3, Winer; 4, Luck; 5, Wilson; 6, Hessenauer; 7, McCutcheon; 8, Cormack; 9, Wilton. Oats, O. A. C. No. 3, Daubeny or Alaska: 1, Elcoat (O.A.C. No. 3); 2, Cormack, (O.A.C. No. 3); 3, Johnston, (O.A.C. No. 3); 4, Murduck, (O.A.C. No. 3). Oats, A. O. V. White: 1, Winer, (Granary Filler); 2, A. Schmidt, (Abundance); 3, Wilson, (Abundance); 4, McCutcheon, (Abundance); 5, Vanderlin, (Elmhurst); 6, Wilkin, (Palmerston); 7, Tupling, (Swedish Giant). Barley, six-rowed: 1, A. Schmidt, (O.A.C. No. 21, Champion); 2, Wilson; 3, Barrie; 4, High; 5, McCutcheon; 6, Luck. Rye: 1, Dyment & Sons; 2, Luck; 3, Doyle. Buckwheat: 1, Leitch. Field peas, small: 1, Bingham. Field peas, large: 1, Schoonenberg; 2, Wilkin. Field beans, large white: 1, Hutt & Son, (Pearce's Improved Tree, Champion); 2, McCutcheon. Field beans, small white: 1, Johnston; 2, Maynard; 3, Hessenauer; 4, Clark & Son. Field beans, yellow: 1, Trothen & Son; 2, Scott & Sons. Red Clover: 1, Snider (Champion and Sweepstakes, sold for $46); 2, Haas & Sons; 3, Neely; 4, Smith; 5, Wheatley; 6, Adams; 7, Palmer; 8, A. Schmidt; 9, Bingham. Alsike: 1, Kelly, (Champion); 2, Wheatley; 3, Corner. Alfalfa: 1, Allan, (Champion); 2, Steen. Sweet clover: 1, Lennox; 2, Murdock; 3, Currie. Timothy: 1, A. Schmidt; 2, Totten; 3, McCutcheon; 4, Lee Bros.; 5, Palmer. Flint corn, Compton's Early, 60 ears: 1, Hessenauer; 2, Smith; 3, McCutcheon; 4, Johnston; 5, MacColl. Flint corn, Longfellow, 60 ears: 1, Johnston; 2, Smith; 3, Gilbert; 4, Hessenauer; 5, Hankinson; 6, Keepin; 7, Clark & Sons; 8, Norfolk Specialty Farms. Flint corn, Salzer's North Dakota, 60 ears: 1, Campbell & Son; 2, Stuart Campbell; 3, Johnston; 4, Maynard; 5, Hessenauer; 6, Dawson; 7, Wees; 8, Stork. Flint corn, A.O.V., 60 ears: 1, Smith, (Champion); 2, Snobelen; 3, McCutcheon. Dent corn, Bailey, 60 ears: 1, Coatsworth & Son, (Champion); 2, Smith; 3, Anderson. Dent corn, White Cap Yellow Dent, 60 ears: 1, Mitchell; 2, Cohoe; 3, Bondie; 4, Oulette; 5, Clark & Sons; 6, Trothen & Sons; 7, High. Dent corn, Wisconsin No. 7, 60 ears: 1, Cohoe; 2, Park; 3, MacColl. Dent corn, Golden Glow, 60 ears: 1, Mitchell; 2, Hankinson. Dent corn, A. O. V.: 1, Smith; 2, Doyle. Sweet corn, Golden Bantam, 20 ears: 1, Totten; 2, Zavitz; 3, Smith; 4, W. M. Smith; 5, Moore; 6, McConnell & Son. Sweet corn, A. O. V., 20 ears: 1, Hankinson; 2, Moore. Sweet corn, canning variety, 20 ears: 1, Smith; 2, Moore; 3, McKee & Son; 4, W. M. Smith. Potatoes, round, white: 1, Naismith, (Dooley) 2, Leitch, (Green Mountain); 3, Dyment, (Dooley); 4, High, (Green Mountain); 5, Milloy, (Green Mountain); 6, Wood, (Green Mountain); 7, McConnell & Sons, (Green Mountain); 8, A. Schmidt, (Green Mountain); 9, Royce, (Green Mountain); 10, Wilton, (Dooley). Potatoes, round, white, A. O. V.: 1, Leitch, (Boxbury); 2, Naismith, (Canadian Standard); 3, McConnell & Son, (Up-to-date); 4, Royce, (Rural New Yorker); 5, Wood, (Gold Coin); 6, Elcoat, (Davies' Warrior). Potatoes, long, white, Empire State: 1, Naismith; 2, McConnell & Son; 3, Wood; 4, Wilton. Potatoes, long, white, A. O. V.: 1, McConnell & Son; 2, Naismith; 3, Doyle. Potatoes, early, Irish Cobbler or Extra Early Eureka: 1, Naismith; 2, Dyment; 3, Brown; 4, Bingham; 5, Elcoat; 6, Doyle. Potatoes, early, A. O. V.: 1, Naismith, (Early Six Weeks); 2, Wood, (Early King); 3, Bingham, (Early Puritan); 4, Murdock, (Purple Extra Early); 5, Doyle, (Early Rose). Mangel seed: 1, Barrie. Sugar mangel seed: 1, Moore; 2, Bondie. Swede turnip seed: 1, Moore. Beet seed: 1, Moore; 2. W. M. Smith. Carrot seed: 1, Moore. Onion seed: 1, Dyment; 2, Moore. Parsnip seed: 1, Moore. Cucumber seed: 1, Moore. Tomato seed: 1, Moore. Garden beans: 1, Moore. Garden peas: 1, Moore. Sheaf autumn wheat: 1, MacColl. Sheaf spring wheat: 1, Goltz; 2, Naismith; 3, MacColl. Sheaf white oats: 1, Cohoe; 2, Naismith; 3, Goltz; 4, Schmidt; 5, MacColl. Sheaf, six-rowed barley: 1, Goltz; 2, Naismith; 3, A. Schmidt. Two bushels clean seed from multiplying field of autumn wheat: 1, Barrie. Two bushels from multiplying field spring wheat: 1, Naismith, (Champion); 2, Goltz; 3, Barrie. Two bushels from multiplying field white oats: 1, Winer; 2, Goltz; 3, A. Schmidt; 4, Dickson. Two bushels from multiplying field six-rowed barley: 1, A. Schmidt; 2, Goltz; 3, Barrie; 4, Naismith. Two bushels from multiplying field of field peas: 1, Goltz, (Champion); 2, Naismith.

