Prof. Robertson has ascertained that by churning sweet cream at 46 degress temperature all the butterfat can be recovered; but it takes about 30 minutes longer to do the churning. Ripened cream he churns at from 54 to 55 degrees in summer and from 58 to 60 degrees in winter.

It has been demonstrated by practical experiments that 100 pounds of sand will absorb 25 pounds of water; 100 pounds loam, 40 pounds; 100 pounds clay loam, 50 pound; 100 pounds clay, 70 pounds. This explains why some soils always appear dryer than others, why some soils will stand a drought so much better than others, and why, after a shower, some soils become like a thick paste, while others are only comparatively damp.

The new appropriation bill for the maintenance of the Agricultural Department of the United States carries a total of $2,240,000, being nearly $100,000 less than for the current year. The Bureau of Animal Industry is to receive $800,000, and tuberculosis is added to the list of diseases of animals, to prevent the spread of which the Secretary of Agriculture is authorized to use any part of the sum. The sum of $10,000 is set apart for the purpose of making inquiries in regard to the system of road management throughout the United States.

The resignation of Prof. C. V. Riley, Ph. D., for many years head of the Bureau of Entomology at Washington, when made public some weeks ago, created much surprise. In a letter to the public Dr. Riley states that this action was due to a regard for the wishes of his family, for the sake of his health and for his peace of mind. He states that he can never lose his interest in the subject of entomology, and relieved of the drudgery connected with office work, he hopes, in connection with the honorary curatorship of the Department of Insects in the U. S. National Museum, to be able to do some long-contemplated work of a purely scientific character.

The well-known writer on economic subjects, Mr. Edward Atkinson, has a somewhat remarkable paper in the May number of The Forum, on the subject of The True Meaning of Farm Mortgage Statistics, from which we take the following extracts:—"There are within the United States 4,564,641 separate farms, averaging about 137 acres each, of which, in the Eastern, Middle, Western and Pacific States, 80 per cent. are occupied and managed by their owners. Far more than half these farms are free of any mortgage whatever. The rest are mortgaged for far less than half their value. Only about one-third of the area of the United States (exclusive of Alaska) or, in all, 623,000,000 acres are occupied, assessed and valued as farm property. This is divided up as follows:—There are 1,300,000 farms under fifty acres, nearly the same number between 50 and 100 acres, 2,000,000 between 100 and 500, and 31,500 over 1,000 acres. During the last ten census years—1880-1889—the mortgage indebtedness has increased 156 per cent. on all these farms But the production of grain has only increased 43 per cent. The national debt was decreased in almost the same proportion as the mortgages were increased, viz., 157 per cent."

Central Institute Convention.

Preparations for the annual convention of the Manitoba Central Farmers' Institute, to be held at Brandon, July 17, 18 and 19, are progressing very favorably, and everything points to a most successful and well attended meeting.

That great good is being done by the Institutes no one now doubts, and the Central Institute, through the able Secretary, Mr. Leech, has already accomplished much, but yet, we believe, is only at the threshold of its work, and we hope to see delegates from every local institute in the Province meet at Brandon on July 17th.

The list of those who are expected to address the convention is not at this writing complete, but we hope, in our next issue, to publish a full programme. Among those who have already consented to deliver addresses are: Hon. Thos. Greenway, Minister of Agriculture; The Rev. Dr. Bryce, who will take up Agricultural Education; Prof. Jas. Robertson, Dairy Commissioner; F. W. Hodson, London, Editor of the FARMER'S ADVOCATE; Dr. Rutherford, M.P.P. for Portage la Prairie, who will represent the Veterinary Association; Jas. Fisher, M.P.P. for Russell; Jas. Fleming, Whitewater; Dr. Harrison, Neepawa; Messrs. Elder, Bedford, Struthers, and others.

An opportunity will be afforded on the last day to visit the Experimental Farm, which is well worth a trip to Brandon any time, even if there were no Institute convention.

The Brown Swiss Cattle.

