of facts leads to the conclusion that the testicle possesses a double function—the one, which is supreme, for producing seed or spermatozoa, and the other, which is, of secondary importance, for inducing and controlling the development of all the characteristics of the male. The supreme function remains in abeyance unless the testicle descends to the terminus of its appointed journey, but its secondary function is carried on at any point in the course of its descent.

This knowledge is of the utmost importance to the breeder, for it enables him both to realize and to recognize a perfect male, which, in the case of the bull, is one with two natural-sized testicles hanging in the scrotum. Even if such a bull has had one testicle destroyed by disease or injury, he remains perfect as long as the fellow testicle is capable of producing seed. Every bull with incomplete descent of the testicle on one or both sides is imperfect, and should not on any account be used for procreative purposes and the production of stock. Experience has proved the above statement to be true over and over again, and the pity is that the knowledge thus gained by one breeder here and another there is not spread and diffused to others, but is regarded as a matter of curiosity rather than one of the greatest practical importance to all who desire to become successful breeders of any kind of stock.

It may be of interest to many to offer any explanation of this remarkable phenomenon of imperfection in descent of testicle from the place where it is originally formed to its destination in the scrotum, I will endeavor to do so.

Every part and each portion of every part of the animal body is subject by nature to variation, now one way, now another, sometimes to a very minute and at other times to an obvious degree. Such variations indicate that the mechanism which controls and guides the formation and growth of all parts of the body is somewhat unstable. And this instability, which is found to be almost insignificant in animals that enjoy their natural wild state, is apt to become pronounced in those kept under conditions of domestication, and especially when housing and feeding go beyond what is necessary for the maintenance of health and vigor. Now, the descent of the testes is a variation affected in the higher mammals for some definite and as yet unknown purpose, and failure in the proper accomplishment of the descent is equally a variation—the former being progressive and the latter retrogressive. Whether advancing or receding, the variation abides by a law which is well known in heredity but seldom recognized, and not, so far as I know, formulated. The law is that variation once it sets in tends to increase until it reaches a maximum, the increment being usually greater in each succeeding generation and occurring at an earlier period in the life of the animal. The retrogressive variation seen in failure of the natural descent of the testicle follows this law. Therefore it is that once the variation shows itself on one side it is apt to be seen on the two sides in a proportion of the male progeny of the next generation. When both sides are affected, the animal is sterile and unable to propagate himself, and so his line comes to an end. The variation has thus successfully ended the existence of the male descendents of an imperfect male. The females do not escape, for they are apt to produce imperfect males, which in their turn cease to propagate, as illustrated above. An imperfect male then gives—if given the opportunity—both male and female progency that are most undesirable as stock, and are indeed only fit for conversion into meat. Consequently such a bull should not be used by the breeder for the production of stock, for his own purposes or for sale to others who would be ignorant of sexual defect inherent in the stock.

It is true the imperfect bull may be allowed to produce stock for fattening, because the produce would generally be natural, as far as the body is concerned, but such a practice could not be controlled and would be liable to abuse.

Under these circumstances, it should, I think, be a general rule among breeders of stock of all kinds that an imperfect male, whatever the degree of imperfection, should be, as soon as practicable, castrated and so rendered sterile. Could this be enforced in some way or other, an evil the magnitude of which cannot be estimated, would be prevented at its source. In Live-Stock Journal.

How Lincoln Sheep Breeders View Canadian Registration.

EDITOR "THE FARMER'S ADVOCATE":

I notice in your issue of February 12 that you have recorded my objection to compulsory registration in Canadian Records. Will you kindly allow me a little space to explain, as Vice-President of the National Lincoln Sheep Breeders' Association and not in my private capacity as an individual breeder. In the first place, Mr. Gordon, of the Western Provinces, complained that they could not get Canadian pedigrees for sheep imported to their country. As I pointed out in the meeting, if a buyer of any pure-bred animal, no matter what it is, will hold back half the purchase money till the pedigree is produced, many a sore grievance will be avoided. Our Association is composed of half Canadians and half Americans; our records are as good as can be obtained, and in the majority of cases pedigrees are returned in three days from date of application. As long as American buyers continue to pay prices for range rams by the carload actually greater than the average Canadian breeder is willing to pay for choice selected individuals, just so long will the trade run that way. The objection I wished to emphasize was the acceptance at border of Canadian certificates only, so that duty would have to be paid on United States certificates. Any sheep dealer doing business on a large scale can testify to the vexation, the overbearing attitude of our Ottawa Board, and delay of sometimes three to five months. I have no wish to dictate to any breed as to their mode of procedure, nor to any Canadian buyer receiving a Canadian certificate, to which he is justly entitled, have I any objection; but all I ask is the privilege of the Lincoln breeders to do as they see fit and if the majority wish to fall in line with the resolution, if they will kindly notify me, I will take the matter up at the next annual meeting in December.

Middlesex Co., Ont. HOWARD H. DE GEX.