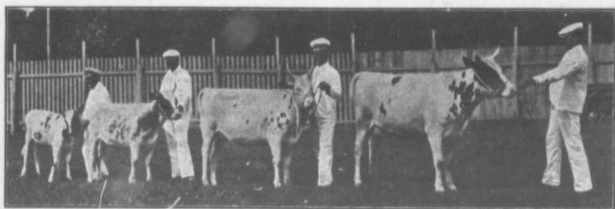


not a host of weeds to smother it out and make a shortage in the farmer's returns.

Mr. Fixter takes occasion to remark that crops, grown on the easy work—cultivation and shallow plowing methods, are easier harvested. I happen to know of two farms in this vicinity that, with the exception of sod, have not been plowed with anything but a light, two-horse gang set shallow, early in the season. This is followed by a slightly deeper cross plowing later, and the improvement is not only in the quantity but in the quality, also, of the crop. It was very noticeable to all the neighbors attending the threshings on the two farms. One of these farms was sold two years ago. The new owner reverted to the old method of deep plowing and he has had two extremely

tically free from weeds. We have not failed to be rewarded with a good catch of clover each year, free from patchy spots of fox tail, etc. Our red clover yielded an average of over two tons of hay an acre the first crop, and nearly one and one-half tons the second crop (for feed) the past season.

My scheme of cultivation which I am now in a position to put into practice is to follow a three-year rotation of clover, corn and roots (the clearing year), and the third year, grain sowed to clover. This will mean but one plowing in three years, viz., the sod previous to corn, roots, etc. This will bring the germination of all fresh weed seeds into my year of thorough cultivation where their chances for existence will be small.



A Prize Winning String of Ayrshires

The illustration shows the first prize two year old and yearling, and second prize bull calf under one year and under six months, at the Sherbrooke, Que., Exhibition, 1908. Owned by Hector Gordon, Howick, Que.

light crops. The output from the other farm is greater than ever this year.

I quite agree with Mr. Fixter upon the value of plowing well but I also contend that the knowledge of when to plow and when not to plow should prove equally valuable. I would like to see these different methods of cultivation more generally discussed in *The Canadian Dairyman and Farming World*.

MR. BRETHEN'S SYSTEM

The system I have been following has been to plow as fast, intended for grain crop the following year, immediately after the hay was removed. This is rolled and harrowed and left until we are through plowing the stubble ground. I make use of a two furrowed plow and I aim to have all ground intended for grain crop the succeeding year well plowed four or five inches deep early in September. Sod intended for corn is left until spring. As soon as the plowing is completed, I proceed to cultivate, first with the smoothing harrow and the disc, followed later by a four-horse team upon a 12-tooth spring-tooth cultivator fitted with seven and one-half inch thistle points. This cultivator is kept in operation as much as possible during the fall. Late in the fall, after every field has been thoroughly cultivated, I rib up with the cultivator or with the plow, all heavy or flat pieces, so that the frost may continue the work of pulverizing during the winter, and so that the surplus water may get away the more readily in the spring.

Some of the advantages of this method are: The weed seeds in the seed bed are practically all germinated and destroyed by this persistent cultivation in warm weather. In a fall like the one we have just experienced, one has the plowing done before the ground has lost the greater part of its moisture. The frequent cultivation serves to retain the moisture so that while many farmers found it impossible to plow, by this system our fields were getting more mellow day by day, rain or shine. The ground underlying the seed bed is firm, thus ensuring more free access of the underlying moisture to the roots of the growing plant in time of drought—a great boon to the little plants of grass and clover especially.

As a result of this system, we have heavier grain crops, which stand up better and are prac-

in brief, my method is, less plowing but not less work applied to the land. The best cultivation, with the result of the succeeding crop always in view. Good crops, clean farming, largest returns.

Need of Grooming Horses

W. Staley Spark, Manning Chambers, Toronto

The question is often asked, "Why does the stabled horse require constant grooming, whilst the same horse turned out in a field does well enough without it?" It is not the fact of living under cover, but the active work and the high feeding of the stabled horse which necessitates grooming. It is the work and the food, not the shelter, which constitutes the difference between the domesticated animal and the horse in the state of nature.

