

Canada at Omaha.

Mr. W. H. Hay, Secretary of the Dominion Experimental Farms, who had charge of the installation of the Canadian exhibit at the Trans-Mississippi Exposition at Omaha, Neb., says Canada's magnificent display in the International Hall at the Omaha Exposition is a matter of surprise and in many respects is a revelation to thousands of people who were not previously aware of the extensive resources of our great country. The Canadian court covers an area of nearly 5,000 square feet. The location is first-class, as it takes in the main entrance to the building both on the south and west sides. The first feature to attract attention on entering the court is a large grain trophy. This trophy is octagonal in shape and is composed of eight magnificent arches of grains and grasses. In the center is a solid pyramid of grains 17 feet high and surmounted by a large sheaf of Manitoba hard wheat. The grain is from the Experimental Farms in Manitoba and the Northwest Territories, and is acknowledged to be the best at the exhibition. About 300 specimens of bottled grain are shown, besides several large bins of wheat, oats, and barley. These bins are constantly surrounded by farmers and millers, who delight in handling the grain, and keep the attendants busy answering questions regarding the soil and climate of the country. Along the east end of the court are three large arches of grains and grasses; the central, or main arch, bears the motto—

"WELCOME TO THE CANADIAN COURT."

The southern and western walls of the court are beautifully decorated with grains and grasses in all sorts of fancy designs. On the walls are also several large charts, as follows: "Canada Welcomes Settlers from all Nations"; "Free Farms of 100 Acres in Canada"; "Manitoba Hard Wheat, the Best in the World"; "Canada Supplies 60 per cent. of the Cheese imported by England"; "A Prosperous Agricultural People is the Basis of a Nation's Strength"; and many other charts of like nature.

Along the north side of the court, forming a sort of boundary, extends a screen of Canadian woods. Here the lumbermen and others particularly interested in the lumber business may be seen to gather and examine the very beautiful specimens and discuss the relative value of the oak, maple, ash, birch, cherry, and other hard woods. The specimens of our world-famous white pines attract special attention.

One very interesting feature of the Canadian exhibit to the general visitor is the extensive collection of photographs. These photographs are neatly grouped on the back of the screen of Canadian woods and constitute an interesting study on account of the great variety that is exhibited. They include views of the Parliament buildings at Ottawa and Victoria; many of the cities and towns of importance in Canada; the Experimental Farms; fruit farms; ranching; lumbering; mining; salmon fishing in British Columbia; harvest scenes in Manitoba, illustrating how the Manitoba hard wheat, the best in the world, is grown and harvested; also several good views of settlers' homes in the Canadian Northwest, showing the farm when first located and again a few years later, the improved conditions demonstrating clearly that whenever and wherever intelligent and experienced farmers locate in the Canadian Northwest they prosper phenomenally.

In the center of the court is our mineral trophy. This trophy is triangular in shape, being composed of three large cases so arranged that the contents may be seen at a glance. These are filled with rich specimens of gold, silver, copper, lead, zinc, tin, iron, and other metals, from the dull gray sulphates to the most beautiful and delicate forms of crystallizations. Over each case of minerals is an arch bearing the word "Canada." In the center of the triangle is a pyramid about 12 feet high. On each of the three sides of this pyramid are grouped photographs of mining scenes. Out of the top of the trophy rises a flag-pole on which are draped both the British and American flags.

The mines and mining interests of Canada are immense. Information in detail would fill a space ten times as large as can be given here. In brief, it may be said that Canada is a land of gold. We have gold fields all along the line from the new Klondyke to old Nova Scotia.

Other exhibits in the Canadian court deserving of special notice are those of maple syrup and honey. The honey exhibit is made up of 275 sections of clover honey, and several bottles of choice clear extracted honey.

The first shipment of fruits to the exposition will be made this week; further consignments will be made from time to time during the season from the Experimental Farm at Ottawa and Agassiz, and also from Essex County and the Niagara District, Ont., thus assuring a display second to none at the Exposition. Our fruits carry off the premiums everywhere, and most of the premium fruits are seedlings, showing that it is the climate which produces them.

