and construction of trunk lines. Resolutions were presented the commission by the different countries and interests of the city of Hamilton, but the gist of the whole hearing was this, that automobiles should pay a reasonable tax according to their horse power, and this be dispensed for the maintenance of the roads. That long trunk lines would not serve the country best, but short stretches of highways should be improved that lead into marketing centers whereby the producer and consumer would be brought closer together, and that the Federal Government through the provinces should assist in the construction and maintenance of these improved lines of travel. Furthermore it was opined that the ordinary pathmasters are not competent to direct the construction and repairs of roads, and that wardens do not remain in office long enough to do efficient work. When they become acquainted with their county and outline a policy they are replaced by another who must acquaint himself with what his predecessor had just acquired. The automobile was acquitted on several charges, while the narrow steel tire was convicted of much damage to the road.

The good-roads scheme of the Provincial Government has been in vogue in some counties long enough to allow its advocates to voice their sentiments. Wentworth County now has 150 miles of macadam roads, and during the last year the county has expended $60,000 for maintenance alone. Although, on their part, there is no desire to return to the old system, it is feared that the tax payers may tire of the burden encumbent upon them to retain, in good condition, these improved thoroughfares. In presenting their resolution to the commission asking for a reasonable tax on automobiles, Wentworth County said, "We believe the Federal Government should assist, by a substantial grant, the building and maintaining of improved highways," and again, "We approve of government aid in not only building but maintaining roads in every county which adopts advanced methods of road-building to the extent of two-thirds of such cost, counties to contribute one-third."

There are in Ontario approximately 50,000 miles of roads, and if a trunk system be adopted no more than 5,000 miles of roads could be considered in a comprehensive scheme, this would leave 45,000 miles of highways unembraced by this new system. So exacting is the traffic today that even a macadam road in many places is not able to withstand the wear and tear of modern travel and transportation. Cement and pavement must follow macadam as it has in our towns and cities, for in some sections, near large markets, the travel is so continuous that only the most durable construction will withstand the destructive action of trucks and vehicles. The question then arises, how may they be constructed and maintained. The Hamilton Board of Trade petitioned the commission to recommend to the government that branch lines be constructed leading in to marketing centers. They advised that they be provincial roads, and twenty-five per cent be levied upon properties fronting on this highway or benefiting thereby, that twenty-five per cent. be met by cities, towns and villages served by such roads, and that the remaining fifty per cent. be paid from the provincial treasury with the assistance of a federal grant.

Whatever value may accrue to a farm consequent to being situated on one of these improved roads, the farmer cannot meet taxes anywhere approaching twenty-five per cent. of the cost of construction. Let his farm increase $2,000 in value; that will increase his taxes but not the earning value of the property. Good roads, however, increase the acreage of crops that one can market and alter them in nature, thus bettering conditions for which he should be willing to contribute. This increase in crop production means reduced prices to the consumer and living cheaper to the general public. The price of labor is regulated, no doubt, by the law of supply and demand, but what a man can live for determines largely what he can afford to work for. If the laborer can live cheaper he can work cheaper, and thus reduce the cost of production. This means a universal reduction in the price of manufactured goods, a universal reduction in the cost of living and warrants a universal tax for the construction and maintenance of good passable highways. Under the present condition of our roads people must either live in the city or in the country, and make up their minds to that effect. If roads were suitable for speedy travel many townspeople would abide in the country and enjoy the privileges of the city as well. In the country they would be producing foodstuffs which are soaring so high at the present time, also assisting in the reduction of price to the urban consuming population of living necessities.

Villages, towns, cities and country should all deposit their offerings towards this great movement for the betterment of conditions. It will alter not only rural communities but urban districts as well. It is a national question, and should be considered as such by the rank and file of Ontario's population.

