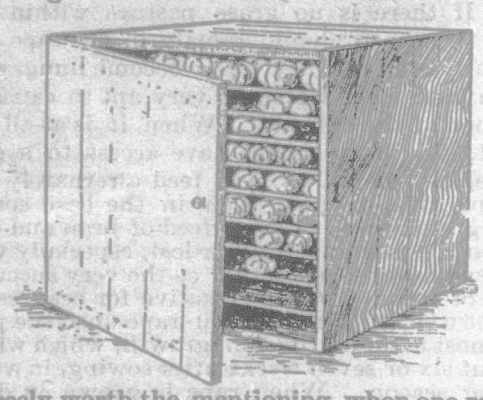
Ripening Tomatoes.

It does not seem to be generally known that tomatoes do not require sun, but ripen best in warm, dark places. One can hardly pass along by country homes without seeing in the kitchen windows rows and rows of this delicious fruit, in all stages of ripening—and decaying too, perhaps; for sunstrokes are common among the "love apples," and exposure to too much light and sun-heat ruins them altogether oftentimes. The accompanying illustration, says the American Gardening, suggests a simple and suitable box or closet for storing tomatoes while they are in process of ripening. It is only a drygoods box, fitted with sliding shelves and a snug door. The time needed to thus fit it up



is scarcely worth the mentioning when one reflects upon the rich, red fruit, thus saved from "spoiling." The closet may be large or small, with more or less shelves, according to the amount of fruit raised. When filled, it should be set in a warm, moist place, and inspected from time to time, in order toremove any of the fruit that may have ripened, before there is possibility of decay, and consequent harm to the rest. The convenience of the sliding shelves is apparent here, as a whole shelf-full may be inspected at a glance by slipping out the shelf. Darkness is the important thing, and the closely fitting door at once secures that, leaving only the necessary moisture and warmth to be attended to.

Which Shall it Be?

BY F. J. S.

Whether shall the farmer and dairyman depend on pasture for the milch cow during the summer months, or house and soil her? By way of answer to this, we propose to offer some brief comments on the two systems. Be it understood in commencement that we believe that at this season of the year no other one question has as much to do with profit and loss in dairying as this. We shall consider the subject as affecting chiefly the months of July, August, September and October.

What does it cost to pasture a cow for these four months? Say about eight dollars, which for a herd of six cows is forty-eight dollars. And we will suppose that each of these cows gives 20 pounds of milk daily; we then have 120 pounds milk per day, or about five pounds of butter, or 600 pounds of butter for 120 days. This, at 20 cents, gives us $120 as the gross return. Deducting the cost of pasturage ($48.00), leaves us $72.00, plus about 11,000 pounds of skim milk, worth about 20 cents per 100 pounds, or in the total, $22.00, plus about 3,000 pounds buttermilk, worth 20 cents per 100 pounds, or $6.00, making in all $100.00 as the income from the six cows on pasture.

What does it cost to soil a cow for these four months? Let us see. One man, at $1.25 per day, will get in feed, feed them, and clean the stables in two hours and a-half. Attendance will, therefore, cost about 31 cents per day, or $37.20 for four months. Feed will cost, allowing 75 pounds per cow per day, about 25 cents per day for the herd, depending upon seasons and localities. Cows thus fed and housed will give at least 35 pounds of milk per cow per day, or for the herd and four months, 25,200 pounds milk. This will make, at the same rate, 1,008 pounds butter, at 20 cents = $201.60, + 20,000 pounds skim milk, worth $40.00; 4,000 pounds buttermilk, at 20 cents = $8.00, = $249.60. This, minus cost of feed and attendance, leaves us $182.40 as the income from the same six cows when soiled and housed, a difference of just $82.40 in favor of the soiling system.

But this is not all. The cows on pasture will dry up at least one month sooner than those that are out only at nights. It is safe to allow 300 pounds of milk as the yield of each cow for these thirty days, or 1,800 pounds for the herd, which is worth at least $16.00.

Then, again, cows that are required to depend on pasture alone during this period will become thin and cost a great deal more to winter, and every pound of milk they give during the winter months following will cost a good deal more to produce it than in the case of cows under the other conditions. Not only so, but the progeny from the poorer fed cows will dry up in milk sooner in the season than the progeny of the others, and will be less thrifty and give less satisfaction to the owner, even though the progeny of both be fed and cared for the same.

