cow, and is probably the finest butter cow of the breed ever brought to Canada. She gave as a five-year-old 67 lbs. milk in a day, and 15,244½ lbs. in eleven months, and made 24 lbs. butter in seven days. Lady Akmon 2nd was the first of six cows selected from the Brookside herd by Messrs. Hoxie and Yeomans for the proposed Columbian tests, and her milk, tested by these gentlemen, showed 4.60 per cent. fat. She is due to calve April 6th, by DeKol 2nd's Paul DeKol. The heifer, Queen DeKol, sired by DeKol 2nd's Netherland, a very handsome son of DeKol 2nd, by Netherland Alban, mentioned above, has for her dam Woodland Queen, perhaps the handsomest cow in the herd, and who has a six-year-old record of 71¼ lbs. milk in a day, testing as high as 4.6 per cent. fat. She should calve about May 1st, having been served by Empress Josephine 3rd's Sir Mechthilde. Next comes the heifer, Inka Rose Pietertje DeKol, sire DeKol 2nd's Netherland; dam, Inka 4th's Pietertje Rose, a wonderful daughter of Milla's Pietertje Netherland and Inka 4th, Hon. D. E. Wilber's great show cow. Inka 4th's Pietertje Rose made an official record in the recent tests of 75 lbs. milk in a day, and 21.09 lbs. butter in a week, at only four years old. Mr. Clemons considers that he has a treasure in her daughter, and has already refused $300 for her. She is due to calve June 12th, by Empress Josephine 3rd's Sir Mechthilde. Lady Netherland DeKol, sire DeKol 2nd's Netherland; dam, Lady Netherland of Brookside, who has a two-year-old record of 61¼ lbs. in a day, 13,093¼ lbs. in a year, and 15 lbs. butter in a week, is a very fine and milky heifer, and is in calf to Empress Josephine 3rd's Sir Mechthilde. The remaining heifer is Mondamin's Daisy Barrington, sire, Orphe's Lytle; dam, Mondamin's Daisy. The fourteen nearest female ancestors of this heifer, except the dam, average 62.5-14 lbs. milk a day. She won first as a calf, in 1894, at Rochester, Oswego, and Sandy Creek, and sweepstakes over all breeds at Rochester. She was bred February 23rd to DeKol 2nd's Butter Boy, whose six nearest female ancestors average nearly 33 lbs. of butter a week.

This importation comprises the blood of the wonderful butter cows, DeKol 2nd, Pauline Paul, Mechthilde, and Empress Josephine 3rd, mingled with that of the Inkas, Pietertjes, Aloinos, Netherlands, Barringtons, and other popular families.

Mr. H. Penfold's Southdowns.

Our readers will see on reference to our advertisement columns that Mr. Penfold, of Selsey, Chichester, England, has decided to sell off during August next his flock of registered Southdown sheep by auction without reserve. What an opportunity here presents itself to buyers and breeders of these sheep, for here we have a flock for sale without reserve, every sheep of which has its own individual ear number in right ear, the society's registered trade mark, and Mr. Penfold's registered flock No. 21 in the left ear, thus rendering it absolutely possible for each and every sheep, no matter where sent to, to be individually identified. Every sheep sent abroad will be accompanied by a certificate of pedigree signed by the association's secretary, certifying the correct pedigree of the sheep and also what its ear number is in the right ear, and thus every buyer will be certain that he receives the sheep that is bought for him.

As regards the old rams, they are sires of known merit. Norton 104, Vol. 1, was bred by Mr. Penfold in 1888, and is descended from No. 343, Vol. 1, who was bred in 1872 by Lord Walsingham.

Chichester 108, Vol. 1, is a most excellent sheep, descended through the Goodwood flock from Mr. Henry Webb's celebrated flock.

Selsey Boy 108, Vol. 1, by Constitution 101, Vol. 1, is a sheep who is sire or grandsire of very many of the ewes included in the sale. He is by a son (Penfold's Favorite 471, Vol. 7) of Mr Henry Webb's grand and typical Southdown sheep, General Favorite, which sheep, by the by, was sire of that most noted sheep, Webb's Gloucester 57, Vol. 1, who, in his turn, was sire of the celebrated and well-known Webb sheep, Cambridgeshire, for whom the Duke of Richmond gave $1,000 at Mr Webb's sale in 1889.

