tinually brought into play by means of its food so that its growth gets no check.

In 1905, at the Dairy Congress in Paris, the writer became acquainted with the system in vogue in France of replacing milk fat by another animal fat in calf rearing and fattening. Encouraged by the success of the method, he made experiment in the same direction. In order to ensure satisfactory results and to obtain as much difference in cost as possible between milk fat and its substitute, he selected for the latter a vegetable fat, namely that obtained from cocoanut; this fat has also been used for cooking purposes as a butter substitute. The cheaper fats are those obtained from plants. Cocoanut fat also contains 99 per cent pure fat, which is not usually the case with other similar substances; adulteration is far out of the question, as no cheaper raw substance can be found By mixing 35 grams in about one litre (about ¼ quart) of skim milk, a milk with 3½ per cent of fat was obtained, i.e., one corresponding to the average milk used in rearing, for it is of no special advantage to give calves milk which is extra-rich in fat.

In order to make a suitable mixture, the fat and skim milk are heated to 60° C. (140° Fahr.) and passed through an emulsion drum. The object is to obtain a mixture of skim milk and of melted plant fat suitable for feeding; the mixture must not be allowed to stand, but should be made fresh each time, as the fat rises like that of whole milk, and thus each calf does not receive the necessary proportions of fat and skim milk. It is not possible to mix the plant fat and skim milk with a hand apparatus, and all attempts that have been made to do this have proved unsuccessful. It has been shown by experience that the use of so-called emulsion-milk is apt, under certain circumstances, to cause scour; but this can be largely avoided by pasteurizing the skim milk.

Barley Meal vs. Corn Meal for Hogs.

The relative values of barley meal and corn meal for hog feeding have been tested out by the Agricultural Department in Ireland. Pigs 13½ weeks of age were fed on these materials for 92 days. The difference in live-weight increase per head was in favor of the corn-fed pigs, and amounted to about five pounds per head. This difference was so slight that the cost of production may almost be regarded as equal. Buyers favored the pork from the barley-fed lot, but in no case was a higher price paid for it. The corn meal cost about $2.50 per ton more than the barley meal, and as the cost of gains was approximately the same, it was reckoned to be worth this amount more than the barley. Ground linseed cake, potatoes, swede turnips and skim milk were fed each lot in addition.

Rabies in Milk Cows

M. H. Reynolds, a St. Paul, Minn., veterinarian, discusses the chances of milk, from rabid cows, causing rabies in humans or animals partaking of it as follows:

Veterinarians are very frequently asked as to the danger from milk, blood, or saliva of rabid cattle. The experience and observations of many authorities indicate that there is slight, or almost no risk from milk consumed in the ordinary way. It is conceivable that milk from a rabid cow might produce rabies in case of a distinct injury or abrasion of the mucous membrane lining the mouth, stomach, or intestines. It might be possible, also, for such milk to prove dangerous to very young infants, on the theory that the mucous membrane lining the digestive tract of the infant is less resistant to germ infection than in case of older people.

Actual experience shows, however, that such infections, either from milk in connection with an abraded mucous membrane or when given young infants, must be exceedingly rare.

It has been shown by experiments, that dogs may be fed the brain of a rabid dog, or milk from a rabid cow without harm; but if broken glass for example, be mixed with the feed so as to scratch the lining membrane, then rabies may be produced in the dog by such feeding of either brain or milk. Sanitation officers are quite generally agreed in the view, that the danger from consumption of milk is not of much practical importance. It happens occasionally that people use milk from a cow that is developing rabies, before they know what is wrong with her. Of course, no one would use milk from a cow that was evidently rabid.

Experiments have shown that the danger from virulent blood is exceedingly variable. If thoroughly dried for two or three days, it loses virulence to such an extent that it is probably not dangerous. However, if blood or brain substance, in any considerable quantity, remains frozen, it will retain virulence for a long time. It is found that such material does not retain dangerous virulence at room temperature more than two or three days after it has been thoroughly dried.