I hear some one say that this is overdrawn. Dear reader, the farmers of Ontario would give thanks and sing were this not so. Travel through any of the very best and most favored dairy districts in this favored Province, and nine out of ten dairymen will tell you that their cows have failed more than one-half during the last four or five weeks. Alas, the picture is too alarmingly near the truth. In short, the one who depends upon pasturing wholly for summer feed for milch cows will look upon his dairy ledger next December with a woeful countenance.

The Canadian Group of Victorious World's Columbian Shorthorns Awarded More Money and First Prizes than any Herd Shown at Chicago.

BRED AND OWNED BY MESSRS. J. & W. RUSSELL, RICHMOND HILL, ONT.

It is with the most pleasing sense of satisfaction that we are enabled to commemorate in the accompanying illustration eight head of Canadian-bred prize-winning Shorthorns, which played so important a part at the World's Columbian Exposition at Chicago.

Canadian Shorthorn breeders can well afford to eulogize the men who battled so successfully in behalf of their favorite sort. Although it may be truly said that the Messrs. Russell have gained a full measure of personal honor in the contest, yet Canadians must look proudly and gratefully upon the men who had the ability and enterprise to step to the front and win in the face of the keenest competition, where the skill of a continent, backed by unlimited wealth, employing the most expert judges, had selected and congregated the best cattle from either side of the Atlantic.

Certainly the strongest point in the success that the Messrs. Russell achieved is the fact that these cattle were bred in their own herd, the crosses being dictated by themselves, not after any prescribed rule, except that which has carried the early breeders to victory, viz., the comingling of the best obtainable prize-winning blood. Here an interesting study presents itself for those who will analyze the blood lines of this wonderfully successful herd.

First, we find that all the eight were sired by Stanley, a prize-winner and sweepstakes bull in many competitions.

Secondly, we find that three of the group, *i. e.*, Lord Stanley, Queen Mary and Ruby Princess, are the produce of the imported cow Roan Princess, a Highland Society winner that has proved a most wonderful breeder, for of the six calves she has produced, four have been winners.

Thirdly, three others of the group, viz., Centennial Isabella 25th, Centennial Isabella 27th, and Centennial Isabella 30th, are descendants of the cow Isabella, by imp. Wellington, which won first prize in her class and sweepstakes gold medal over all beef breeds, male or female, at the Philadelphia Centennial in 1876.

A no less interesting study is the number of prizes that this group, and the individuals of which it is composed, won at Chicago; beginning with Lord Stanley, which won first in his class as the best Shorthorn yearling bull at the show. In the sweepstakes by ages he won first as the best bull of the beef breeds under two years. He stood at the head of the Shorthorn herd that won first in the class under two years, and again stood at the head of the best beef herd under two years, all breeds competing. He also stood at the head of the herd that won first premium for the best four animals sired by one bull.

Standing in the right foreground of the illustration is Centennial Isabella 30th, really the most successful animal in the group, as she never stood up excepting in first position. She won first as the best Shorthorn heifer under one year. In sweepstakes by age she won first premium for the best female under one year, all beef breeds competing. She made a strong member in the herd that won first, under two years, all beef breeds competing. Again, she was one of the group of four, sired by one bull, that won first premium.

Her next of kin, Centennial Isabella 25th, the heifer in the centre foreground in the portrait, won second in her class, although it was considered by all fair-minded judges that no greater injustice was done than by placing this heifer second. However, this was the only occasion when she has not won the highest honors since, including the first time she was shown as a calf in Toronto in 1891.

Ruby Princess, the white heifer in the background, also figures well in the contest. She was commended in her class, and was one in each of the prize groups before mentioned. She and Lord Stanley won third premium as the best two animals, the produce of one cow.

Queen Mary, the three-year-old roan in the left foreground, was one of the strong members in the group under four years, the get of one sire.

The white yearling to the right in the illustration is Centennial Isabella 27th, that took her place in all three group prizes, while the red yearling in the left background is Rose of Autumn 11th, and the other red in right background is Nonpareil 51st. Both of these were in group prizes mentioned below.

