

DECEMBER 24th.

	5 a.m.	9 a.m.	12 a.m.	3 p.m.	5 p.m.	11 p.m.
Open Air	26°	21°	21°	27°	25°	20°
Cow Stable	50°	50°	50°	51°	52°	50°
Steer Stable	46°	44°	42°	52°	50°	52°
Wind	Breeze. Light. Light. V. L. Light. Calm.					

Remarks.—5 a.m., windows open both sides of steer stable; 9 a.m., ditto; 12 a.m., ditto; 3 p.m., ditto; 5 p.m., ditto; 11 p.m., ditto.

DECEMBER 25th.

	5 a.m.	9 a.m.	12 a.m.	3 p.m.	5 p.m.	11 p.m.
Open Air	14°	14°	16°	18°	21°	15°
Cow Stable	48°	48°	48°	48°	48°	47°
Steer Stable	50°	55°	52°	50°	52°	56°
Wind	Calm. V. L. V. L. V. L. V. L. Calm.					

Remarks.—5 a.m., windows open both sides of steer stable; 9 a.m., ditto; 12 a.m., ditto; 3 p.m., ditto; 5 p.m., ditto; 11 p.m., ditto.

DECEMBER 26th.

	5 a.m.	9 a.m.	12 a.m.	3 p.m.	5 p.m.	11 p.m.
Open Air	18°	8°	13°	15°	8°	2°
Cow Stable	47°	47°	46°	50°	50°	47°
Steer Stable	36°	42°	46°	52°	58°	62°
Wind	Breeze. Light. Calm. Calm. Calm. Calm.					

Remarks.—5 a.m., closed one side of steer stable; 9 a.m., ditto; 12 a.m., ditto; 3 p.m., ditto; 5 p.m., opened up windows again; 11 p.m., steer stable full of fog and dripping wet.

DECEMBER 27th.

	5 a.m.	9 a.m.	12 a.m.	3 p.m.	5 p.m.	12 p.m.
Open Air	14°	20°	20°	28°	22°	33°
Cow Stable	47°	49°	50°	52°	52°	49°
Steer Stable	50°	48°	58°	50°	46°	58°
Wind	V. L. V. L. Calm. V. L. Light. Light.					

Remarks.—5 a.m., windows open as a commencement; 9 a.m., ditto; 12 a.m., ditto; 3 p.m., ditto; 5 p.m., windows open both sides of steer stable; 12 p.m., ditto.

DECEMBER 28th.

	5 a.m.	9 a.m.	12 a.m.
Open Air	32°	36°	34°
Cow Stable	53°	50°	51°
Steer Stable	44°	56°	58°
Wind	Breeze. V. L. V. L.		

Remarks.—5 a.m., windows open both sides of steer stable; 9 a.m., ditto; 12 a.m., ditto.

FOR 8 DAYS.

	Maximum.	Minimum.
Open Air	36°	2°
Cow Stable	53°	46°
Steer Stable	62°	36°

(Signed) C. S. WOOD, Herdsman.

The maximum and minimum columns of the above table are eloquent of the one great weakness of this system of ventilation. While the temperature where one system of ventilation was in operation varied only 8 degrees, in spite of a variation of 34 degrees outside, the temperature of the stable where the muslin-curtain ventilation was in operation varied 26 degrees, although every effort was made to maintain a uniform temperature by opening and closing curtained windows as necessary.

It might be objected that not "temperature," but "pure air," is the consideration. This is true, of course, but in a stable so well built as the one where the experiment is being conducted, to maintain a temperature of from 45 to 50 degrees F., with 35 or 40 head of cattle, means to ventilate quite adequately. When this temperature maintains inside, a person breathes quite comfortably, and has none of the sensations due to impure air, and so regrettably well known to most of us who are accustomed to visit stables in this country.

In favor of the system, it may be said:
1. That, with the exercise of much care, it is possible to ventilate by means of cotton or muslin over window or other opening; and that, of the two, cheese-cloth is to be preferred to gray cotton, since a smaller area will do the work, and do it better.

2. That it is cheaply installed, and much better than no ventilation.

The objections appear to be:
1. Very great watchfulness necessary to insure a fair measure of success.

2. Danger of too great a fall or rise of temperature in the night, due to rise or fall of wind.

3. Darkening of stable, due to presence of muslin on windows, which renders stable somewhat gloomy and damp.

4. The fouling of muslin on account of changing directions of air currents, which wet the curtains, permitting foul air to escape, and so the curtains soon get muddy in appearance and unsanitary in condition.
J. H. GRISDALE,
Central Exp. Farm, Ottawa. Agriculturist.