Though only about one-twelfth the size of the Province of Ontario, the little European Republic of Switzerland has exported in a single year as much as over 1,800,000 lbs. of butter, over 25,500,000 lbs. of condensed milk and over 57,000,000 lbs. of cheese, some 17 different kinds of the latter, exported to most of the civilized countries of the world, being manufactured. Besides this, large numbers of cattle for breeding and other purposes are exported. The milch cows of Switzerland number over half a million, belonging chiefly to two distinct breeds, which in certain essential qualities are unsurpassed, if equaled, by any other bovine races in Europe. One of these is the "Spotted" race (Berner Spotted), Simmenthal or Saanenthal cattle, and the other the Brown Schwyzer race, bred for many centuries in the Cantons of Schwytzer, Uri and Zug, and in fact they have spread through the whole mountain region of Switzerland. This breed is the best known and most largely exported of the two pure breeds of the Swiss cattle. Briefly put, their leading characteristics are:—

1st. Good milking qualities.

2nd. Perfectly mild disposition.

3rd. Adaptability to most climates, localities and foods.

4th. Its beauty of form and color.

After making most careful investigations, U. S. Consuls in Switzerland agree in reporting that a good Brown Swiss cow will average for 365 days in the year not less than 10 quarts of milk daily, and that on grass and hay alone. This is not an exceptional rate resulting from special care and special feeding, but the average of thousands of cows taken from whole herds. For example, the 6,000 cows (ordinary animals of the breed) supplying the the Anglo-Swiss Milk Condensing Co., at Cham, yield on an average 9 1/7 quarts in the milking season, but choice herds average far more than that. She is a large, plump cow, averaging from 1,200 to 1,400 lbs. in weight. The percentage of fat in the milk ranges from 3.3 to 4.5, so that not only is the quantity large, but the quality excellent. Experienced Canadian breeders at the World's Fair last year were most favorably impressed with the appearance of the exhibit of these cattle.

Our front page illustration in this issue is of a well-known imported Brown Swiss cow, but the artist and the photographer have not done her justice by any means. Further reference to her is made in the following sketch concerning this breed, written for the ADVOCATE by Mr. N. S. Fish, Groton, Conn., Secretary of the Brown Swiss Cattle Breeders' Association of the United States:—

"The Brown Swiss cattle, which are attracting much inquiry at this time, are a large-sized animal of fine form and proportions; color from light to dark chestnut-brown or mouse color; white spots are not often seen except on the bag or under the belly occasionally; horns rather short and waxy, with black tips; nose, black, surrounded with a mealy-colored band, sometimes running up the sides of the face; black switch, hoofs and tongue; hind legs noticeably straight. They have a healthy, vigorous constitution, are gentle and hearty, not over dainty feeders, yielding generous returns for care and feed. They endure cold, having a fine silky, thick coat of hair, and are persistent milkers, frequently giving milk up to calving. The Brown Swiss cattle in America are mostly from the famous Canton of Schwytz, where they are kept in summer on the mountains Rhigi and in the valleys in winter. Having been thus raised, they are inured to cold and storms, are not subject to disease, and it is said there has never been known a case of pleuro-pneumonia in Brown Swiss cattle. They have fine well-shaped udders, good-sized teats and are extremely even in appearance, and for crossing give as good results as can be desired. The surplus in Switzerland are in demand to improve the cattle in Germany, Italy and France. In some of the dairies for infants they use them in preference to all other breeds. In the report of a dairy for infants, in Dresden, Dr. Chalibans says:—"In selecting cows for an infant's cow stable we must look for especially healthy cows, and an excellent quality of milk," and, concludes his report, "The healthiest breeds of cattle are the mountain breeds, and above and before all we name the Brown Swiss cattle as strong and thoroughly sound, and totally free from all pleuro-pneumonia." At the International Show of Paris, 1878, every Swiss cow exhibited bore away a prize in competition with exhibits from Holland, England, Denmark and other famous cattle countries. There have been several importations into the United States of small lots. The number registered in the Herd Record for America is now about 1,600, and they are owned in almost every State and some in Mexico. They stand the climate well in all sections. They are particularly adapted for butter-making, the cream globules being large, churn easily and quickly. When properly handled the butter is of good color, fine nutty flavor, delicate and sweet to the taste. The milk has a rich, sweet taste, and for selling for family use will give the best of satisfaction. There was a cow shown at the Fat Stock Show, at Chicago, in November, 1891, which in an official trial gave in three days 245 lbs. of milk, containing by the Babcock test 9.32 lbs. of fat. The first day her yield was 81.5 lbs. of milk, containing 3.25 lbs. of fat, and was the greatest yield of fat ever recorded in any official test from any breed up to that time, so far as I can learn. A record of another Brown Swiss cow (not official) shows a yield of 86,304 lbs. of milk in ten years. She made in one year 610 1/2 lbs. of butter. Another from Oct. 15 to June 15 gave 9,207 lbs. of milk. The last named cow gave 50 1/2 lbs. of milk, January 23, 1894, with good farm care and feed. [A portrait of this cow appears in our illustration.] The calves are large and strong, sometimes weighing at birth 110 lbs. They grow and mature rapidly. Cows weigh from 1,100 to 1,200 lbs. and some 1,600 lbs. And for working oxen, they are easy to train, learn quickly, are strong and very fast walkers. The grades show the Swiss blood, and make beef of the best quality—heavy in the back, loin and hams. All breeders agree that no breed show more good points than the Brown Swiss cattle."