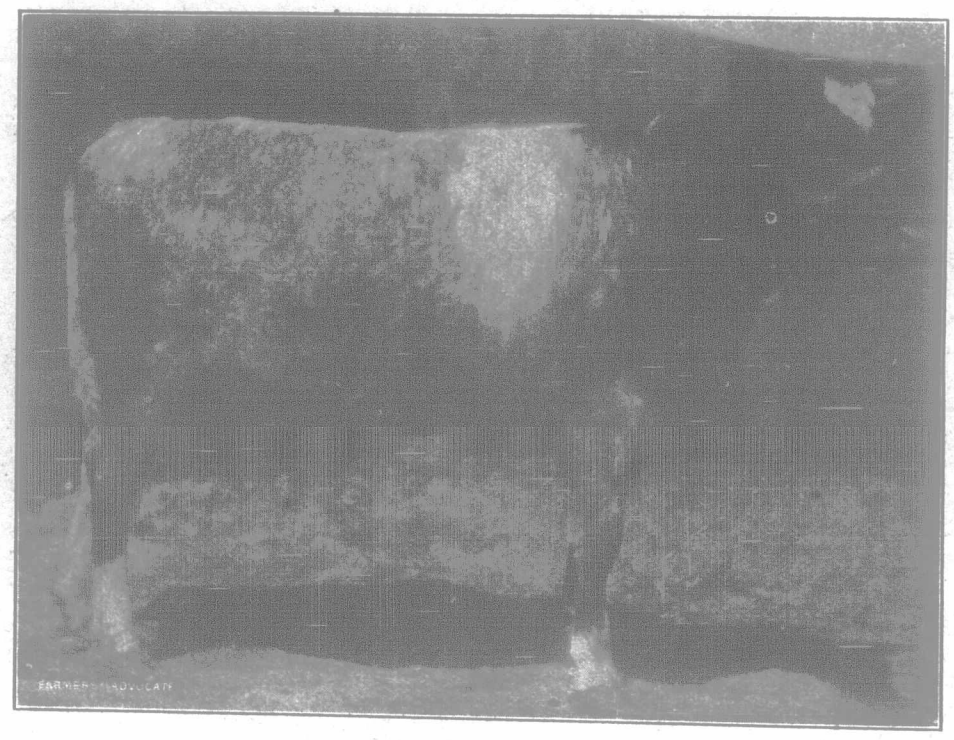
There is ordinarily little or no danger from saliva around the cow yard or straw pile, because the virus is destroyed by the sun, or dried by the wind, and because the chance of infection by inoculation is so slight.

Saliva may become virulent from four to ten days before the animal shows symptoms.

Warble Flies.

A new bulletin on "Warble Flies," has just been issued by the Dominion Department of Agriculture. This work is by Seymour Hadwen, first assistant pathologist, Experimental Farm, Agassiz, B. C., who collected much evidence in the course of investigations carried on. The man to lose in cases of deterioration due to Warbles, is the farmer. The tanner doesn't want warbled hides at any price. Range cattle suffer most and present the most difficult problem, as no method has been found to prevent the ravages of the fly among semi-wild animals.

From investigation work in New Brunswick, Quebec, Ontario and British Columbia, as taken from letters from leading tanners in these provinces, it was learned that the average percentage of grubby hides in the four provinces is 34.22 per cent for the entire year and during the warble season 56.55 per cent. The length of the warble season from the tanners' point of view extends from late January to early July, the worst period being during the month of April.



Miss Mayflower =103244=.

Included in the dispersion sale of the Spring Grove herd at Ilderton, June 25.

