

If these two ducts are united at the opposite end from the chimney, and continued into the fresh-air chamber, and supplied at the chimney end and the opposite one with proper slides or cut-offs, then you can have internal circulation at night and external circulation in the day time. At night the outside air is stopped by a slide, the chimney ventilator is closed, and the floor ducts opened into the heater. In the morning the movements of the slides are reversed, and then you have only pure warm air entering your school-room. This simple method would be more generally adopted were it not that through forgetfulness, carelessness or ignorance some teachers will not give it the requisite attention. The certainty of such oversight at some time determines the preference for a separate flue or system of flues, with openings near the door, for night circulation. This had better be omitted if it is not seen that the teacher closes their openings during school hours.

The specifications for installing a furnace in a schoolroom should demand, in addition to good material, expert workmanship and a reasonable time-guarantee, the following requirements:

First.—The warming of the room in zero weather to 68 degrees F.

Second.—The complete changing of the air in the room at least three times per hour, as required by the School Law.

Third.—The means of cooling the room when it becomes too hot, without closing the fresh-air registers, thereby cutting off the fresh air.

Fourth.—Internal circulation for the time the school is not in operation.

Fifth.—The removal of the furnace and repairing openings in case it fails to fulfil the contract.

Requirement No. 4 not only greatly economizes the fuel, but it keeps up the night temperature, thus making it easy to get the room warmed in the morning, and preventing the freezing of ink or plants that may be kept in the room.

Requirement No. 3 may be effected by leading a cold-air duct, with a properly-constructed shut-off, into the hot-air flue between the furnace and the register.

A slide or register at the ceiling, opening into the foul-air ventilator, may be used to assist in cooling the room when it becomes too warm, and may be left open during hot weather for cooling and ventilation. Such register, if left open during ordinary winter conditions, wastes heat, and partly defeats the means of ventilation.

Has Any Reader Tried a Split-log Drag?

Wallace's Farmer says it is receiving almost daily gratifying reports of the condition of the dirt roads of the West on which the split-log drag has been used intelligently and persistently. There are many sections, it says, in which dirt roads that have been worked with the drag are like boulevards—better than macadam, better than brick, and equalled only by the asphalt pavement. This is a stronger claim than "The Farmer's Advocate" made last spring, when it remarked that a good earth road is better than a poor macadam. In Canada, good results have been obtained by the old-fashioned road-leveller, but the split-log drag is claimed to be even better, because it is used to puddle the roads when wet, and a clay road thus worked dries into a compact, impervious surface. Without finally endorsing an idea we have never seen tried out in practice, we do feel impelled by the encouraging American reports which come to our desk week after week, to urge a trial of the split-log drag on some of the clay roads of Peel, Haldimand, Welland, Kent and other counties, in parts of which the clay roads work up frightfully bad at certain seasons. A split-log drag would not cost over two dollars to make, at the outside. Surely some one might try it and report results.

THE DAIRY.

The Case Against Close Fall Pasturing.

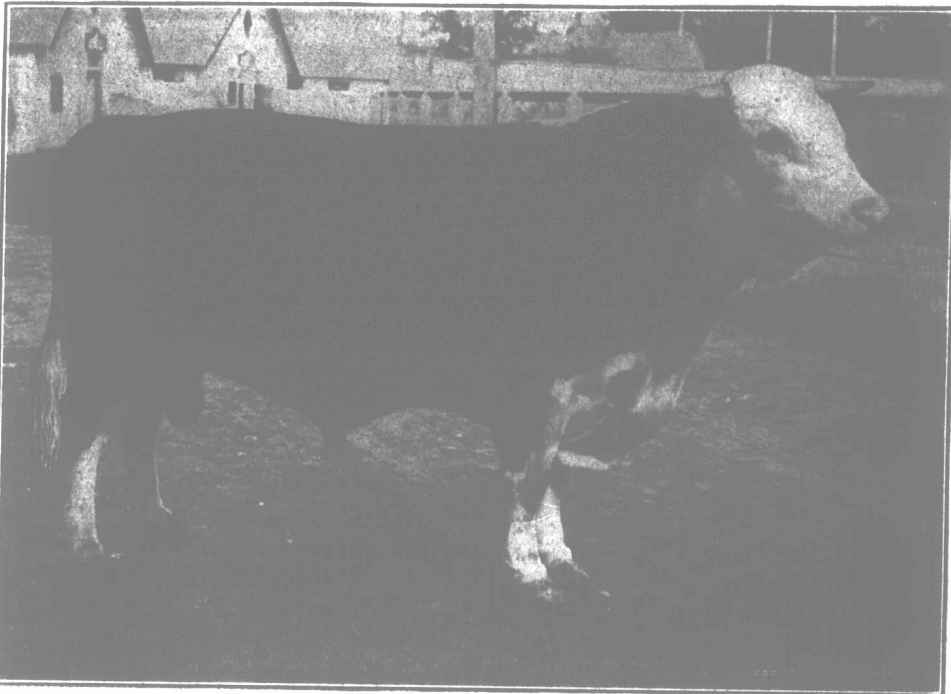
Some of our Agricultural Experiment Stations might do a useful work by comparing in absolute terms the relative yield of hay from meadow that has been fall-pastured with other that has had a generous aftermath left to protect the roots during winter, and add a bit of much-needed fertility by its decay in spring. Year after year the spectacle is witnessed of scant pastures being eaten down to the crown by shivering animals, often dairy cows, whose owners seem to act on the assumption that every bite snatched is a morsel saved. It is false economy. Our best farmers know it and avoid the practice. But many others do not think six months ahead, and their fields and stock show it. One of the surest ways to run down a farm is to stock it heavily, and then pasture it severely in late fall and early spring. It not only runs down the farm, but it results in unprofitable stock. If the real effect

on subsequent crop production could be estimated, we believe it would be found that this late-fall and early-spring pasturage makes a more expensive daily ration, and is much more expensive in results secured than a full ration of hay and grain.