On the whole, the Canadian court may be said to be one of the most attractive and most popular at the Exposition. The court is large, and contains a number of seats where visitors are invited to rest themselves.

The Canadian Immigration Agent, Mr. W. V. Bennett, assisted by Messrs. C. H. Meyers, H. C. Knowlton and J. Duncan, are doing good service in explaining to visitors the nature of the exhibits, and more particularly in talking up the merits of

our great Northwest and Manitoba, and giving information to people desiring to find a better country. All the Trans-Mississippi States are employing every means to induce settlers to locate in their particular districts, so that the idea of making such a large and collective Canadian exhibit is to be commended. This display of the products of our country will serve as an object lesson to intending settlers, and will no doubt in a great measure dispel the impression, held without warrant, but natural to our neighbors to the south, that Canada is a land of ice and snow. We have rain and sunshine in plenty. We have water and timber, and soil and climate, and we have a social condition that will compare favorably with the best communities in the United States. "What else could the intelligent immigrant desire?" He will certainly find no warmer welcome anywhere on the globe than in our Canadian Northwest.

Shallow vs. Deep Plowing.

In our issue of July 15th, page 336, a subscriber, referring to an alleged statement of Mr. Rennie, of the O. A. C., that "practically we only plow when breaking sod, and then only four inches deep," asks the question, "Would this shallow cultivation be sufficient for clay or loam soils? We have been hoping for an answer to this question from some of our readers, but have had none directly, though Mr. John Burns, of Perth Co., in our August 1st issue, in writing on the preparation for fall wheat, says: 'I am one of those who have never been convinced that it is all nonsense to get down to the subsoil, having been taught the old maxim in my early days to 'plow deep while sluggards sleep and you'll have corn to sell or keep.'"

It has also been said that "all extremes are error, and the truth lies between." While many maxims are good and safe under general circumstances and conditions, there may be, and often are, circumstances under which these maxims may well be modified and possibly ignored, and this is especially true of the operations of the farm in general and of the cultivation of the soil in particular. Much depends upon the quality and con-

Jersey Cow, Adelaide of St. Lambert 73652.



Owned by Miller & Sibley, Franklin, Pa. Milk yield: Average for 31 days, 64 85 lbs.; highest single day's milk, for H. Harrison, Cannington, Ont., 82 1/2 lbs.; for Miller & Sibley, 75 1/2 lbs.

dition of the soil and the subsoil in deciding upon the best treatment to be given it for certain purposes or for different purposes. Farmers having clay soils to deal with which are not underdrained, we believe do not, as a rule, find it practicable to carry out Mr. Rennie's system of surface cultivation, without plowing, to nearly the extent to which he does on the comparatively light soil of the College farm, but find it necessary in fall plowing for spring seeding to plow at least six inches deep and in ridges from twelve to sixteen feet in width in order to facilitate surface drainage and thus to prevent the heaving out of clover and wheat in low places by the frost. If the land were thoroughly underdrained this difficulty might not and probably would not occur, but we all know that underdraining is not practiced to the extent that is desirable, and farmers have to adapt their practices to existing circumstances. In our opinion fall plowing as a preparation for spring seeding should, not as a general rule, be less than six inches deep, but we have known serious damage to a field by deeper plowing bringing up cold and sticky clay which contained no plant food in itself and rendered the surface soil more difficult to work, less adapted to the production of good crops, and requiring years to get over the injury thus done to the fertility of the field. In the case of spring or summer plowing an average depth of five inches is, as a rule, sufficient, and Mr. Rennie's system of surface cultivation and surface manuring is generally practicable and commendable. Nature's plan of restoring and retaining fertility is by top dressing, and humus is the great want of most farms in the older settled sections of the country, and this can best be secured by the plowing down of clover and the use of barnyard manure applied on the surface or worked into the soil by shallow cultivation. By this method of applying manure the surface soil is kept from baking, the manure serving as a mulch. The decomposed manure is carried down to the roots of the plants by the rains, and another advan-

tage is that by this means a catch of clover or grass is more generally assured. Many good farmers have almost abandoned spring plowing for any purpose except for peas, for which a sod plowed in the spring is generally considered a good preparation. Even in the case of land intended for corn, roots or rape, if it has been plowed in the fall it is considered good practice to confine the spring working of the soil to thorough surface cultivation, first by the use of the harrow and a narrow-toothed cultivator, and later by the use of cultivators having wide and well-sharpened feet to cut all weeds and thistles and well stir the ground. By this means the moisture in the soil is retained, and the surface soil which has been mellowed by the action of the winter's frost and warmed by the sunshine of spring makes a congenial seed-bed and tends to early germination of the seed and rapid growth of the crops.