Nearly all tanners are agreed that the rough, long-haired, ill-kept animals are mostly warbly and that on the other hand well-fed, sleek animals are not so badly affected. Of course weak animals are always more parasitized than the strong, and cannot fight the fly as well as the more robust; but Mr. Hadwen believes that it simply means that they are at the mercy of the fly all day long, whereas dairy cattle and well-bred animals are often housed during the heat of the day. Another reason is that cattle kept in or near towns will naturally be less exposed to the attacks of the fly, as there will be fewer about. Some of the tanners mention the fact that a wet season is beneficial in keeping down the number of grubs. The answer to this is simple. Warble flies are never seen in cold and cloudy weather. The hides coming from certain districts are mentioned as being comparatively free from grubs, especially in Ontario. Some of them are dairy centres, and the above arguments will apply to these.

Much controversy has resulted from time to time, regarding the life history of this pest and the manner in which it is deposited under the skin on the backs of cattle. The work was done by Mr. Hadwen with Hypoderma bovis. Basing the conclusion on the life histories of several specimens it was found that it required an average of 34.7 days to develop the insect from the pupa to the emergence of the fly.

From a study of oviposition, the fly was found to lay its eggs and attach them by means of a gluey substance near the base of hairs. Eggs are invariably found singly on hairs.

The favorite places for the fly to strike seemed to be in the region of the hock in particular, and the back of the knee occassionally, striking as high as the stifle and along the flanks to about the same height.

Five larvae were secured from the oesophagus of a calf on August 15; four were taken from the oesophagus of a cow on November 14, and the last time the warble flies were seen near the cow was on August 2, so that the larvae would be about four months old. The first larvae were seen to emerge April 10, and the last were ready to come out July 2. It is evident that the eggs are taken in the animals' mouths by licking.

Many remedies are recommended for killing or extracting grubs. As for the practice of killing the larvae under the skin by injecting petroleum or applying mixtures to the back, Mr. Hadwen considers it unscientific, for when the larvae dies, its body has to be absorbed. This is likely to take some time, and do the animal harm. The best method, undoubtedly, is to squeeze out the warble as early as possible, softening the skin first, in this way the wound will heal up rapidly. Moussu says that in Denmark the various agricultural societies engage men to go around and squeeze out the warbles early in the year; using a small knife to enlarge the opening when necessary. I do not know how tanners would view this, but should imagine the slight extra injury to the hide would be small, and that the resulting scar tissue would be less than in the case when the larvae were left to come out by themselves. Of course in a small sea-girt country like Denmark, it is theoretically possible to eradicate the fly in this way, but in Canada, under present conditions, it would be an impossibility. Mixtures applied to prevent the fly laying, are according to all authorities, useless, and many of them are said to be injurious to the hides, and to the animals themselves.

In this country cattle are the favorite hosts of warbles, the only other animal I have seen affected are horses, but rarely so. Railliet records them also far sheep and man, but remarks that they do not seem to be found in any special part of the body, but wander about and do not reach maturity.

In the Southern States, where dipping of cattle is extensively practised for the eradication of ticks, it has been found to result in preventing grubby hides, the dip evidently destroying the eggs of the newly-hatched larvae.

The Canadian National Records.

It must be a source of great satisfaction to breeders of pure-bred live stock to know that all the affairs in connection with the various breed societies or associations in respect to registrations are in such a favorable condition as they are at the present time. The eighth annual report of the Record Committee made to the Record Board and Record Association at the annual meeting recently held in Toronto, showed the year just passed to be the brigtest in the history of the Canadian Live Stock Records, and consequently in the Canadian live stock business. All the breed associations are financially in a splendid position to go ahead and increase their business, and of the twenty-two associations affiliated not a single complaint was heard regarding the workings of the National Association. Surely this is proof enough of the value of nationalized records. If they were not proving valuable, the wide-awake executives of some of the breed societies would most certainly register their complaints. One breed association only in the Dominion remains outside at present, and they do so not because any fault can be found with the keeping of the records or the carrying on of the business in connection therewith, but because they believe it is cheaper for them to carry on their business as a separate body. This belief is based on a report made by two of their members at the last annual meeting of the association, after looking into the comparative cost of operation of the two methods. According to the members of the