THE DUAL - PURPOSE SHORTHORN.

You have, in your editorial of January 9th, under "Considerations for Shorthorn Breeders," exactly hit off the present situation of the breed in the minds of the farmers, and the causes that contributed to bring it about. What are the changes that must be made?

First, we need to recast the ideas too generally extant of the type to which a Shorthorn cow should approximate, in order to be considered as a possible profitable yielder of milk. The hat-rack type has no place in Shorthorn, and is fast disappearing from the purely dairy breeds. We also need to disabuse the public mind of the opinion that the leggy, narrow-chested, light-barrelled Shorthorns may, as unfitted for the beef section, be dumped into the dual-purpose section.

I find I am in accord with Mr. Bruce, whose predilections are for the beef type, and who, in "Fifty Years Among Shorthorns," says: "It is held by many that a Shorthorn cow, to be a deep

stock industry of the country, might well receive attention. One cannot overlook several facts connected with this subject. Take, for instance; the case of the farmers in the counties of Westmoreland, Cumberland, in the Yorkshire dales in the North, and in several counties in the Southwest of England, and it will be found that one can go from farm to farm, to see a class of large-framed, wide-chested, soft-backed cows, all deep milkers, and at the same time capable, or qualified, to breed store animals to please any cattle-feeding owner. Personally, I have a strong opinion that the development of the milking powers of a cow IS MORE A MATTER OF MANAGEMENT THAN IS GENERALLY SUPPOSED. Breeding from heifers at an early age, and milking them by hand does much towards development of their milking powers. The production of a class of Shorthorns with increased amount of flesh and less fat would seem to be a necessity on the part of breeders, if Shorthorns are to maintain their position as general-purpose cattle. Flesh and

milk may, and do, go together, whereas a tendency to run too much to fat means loss of milk. There could be nothing more encouraging to present-day breeders of Shorthorns than the belief, if it can be upheld, as I feel satisfied it can be, that the production of a class of cattle to suit the meat-consuming public can be carried on conjointly with improvement in the milking powers of their cows."

Second.—The management of heifer calves intended for the breeding herd must be changed, so that, in place of rotund masses of baby-beef, they will be grown, rather than matured; they will be better hand-raised, than allowed to suckle their dams.

Third.—As soon as these heifers reach the calving period, which should not be later than 2½ years, if properly grown, their calves should be hand-raised, and the dams milked for as long a period as possible, in order that they may get the habit, and the milking by hand should be continued for two or three succeeding lactations.

Fourth.—Milk records must be kept for the entire lactation period, and the unprofitable ones weeded out and sent to the

block. To quote further from Robert Bruce, that authority, referring to authentic tests, states that "a certificate of test is of more intrinsic value than a cash prize."

SOME MILK RECORDS.

While on the question of records, let me relate a few: I have before me the catalogue of an Old Country registered Shorthorn herd (not Tring). I find there a cow, "Lucy," average milk yield per annum for seven years, the length of time she has been in the herd, is 7,533½ pounds; "Darling," average per annum for six years, 6,881 pounds; "Clarissima," six-year average, 6,050½ pounds; "Oxford Ada" had given 9,730 pounds in 1907, and was then milking; "Lady Crystal Bates," 8,845½ pounds, with her third calf. Of the bulls used in the above herd, the dam of one gave 905 gallons in nine months, while the dam of another bull gave, in two consecutive lactation periods, 937½ and 817 gallons, respectively. Reference was made to the Tring herd of Shorthorns. In



Muslin-curtain Ventilation.

Exterior of steer barn at Central Experimental Farm, Ottawa, showing nine windows with curtains—five dark curtains (cheese-cloth), four light-colored curtains (cotton).



Muslin-curtain Ventilation.

Interior of steer barn at Central Experimental Farm, Ottawa. Windows are shown held in place by chains or laths, at an angle of about 60 degree with floor.

milker, must be of a particular shape; in fact, that she must be built on the lines of several of our dairy breeds, that for generations have been bred solely for milking purposes. The theory held by many is that, in selecting a deep-milking cow, one must look for an animal with a peculiar-shaped head, long between the eyes and muzzle, with a thin neck, narrow chest, rather bare loins, and with full, wide and deep hind quarters; in short, a wedge-shaped animal, narrowing forward from the hook bones. This may or may not be right, and there is no intention to dogmatize on the subject, although many cases could be quoted of cows with shapes to please the most fastidious advocates for wide chests and well-covered backs, holding milk records such as would have satisfied the most exacting dairy farmers. The object of discussing the subject is to point out that up to the present there is certainly a want of reliable information, and, on a question of such importance, it seems most desirable that such an important subject, bearing as it does on the live-

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