DAIRY.

Care and Modification of Milk "Certified" Pure.

The oft-repeated assertion that "what the eye does not see does us no harm" is not accepted by the Medical Commission of Essex Co., New Jersey, who, with their Fairfield Dairy, seek to produce milk suitable for infant and invalid feeding. The requirements of good milk are given as:

- First—An absence of large numbers of micro-organisms, and the entire freedom of milk from the pathogenic (productive of disease) varieties.
- Second—Unvarying resistance of early fermentative change in the milk so that it may be kept under ordinary conditions without extraordinary care.
- Third—Having a constant nutritive value of known chemical composition and a uniform relation between the percentage of the fats, proteins and carbohydrates.

These are given by Dr. Milton Yale, of New York, in a paper read before the Trinity Medical Alumni Association at Toronto, and published in the *Canadian Lancet*.

The Fairfield Dairy referred to secure their "certified" infants' milk from a herd of about 200 cows. Jersey grades predominate, and all retained animals have to pass the tuberculin test. All cows are bought subject to the test and those are returned that do not stand it. As soon as they have passed they go to the regular barn, and from here the best cows are selected by the veterinarians to recruit the "certified" herd.

The stable is clean, dry, and constructed with a view to being kept clean. There is a cellar beneath which is used as an air space, not as a receptacle. The manure and other refuse is removed seven times, or oftener if necessary, in 24 hours, the watchman attending to this duty at night. It is removed to a receiving pocket which is suspended in the cellar beneath the stable floor. It tilts so as to load a cart instantly without further handling, and is removed twice daily in iron carts. Bedding is of rye straw, turned daily.

For greater cleanliness a milking shed is used to accommodate 20 animals at once. It is well lighted, the sides being largely composed of movable glazed sashes. The floors are of hard pine laid in tar. The side walls and ceilings are lined with sheet-iron, painted, so that the whole may be flushed with water.

All feed is kept in separate barns away from the cattle. It consists of corn meal, wheat middlings (shorts), bruised barley sprouts, cottonseed meal, ensilage from matured corn, clover and timothy hay. The water supply is from a spring guarded by a roof and by sides of wire screen. The water is shown by analysis to be very pure, but for still greater safety driven wells are contemplated. The cattle are groomed once each day, and the cows' bellies and udders are brushed by an attendant who does it in advance of the milkers. The cattle are out of doors from two to seven hours daily, according to season and weather.

The workmen, who are Poles and Hungarians, are examined physically by a local physician once or twice a month. Tubercular subjects or those with skin affections are excluded, and when actually ill are quarantined until seen by the physician in charge of them. This physician renders reports to the Commission. The men all wear white duck suits and caps, which are changed and sterilized daily. The milkers have elbow sleeves when milking. The forearms and hands are carefully washed and nails cleaned before milking, and the hands are re-washed with every full pail, or about every second cow.

The milk pails are of block tin, the top soldered to the edge of the pail, leaving only a circular opening about seven inches in diameter, which is filled by a fine brass wire gauze disk, upon which the milk falls in milking. The pails are sterilized in the large sterilizer at the dairy house under five pounds pressure, equivalent to a temperature of 226° F.

The milk is poured into sterilized forty-quart cans, which are sent over a suspended wire cable to the dairy house about two hundred yards away, being received into the second story of the building. It is immediately put into a large strainer of white metal which contains two filtering layers. The upper consists of several thicknesses of sterilized gauze, beneath which is a wire netting; the lower, of a layer of absorbent cotton. This filtering only removes visible particles, but not bacteria.