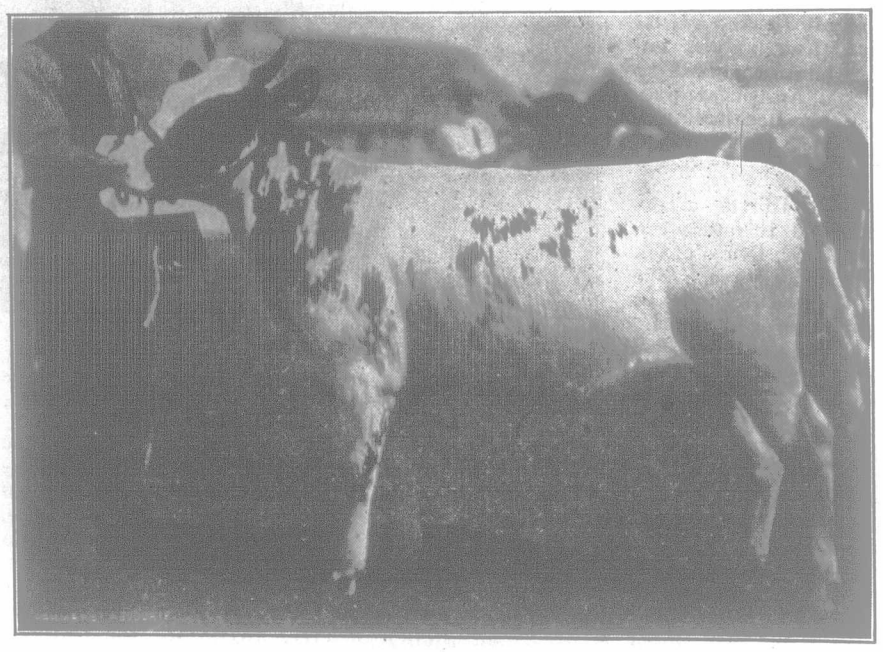
We hope the government will not delay after this commission explains the country's needs, in forming a policy that will be permanent in nature, comprehensive in extent and effective in its execution of construction and maintaining the thoroughfares of Ontario, and give us better roads.

THE DAIRY.

The Goal Unfixed.

Apparently there is no limit to the producing power of the dairy cow. She continues to increase her efficiency to keep pace with improvements in the world's inventions. Contemporary with the cradle with which strong men cut the grain and used the flails to thresh it, we found the "good" cow making two pounds of butter per day. Later the self-binder replaced the cradle, and the large traction machinery threshed the grain. The two-pound cow was then no longer worthy of mention. Only an animal producing four or five pounds per day was considered by the press. The satisfied class then said machinery is now perfected. Railroads and steamboats give excellent service. Telegraph and telephones give us connection with people all over the world without leaving our own home. And relative to dairy production the climax is reached when Colantha 4th's Johanna, in one week, through her wonderful developed mechanism, converted food into thirty-six and one-sixth pounds of butter. Inventions and developments still proceed, and now six pounds per day has been attained by K. P. Pontiac Lass, and many will say that is the best, but the end is not yet.

Many and many a dairy herd show excellent development and capacity for high production, but even they can be improved when we bear in mind the high record which stands as a light to lead us on. Farmers all over Canada have been urged, admonished and implored to test and weigh their milk, promote the good and discard the bad, and so improve their herds. After a while this advice sounds like, "Wolf," "Wolf," and the herdsman disregards it.



Blue Belle of Menie.

First in the class for senior heifer calves at Toronto. Owned by Wm. Stewart, Menie, Ont.

Such a scene as was presented at the last National Dairy Show at Chicago is an inspiration to any dairyman, and if more would visit our large exhibitions and study the type of animal they are most interested in, carry home the concentrated ideas and put them into execution and work towards the goal, which, as we approach, moves higher up, we would then raise the standard of our herds to a much higher level.

The Winter Creamery.