Especially on cows are the results bad. Sheep, and even steers, can stand the cold better. In fact, the sheep can stand it much too long for the good of the grass; but the delicate maternal organism of the milch cow demands protection from weather inclemencies to do its best. Through October the cows should be stabled at night, and given a feed of silage or roots and hay, with a little meal added. It will pay handsomely for the following reasons: The cows will respond with a sustained or even increased flow of milk, partially paying for the feed and care by the immediate returns. Better milk flow, better prolonged, meaning a great deal more milk before the lactation period is finished.

The cows will become gradually accustomed to winter feed, and will not suffer that unfortunate constipation which results from sudden change off the grass. Better quality of manure, saved in good condition for application to the land which most needs it. More vigorous condition of the stock, due to better nourishment—consequence, thrifter calves and heavier milk flow next summer.

Boon to the meadows, which will return next summer an extra growth two or three times greater than the top left for winter mulch. No man has any right to expect increasing fertility



Corporal—2405—.

First-prize and champion Hereford bull, Canada Central Exhibition, Ottawa, 1906. Imported and owned by R. J. Penhall, Nober, Ontario.

or heavy crops who grazes his grass to the roots in fall. It is penny-wise and pound-foolish to the last degree.

At present values of butter and cheese, there should be no need to counsel generous feeding, to enable dairymen to take full advantage of the tempting prices ruling this fall. Everything points to the wisdom of crowding production now, even though it means slackening the feed later on in the winter, when dairy prices may ease off. As a matter of fact, cows which go into winter quarters in strong condition can do with less heavy feed along in the winter than those run-down animals that require expensive building up before they can do good work.

Good Quality of Canadian Cheese.

Under date of September 15th, 1906, P. B. McNamara, Commercial Agent in Manchester, England, writes: "I have canvassed the opinion of several large wholesale dealers regarding the condition and quality of Canadian cheese handled by them, and they are unanimous in their praise of this season's shipments. The only feature that mars their serenity is the very high price it commands, 61s. to 62s. 6d., which, they claim, tends to lessen their average profits. One of the largest cheese factors in Cheshire says that now, and for a series of years, cheesemaking has paid the producer much better than milk-selling, and since the beginning of the present year Cheshire farmers have been realizing 10s. per cwt. more for their cheese than last year. Twenty-five thousand tons are annually made in Cheshire. When we consider the large quantity manufactured in this country, as well as that shipped from the United States, it speaks volumes in praise of the Canadian product that it appeals to the taste of the public and commands such a high place in its esteem."

Dairying at Local Fairs.

A very commendable feature of Woodstock, Ont., fall fair, and one that attracted considerable attention, was the presence of Miss A. W. Green, dairy expert from the Guelph Agricultural College. In a tent erected for the purpose, Miss Green gave an exhibition of buttermaking, going through all the processes of separating, churning, washing, working the butter, and putting it into pound rolls ready for the market. It was an object lesson of great value, and Miss Green was watched with much interest. At the same time she addressed the crowd of farmers' wives and daughters gathered to witness the proceedings, fully explaining and illustrating the process, and wound up by producing a churning of nearly nine pounds of rich, attractive-looking butter, fit for the table of a king. The Woodstock fair management are to be congratulated on introducing a feature of this kind.

A Profitable Cow.

A good example of what a good cow will do in the hands of the average dairy farmer is furnished by Mr. Fred C. Clark, Victoria, P. E. I. Mr. Clark writes:

"I am sending you the yearly milk record of the Holstein cow, Jacoba E., bred by Logan Bros., Amherst Point, N. S. We began weighing March 20th, 1905, and weighed every milking, with the exception of the week she spent at the

fair, which was estimated from previous week. Regular samples of milk were taken from six or eight consecutive milkings and tested by our creamery man, from whose figures the amount of butter is taken. As correct an account as possible was kept of feed consumed, and, when charged her at the following figures: roots, \$2 per ton; hay, \$10 per ton; grain and meal, \$1 per hundred; and pasture and green feed, \$12 for season, make a total cost of \$40.55. Her monthly amounts of milk were as follows: March, 464 pounds, April 1281, May 1170, June 1092, July 1208, August 1170, September 1003, October 1221, November 791, December 638, January 661, February 559, March 341; total, 11,449 pounds milk, and 515 pounds estimated butter. Her milk, at average price received at Tryon creamery, where the milk was sent, amounted to \$93.70; and the skim milk, at 20 cents a hundred, was worth \$20 more, or a total of \$113.70, which, after deducting the cost of feed, leaves to her credit a total of \$73.15, to say nothing of a bouncing heifer calf. I consider the use of scales and keeping a daily record of great value in a dairy herd, as I am convinced that Jacoba E. gave several thousand pounds more than the previous year, as we were able to keep track of how she was doing, and took greater interest in the work, and next season intend to keep a record of the rest of the herd.

It is not the cow that eats the most or the cow that eats the least that is the best cow, but the cow that makes the best use of what she does eat.

It is not the number of cows in the herd, but the individual excellence of each, that makes the herd valuable.

Butter made from cream which has been allowed to remain too long before being churned never keeps well; in addition to this, its flavor is never what it ought to be.

Nothing will take the various social distempers which the city and artificial life breed, out of a man like farming, like direct and loving contact with the soil. It draws out the poison.—[John Burroughs.]