By work, and especially by fast work, the secretions of the glands of the skin are enormously increased. Furthermore, the horse which is worked hard must be fed on highly nutritious food; and, from this cause, also, the secretions of the skin are largely increased. Nature must be assisted by artificial means to remove these increased secretions, or the pores of the skin will become clogged, and the health of the horse will be deteriorated greatly. The greater the action of the skin, the greater must be the attention paid to it. As long as the horse remains in a state of nature, taking only the exercise required for gathering his food, and feeding only on laxative diet, grooming is not needed, because the debris of the food and the excretions of the system are carried off mainly by the action of the bowels and kidneys.

Man, who has been driving or working horses, make a practice, if they get the chance, when bringing their horses home in a heated and fatigued state, to ride them through a pond until the water reaches the bellies of the animals. Then they are brought into the stables, and a feed thrown in front of them. The horses are often left in that state without anything more being done. Instead of that treatment, the horses should not be allowed to wet their legs above the knees, and after the harness has been taken off, they should be carefully rubbed down and dried from the ears

to the fetlocks, after which they may be fed. It frequently happens that farm horses are kept too long at work without being fed, and after a fast of this kind they are gorged. Hearty feeding after a long fast is apt to bring on indigestion, colic, or inflammation of the bowels.

Many people appear to imagine that it is unnecessary to groom farm horses regularly and thoroughly. This is a very great mistake. Grooming is conducive to the health of the horse as well as to its outward appearance. Attention to this will tend to prevent many diseases, such as cold, bronchitis, and affections of the lungs, to which horses are very liable, when they have been left standing undried, after coming in heated and wet with perspiration or rain, or both at the same time.

Practical Advice on Sow Thistle

W. J. Stevenson, Ontario Co., Ont.

It is with great interest that I note the articles in your columns from the pen of our mutual friend, Mr. T. G. Raynor, on the weed question—a vexatious question surely. It seems to be human nature for every man to think his lot in life is hardest but there are stacks of truth in the old saying: "A man's lot is just what he makes it." Every man is liable to make mistakes and the only way to do is to benefit by the experience of those mistakes and avoid the same in future. Old Mother Earth, has great affection as it were, for her natural children the weeds, and she never misses an opportunity to nourish and provide for their wants. To successfully combat nature in this matter we must study her. We must know each plant, its habit of life.

In all plants there is a time in their lives when they have exhausted all their stored up energy to produce branches, leaves, flowers, etc. If disturbed at that time they will naturally succumb more readily.

The Perennial Sow Thistle, one of the worst of our weeds has spread about all over Ontario. Being a perennial and not blooming until the second year, we are not aware of its existence until it is thoroughly established and then the battle is on. To meddle with it during the growing season in spring is only transplanting it. Allow it to grow until about the middle of June. At that time it has exhausted all of its stored up energy, from its roots or underground branches, to produce the plants. Plow then and sow a good smothering crop of buckwheat, fodder corn broadcast, or rape, or any crop that will grow rapidly. Then you will find in the following year that you have about extinguished the pest. Your land will also be ready for another crop of Sow Thistle seed to settle on, blown in from your neighbors, which is too often the case.

We would all be pleased to hear from those who are fighting this pest. Let us have your experience, your methods, etc. Make the columns of this valuable journal more helpful than ever to its readers. Come now, young men, get at it and give us some good pointers. Let us have your most up-to-date methods in your farm work. Your articles will be appreciated.

Distinction Between Perennial and Annual Sow Thistle

J. Eaton Howitt, M.S.A., O.A.C., in Bulletin 108

1. The Perennial Sow Thistle is a taller, coarser growing plant than either of the other two Sow Thistles.

2. The Perennial Sow Thistle has numerous underground rootstocks while the annual species have only fibrous roots.

3. The leaves of the Common Annual Sow Thistle are deeply cut and lobed and are scarcely spiny. The leaves of the Spiny Annual Sow Thistle are almost entire, very prickly and often decidedly