

gives the idea that it can produce abundance of feed for herd or flock. The farm is under the supervision of Mr. T. D. McCallum, who early found that poor land gives but meagre returns. In the future we may, therefore, expect to find the producing powers of this farm, with its broad acres, kept at a high standard.

The flourishing condition of the breeding operations would lead one to suppose that this department will claim the same attention, and that there will be no lack of handsome young things in either herd or flock.

Especially fine are the Guernsey calves by Adventurer (imp.), and wonderfully well has he nicked with the cows, or they would not be so uniformly good as they are. Adventurer, it will be remembered, was the sweepstakes bull at all the shows of 1893, and also won twenty-nine first prizes previous to his importation, both on the island and at English shows.

Ontario's Pride is also in use, and has carried his share of winnings, to which he will probably add somewhat during the coming season.

A right good youngster is Isaleigh May Boy, by Adventurer, dam May Queen 6th. Isaleigh Conjuror, by the same bull, out of Little May Queen, may also be expected to show himself.

Among the cows, Eliza 6th, an eight-year-old cow, by Young Duke 2nd, has never yet been beaten, although Little May Queen, a six-year-old cow, by Barney, may make her look to her laurels.

May Queen 6th is another eight-year-old which has won many prizes, and a right good one she is.

We counted twelve Guernseys in milk, and their handsome appearance and goodly size should insure them further popularity. There were also fifty neat yearling heifers. A very promising lot they are, and we shall hope to see a goodly herd, of which we shall have favorable reports, at the coming shows.

A herd of very good Ayrshires, with Duke of Monmouth, by Golden Guinea, at its head, is the most recent addition to the stock department. The cows have every appearance of being able to furnish their quota to the supply of milk at the creamery, and are being equally good in the breeding herd.

We had expected to see an extra fine lot of Improved Yorkshire pigs, knowing the source from which the herd had sprung and the care that was exercised in their selection, and we were in no way disappointed.

Four or five boars are in service. One of these is Holywell Minor, which won first at the Royal, at Warwick, in 1892, before his importation, since which time he has carried first at Montreal, London, and Ottawa. That he has done good service in the breeding herd a grand lot of young things by him testify. And so has Holywell Prince (imp.), also of Sanders Spencer's breeding. However, it is Maxim that will have to do battle at the shows this season; but he is equal to the task, for, although not in high flesh, he is among the very best specimens we have yet seen. Such length, such scale, such character, and, withal, such depth and thickness! And, better still, we have yet to see such three-months-old pigs as we saw from him. That, however, we might expect from his breeding. He was bred by Mr. J. E. Brethour, and sired by Diamond, dam Millie III., a daughter of that grand sow, Marion.

That capital sow, Holywell Mite, by Kinicroft, that won first in her class and the family prize at Toronto, was looking well, as was her pen companion, Matchless Beauty, that won first at the leading English shows of 1892.

One hundred pigs had been sold during the first six months of this year, and yet there was plenty of choice.

The Shropshires will also take a hand in the coming

exhibitions. This flock, it will be remembered, was founded upon an importation of eighty ewes imported in 1892 and twenty-five ewes in 1893. The rams used during the last two seasons are Coming Blue Blood, bred by Wm. Thomas; Rayton Swell, bred by Richard Brown; Warwick Hero, bred by Geo. Thompson; and St. Leger, bred by Richard Brown. The mating is done with a view to producing a uniform flock of good lambs, which should be expected from the high character of the original selection.

Roadmaking.

The following special bulletin, prepared by the Ontario Good Roads Association for the use of pathmasters, has been issued by the Ontario Department of Agriculture:

Requisites for Permanency.—In order to make and maintain a permanent roadway, two rules must be followed:

- (1) Take the water out.
- (2) Keep the water out.

Underdraining.—Where a road is to be constructed on a wet and retentive soil, a perfect system of underdraining must be provided. This is best done by cutting ditches diagonally across the roadbed, with discharge into side-ditches. These diagonal ditches should have a good fall and good outlet, and should be from eighteen inches to two feet deep, and about one foot wide at the bottom, with a slight slope outward. In these should be laid coarse, broken stone, broken bricks, or other material suitable to form a drain, filling them up to the level of the sub-grade.

Surface Draining.—Open ditches should be cut on each side of the roadbed, at a distance of about twelve feet from the outsides of the metalling. They should be deep enough to drain the foundation; at least eighteen inches below the sub-grade.

Tile Preferable.—Where tile is cheap, and a good outlet obtainable, tile side drains are preferable to open ditches. Shallow gutters should be made over the tiles to catch the surface water, and conduct it to catch-basins placed at convenient distances apart. The catch-basins should be made of durable materials of sufficient size to be freely cleaned, and should be covered with iron gratings. The basins should extend at least two feet below the bottom of the tile to provide space for the deposit, and they should be cleaned at least twice a year.

The Roadsides.—The strips of ground between the metalled road and the open ditch should be properly graded to conform with the crown and grade of the metalling, and should be seeded and kept in sod. This will always be pleasing to the eye, is cheap and very largely useful in preventing the carrying