Editor "The Farmer's Advocate":

This is the time of the year when many cheese factories are changing to winter creameries, and when a number of summer creameries are beginning to adjust themselves to winter conditions. A few notes at this time may be suggestive and helpful. The most important factor to consider is the one of temperature. The farmer, the milk or cream hauler, and the buttermaker all need to take into consideration the fact that during the next four months we have to contend with low temperatures for the most part. While cold is more or less unpleasant, we can combat the adverse effects of cold in dairy work more readily and successfully than we can the adverse conditions produced by hot weather. Generally speaking, so far as weather conditions are concerned, the production of a fine quality of butter is more easily obtained in winter than in summer. The actual fact is the reverse of this—we produce a poorer quality of butter, as a rule, in winter than we do in summer. The skilful buttermaker is he who produces a uniformly good butter throughout the whole year, but this is difficult unless he be furnished with good raw material out of which to make a first-class finished article. In no line of manufacture that we know of does the quality of the finished article depend to so great an extent upon the quality of the raw material as is the case in butter-making.

THE FARM SIDE OF THE WINTER CREAMERY.

Let us turn our attention to the farm side of the question first. It is needless to say the cows should be clean, the stable kept clean, and that the milking should be done in a cleanly manner. The feed should be of a suitable nature to produce a large flow of milk, and of good flavor, because the character and flavor of the food affects the quality and flavor of the butter. Cows fed on straw, timothy hay, turnips and a little meal tend to produce a milk-fat that is white in color, brittle in texture and lacking in good flavor. While a small amount of such milk or cream mixed with a large quantity of good milk or cream may not materially affect the quality of the butter, we need to remember that in a co-operative creamery the quality of the butter represents, in a large measure, the average quality of the raw material—if this be good or high, then the butter will be good; if poor or medium, the butter will be similar.

Corn silage (30 to 40 lbs. per day daily), clover hay (10 lbs.), mangels (20 to 30 lbs.), oat or mixed oat and barley chop (4 lbs.), wheat bran (2 to 4 lbs.), oil cake, malt sprouts, cottonseed meal, or gluten meal (1 to 2 lbs.) make a ration that will produce good-flavored milk, cream and butter, and will also produce them economically.

Care should be taken that the air of the stable is free from strong smells, (manure, feed or anything else) at the time of milking, otherwise the stream of milk as it passes from the teat into the milk pail carries with the air into the pail taints, which will appear in cream and butter. This is a very important point to bear in mind, as it is the source of more bad flavors than by milk absorption, as is commonly supposed.

If the milk is taken to the creamery, and separated there, as is the common plan in cheese-factory districts, the milk should be cooled at once after milking in a cool, clean place, preferably in a tank of water, as milk cools more rapidly in water than in air. It should also be prevented from freezing, if possible, although we have not noticed any bad effects on the butter from either frozen milk or cream. A clean blanket thrown over the can-lid-covered milk or cream will often prevent freezing. This should be delivered at the creamery not less than twice a week—three times weekly would be better. The practice of hauling milk once a week to the winter creamery is not to be recommended. Right at this point is one of the chief causes of poor winter creamery butter. The bacterial life that has lain dormant in the milk while cold springs into life and action when the milk is heated for separating and during the cream-ripening process. This is the source of many bad flavors, and the buttermaker finds it very difficult to overcome them. He may pasteurize, "starterize" and "cussize," but cannot get rid of these flavors which have obtained such a foothold in the milk and cream during its long stay on the farm. As farmers are not very busy in winter, as a rule, an extra trip per week to the creamery would pay in the better quality of butter made and improved quality of the skim milk. Skim milk separated from old milk is not nearly so good as that from fresh milk for feeding young stock—in fact, when old milk is heated, though it is apparently sweet, it coagulates at once or soon after heating—sometimes before it can be separated, causing clogging of the separator, and a great deal of extra work at the creamery, as the machine has to be stopped and cleaned before the separation of the milk can be completed. This makes delay in farmers receiving their skim milk and adds to the labor of the buttermaker.