Selsey Hero 4th 100, Vol. 2, by Selsey Bill 103, Vol. 1, by Goodwood No. 10 of 1883, 590, Vol. 2, is a grand sheep, true to type, a most impressive sire, and one that Mr. Penfold has said did him as good, if not the best, service of any that he ever had. This sheep, although born in 1887, is still as active as ever, and, although not now owned by Mr. Penfold, belongs to a neighbor who has for the last two years allowed Mr. Penfold the privilege of sending a few ewes each year to his old favorite. Several ewes are by this sheep. There are, in addition, five or six more old sheep, all of similar character, as true type and good wool as the above, in addition to which there will be offered about thirty-four shearling rams descended from such sheep as aforementioned.

The ewe flock, as it stands, is directly descended from the flock that was dispersed in 1888, for, when this sale took place, Mr. Penfold, who was very well aware of the value of the true points of the old Selsey flock, whose existence extends back more than 100 years, retained for the formation of the present flock all his draft and broken mouth ewes and his ewe lambs, and thus it can truly be said that the present flock is descended directly from the old flock that made that grand average in 1888.

It should be remembered that it was at the 1888 sale that the Southdown world was made aware of the fact that breeders of these sheep would give any price almost for the best sheep. At this sale Mr. Chapman, the present secretary of the Southdown Sheep Association, for Messrs. De Murrietta, gave $925 for Victor 218, bred by Mr. Penfold, whose progeny is now doing such grand things for the Pagham Harbour Co.'s flock. If our breeders want Southdowns of true type, character, wool, and constitution, they can obtain them. This is a chance that they should not miss.

Veterinary.

Ontario Veterinary College.

The closing exercises of this excellent and prosperous institution were held on March 29th, when over 150 graduates of the college gained the right to add the distinguishing letters V.S. to their names. The large assembly hall was filled with students, many of whom came from as far off as Great Britain and the West Indies, while a very large proportion were from the United States. The distinction of having won the gold medal went to Mr. T. M. Sweeney, Richmond, Va. The medals and prizes were presented to the successful candidates by the Lieut.-Governor and others of the visitors present, and brief addresses were delivered by leading men, all of whom referred to the good work done at the Veterinary College. Mr. Henry D. Stebbins, of Westmoreland, N.Y., on behalf of the students, presented Dr. Smith with a fine group picture of the graduating class of 1895.

The Effect of Tuberculin on a Non-Tuberculous Cow.

"Does the injection of tuberculin into a cow wrongly suspected of being tuberculous affect the cow injuriously in any way?" is a question often asked by stockmen. The evidence on this point has not hitherto been very clear, and, therefore, the result of some experiments in this line carried on at the Cornell Experiment Station by Prof. James Law, and given in Bulletin 82 of that station, is the more welcome.

Five cows were under observation, two being Holsteins, one a Jersey, and two dry farrow cows of common stock, one having some Shorthorn and the other some Devon blood in her veins. In order to compare the effects, if any, of tuberculin on the milk of the three first-mentioned cows, the milk of two other Holsteins and a Jersey which were not treated with tuberculin was also set apart. The tested animals were treated like the rest of the herd, with the single exception that, in order to take the temperatures, they were tied up in the stalls for twenty-four hours on each occasion for testing, while the others were let out in an enclosed shed, when not tied up for feeding and milking.

The temperatures of the animals concerned in the test showed very little variation after the injection; in fact, there were no increases of temperature that would not be found in many well-fed, healthy cattle, while in the case of some of the animals the slight rises were explained by other exceptional causes. Taken all in all, there is nothing in the records of the temperature to show that, either at the time of the test, or later, had the tuberculin proved in any way inimical to the general health. Had the health been impaired by the repeated operation of the tuberculin, it might have been expected that the constitutional disturbance would have been more marked in the later tests than in the earlier ones, and, as no such tendency was observable, it may be safely concluded that test doses of tuberculin do not produce illness in healthy animals. It has been alleged that the repeated use of tuberculin on animals slightly tuberculous abolishes the tendency to reaction under the use of the agent, but Prof. Law finds that the second test, made a week or so later, produced an equally marked reaction in such animals.

The pulse and breathing of the healthy cows in this test also showed no deviation from perfect health. There were certainly variations, but, in cattle, pulse and breathing vary so widely under different conditions of the animal's surroundings, digestive organs, exercise, etc., that it would take much greater variations than those shown to give true indications of disease.