Timely Notes for June—No. 2.

CASTRATING COLTS.

It is now a mooted question as to whether it pays to let colts go entire until a year old, and run the extra risk incurred in the operation at that age, or to castrate them at three or four months old, when following their dams. Many veterinaries desire to operate on them at the younger age, as the operation is easier and safer, and, of course, their reputation would suffer if a large percentage of the colts died. But, on the other hand, the colt that is left entire until he is a year, or even two years, old, obtains a fine crest, and is generally a thicker and stronger beast, and, I am inclined to think, would prove a more lasting horse. He may be a little less docile, but even this I doubt, and until I can hear better reasons for early castration, I mean to let them go until at least a year old.

REARING CALVES.

The most economical way I have come across yet is to let the calves have new milk for a week, then half new and half skim for two weeks more, then skim milk alone for two months more, and as soon as possible let them follow the cows at pasture, letting them have the skim milk until nearly three months, when, if the grass is good, they can do well without it, and they will be able to feed pigs, etc. Always feed the milk warm and quite sweet. But this way will not make the best calves. It saves a lot of work, and that, of course, means money, but does not make the best cattle. The best way I have yet seen was one practised by a Mr. McKay, in Rossmere. He kept his calves (all got by a pure white Shorthorn bull) in the stable all the first summer, each tied in its own place, well bedded, and cool and comfortable. They were fed skim milk, with some crushed flaxseed, with plenty of hay and water. They were not annoyed by flies, and were the finest lot of calves I have ever seen together, reared without new milk. So sleek, so big and so thrifty, and, taking into consideration the extra value of the calves, I fancy they were really cheaper reared than by any skimping process. But they would be more trouble when turned out with the cows as yearlings than if they had been allowed to follow the cows as calves.

HERDING VERSUS FENCING, ETC.

In many districts now it is considerably cheaper to pay a herd boy to look after the cattle of a few neighbors than it is to fence in all the crops of the same men A boy can be hired now for $5 or $6 per month, and can easily look after a hundred cattle. The cost of paying and boarding him, divided between three or four neighbors, is a mere nothing—not a quarter the interest on the cost of the fencing required to keep those cattle out of the crops. Besides, the cows are brought home regularly, and there are no milkings lost.

GENERAL.

Go to the nearest dairy meeting, and take a *fair* sample of milk with you. Don't take a little off the top of the can and try to make your neighbors believe you have cows that give 10% milk.—[ED.—To obtain "a fair" sample, either from individual cow or herd, thoroughly mix the night and morning's milk together, and immediately draw off sample; a teacup full is plenty.]

Castrate those young calves and pigs at two to three weeks old.

Walter Wellman says the Belgian draft dogs can pull 1,000 pounds each on good roads. Can you not utilize some of those useless dogs you have round your place, and make them work for their board. It is generally the poor man has the most dogs, so it should be only right to make them work. You wouldn't feed a useless man, why should you feed so many worse than useless dogs?

INVICTA.

Patrons' Candidates.

The Patrons of Industry have nominated Wm. Postlethwaite, a well-known farmer, living near Brandon, for that constituency of the House of Commons, and Grand President Chas. Braithwaite for Marquette. Both conventions were well attended and the nominees heartily received.