The foregoing will give an idea of the honors each individual in the illustration won, while collectively the herd prizes and those that took part were as follows:—

Herd of four animals under four years, the get of one sire—Lord Stanley, Queen Mary, Centennial Isabella 25th, Centennial Isabella 27th; winnings, $300.

Herd of bull and four females under two years, bred by exhibitors—Lord Stanley, Rose of Autumn 11th, Ruby Princess, Centennial Isabella 27th, Centennial Isabella 30th; winnings, $300.

Herd consisting of bull and four females under two years, bred by exhibitors, all beef breeds competing—Lord Stanley, Ruby Princess, Centennial Isabella 27th, Centennial Isabella 30th, Nonpareil 51st; grand premium, $600.

To sum up, the honors won are remarkable, and it is a question if the great breeders of any day could have gone higher, for 'tis an honor to possess a good animal, but a much greater to breed one.

It is worthy of comment that although there are three successful white animals in this group, they are the only ones to be found in the herd, while only four have been dropped in as many years, and perhaps no greater advantage has been gained from this contest than the effect it will have towards removing the absurd prejudice with which the color has been regarded in Western breeding circles, and show yards.

Agriculture in Schools.

In a letter to Mr. Gilbert Wilson, commending his paper on "Agriculture in Schools," a copy of which appeared in the ADVOCATE, April 20th, Wm. Houston, M. A., Director of Teachers' Institutes, Ontario, appended a memorandum on the subject, which we publish below. As Mr. Houston is one of the most advanced educationists in America, his opinions on this subject should be of interest to Canadians at the present time:—

I am heartily in accord with the main contention of your admirable paper—that agriculture should be a compulsory subject in the programme of rural schools—and also with the chief reason urged in support of that contention, namely, that it is an excellent subject for educational discipline. Three reasons may be urged for the action proposed:

1. The educational value of agriculture in schools.
2. The sociological value.
3. Its economic value.

These I have stated in what I believe to be the order of their comparative importance, and to make my meaning clear I would like to go a little into detail.

THE EDUCATIONAL VALUE OF AGRICULTURE AS A SCHOOL STUDY.

No education that is worth much can be secured from the mere memorization of knowledge already accumulated and systematized by others. The value of the study for cultural purposes depends almost entirely on the process by which the knowledge is acquired—by the pupil. Certain powers with which he is endowed must be persistently trained or the time in school will be wasted. He must be trained (1) to observe phenomena instead of learned facts by rote; (2) to compare and classify the phenomena he has observed, so as to systematize his knowledge instead of leaving it in a crude and amorphous condition, and (3) to draw general conclusions either *(a)* in the way of foretelling what is to come, or *(b)* in the way of accounting for what has happened.

You are right in your contention that agriculture is pre-eminently fitted for becoming an instrument for this kind of discipline. The facts, phenomena, operations, experiments to be observed are within easy and constant reach of the pupils. They have no trouble of a physical kind to encounter, as the botanist has. They are familiar with much already, and need only keep their eyes and ears open to learn more. They see the farmer ploughing, sowing, manuring, selecting one kind of plant for preservation and another for destruction, planting crops in rotation, and experimenting in various ways of feeding stock, such as pasturing, soiling, ensilage, etc. They see him resort to one kind of farming in preference to another, substituting wheat for mixed farming, or *vice versa*, and they all have sense enough to know that he must have some reason for what he does. The teacher may easily, informally, and unostentatiously compel to habits of observation by calling attention to actual processes and requiring them to be described to him in minute detail. Similarly he may train pupils by asking them to look into the nature and composition of soils, the changes in the weather, the effects of rain and other kinds of moisture, and of the absence of them, and go on over a wide range of natural phenomena No text book can be of the slightest use in this stage of the work. The observation must be the pupil's own observation. The facts to be learned are the facts he has seen, and he learns them by discovering them—the only useful way of learning them. The character of the phenomena to be observed will depend very largely on the physical character of the locality where the observation is carried on, and physical characteristics must vary greatly even in Manitoba; they certainly do in Ontario. One feature you have in