Coming to the milk record, which may be accepted as a more sensitive test of constitutional injury than temperature, breathing, or pulse, we find that here, too, there was nothing out of the normal. An appreciable disturbance of the health at any one point will usually be shown in this delicate balance by a variation either in the quantity or quality of the milk, but in this test it was found that the cows that were not injected with tuberculin showed more variation than those that were. What is more significant is that the average yield of milk of the injected cows for the days following the seven injections of tuberculin is practically the same as the average yield for the whole forty-seven days included in the experiment. Extreme variations in the yield of milk cannot therefore be charged as the result of injections of tuberculin into healthy animals.

The test of the butter fats brought out the fact that there was no change in the percentage of these sufficient to indicate any disease or ill-health as the result of the administration of repeated test doses of tuberculin to healthy stock.

The weight of the animals varied so little during the experiment that it might be said to be stationary, and it may be concluded that the repeated doses had in no injurious way affected assimilation of food, the two Holsteins even showing a perceptible improvement in weight.

To complete the record the two farrow cows were killed and subjected to a *post-mortem* examination, when the main entrails were found sound. There were some slight traces of inflammation in the udder of the Shorthorn grade, but no bacilli.

The results of this test are corroborated by the investigations carried on by the United States Bureau of Animal Industry in 1894 with two cows, one of which received one dose and the other three successive doses of tuberculin. The dose on each occasion was a full dose, considering that the cattle were common stock. Of variations in temperature there were no more than would occur with animals in perfect health. The analysis of the milk showed the changes in the constituents to be slight.

From these two tests it would seem safe to claim that tuberculin does not exert any harmful influence when given in doses to healthy cows, whether the injection is a single one or repeated several times, and, therefore, those who wish to test their animals to see whether they are affected with tuberculosis can do so without fear of harming the healthy ones.

The Farm.

The Summerfallow.

In Ontario the old style of summerfallow is not as popular as it once was. With the increased attention given to diversified farming, there is less necessity for the bare fallow. Close competition and low prices have taught farmers that they cannot well afford to have land go idle one whole year without producing any crop. Other methods have, therefore, been resorted to of cleaning land. Among these the growing of roots is one of the most popular.

It may still be necessary to summerfallow, but where it is, the work should be done in such a way that a crop of some kind will be grown. It may not be possible to grow a crop that can be turned directly into money, or that can be used as winter fodder, but it is possible to grow something that can be plowed under, or that even may afford pasture for live stock.

Where land is poor and dirty at the same time, it ought, of course, to be put through a cleaning and a building-up process. There is no way, probably, in which this can be done at a less cost than by summerfallowing, and, at the same time, growing green crops to be turned to account in enriching it. To do this effectively, the work should begin in the fall, and as soon as possible after the previous crop has been removed. The land should be stirred with the plow or cultivator or harrow, and some quick-growing crop sown upon it, as rape, or fall turnips, or it may be barley. These may be eaten off, and the land then plowed in the fall or in the early spring. Then some quick-growing crop may be sown and again eaten off. For this crop, peas and oats would be good if eaten off with sheep, and due care taken not to leave the animals on the land while the crop is wet with dew or rain. Then a later crop may be grown, as was done the previous autumn, unless fall wheat is to be sown. Another way would be to sow rye early in the autumn, pasture with sheep or cattle until late in the spring, and plow and sow again with some such crop as millet or rape, which in turn could be eaten off. And yet another way would be to grow rye and plow it under, and then grow peas or rape and likewise plow under whichever of these crops would be grown. Usually, it would be found much better to pasture these crops than to plow them under, for the sake of the food thus secured for the live stock. The fertility put upon the soil would be about the same, if the pasturing was done with sheep.

But in Manitoba and the Northwest it would not be so easily practicable to grow a catch crop on land that had produced wheat or other grain. The season for ripening is late, and it would be hazardous there to grow winter rye, owing to the rigors of the climate. But rape, millet, and spring rye will grow nicely, and may be profitably sown on the summerfallow to provide pasture, for the tramping of the light prairie soil is favorable to the production of a crop of grain the following season. It may be necessary sometimes to plow under green crops to loosen land, as in stiff clays, or to bind it, as in light sands, and to render it capable of holding more moisture, as in dry sections. No crops are better for this purpose than rye and peas, but, under some conditions, white mustard, rape, and buckwheat may be grown.

Another kind of summerfallow is found in sod overturned in June, after it has been pastured up to the time of plowing, or in meadow