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

Night Schools for Rural Districts.

EDITOR "THE FARMER'S ADVOCATE":

It is a matter of much lament that country youths continue to desert the farm to find occupation in the city, but lamenting does not get us anywhere. To become aware of an evil is the first step towards amendment. We have, therefore, to seek the cause of this emigration and then make honest effort to find an effectual remedy. Now, my knowledge of the country boy—and I have had occasion to know him intimately in various parts of this Province—convinces me that it is not because of actual dislike to the nature of the work that he leaves the farm, but because he is becoming keenly conscious that country environment does not give him an all-round, square deal.

During the period of childhood country conditions—barring public school life—in nearly every respect favor the sound, physical and mental development of the child. His food is fresh and wholesome; he finds abundant occasion for suitable exercise in Nature's well-equipped gymnasium, while his mental activities are aroused and fully nourished by the simple but never-to-be-forgotten truths he discovers for himself in Nature's living, growing world. But just at the stage in his life when he should be left for the greater part of his time in his native element, he is cramped into rigid desks for six long hours each day and fed upon an intellectual diet for which, as yet, he has felt no need, and which, with rare exceptions, he can in no wise assimilate. His inability to digest this carefully-prepared mental assortment lead him to the conclusion that he "hates books" and "will be glad to be done with school."

How could he feel otherwise at the age when his animal nature predominates and his mental faculties are only beginning to awaken if his body be constantly repressed, and his intellectual course be unadapted to his needs? My observations convince me that the average child does not receive definite impressions, much less retain such, until he is ten or twelve years old. And yet we drag him through a course of study for nine or ten years that he could cover with ease in five or six years if his mind were sufficiently developed when he begins. Then consider what he would be gaining physically with equal or possibly greater advantages intellectually.

But if we are erring in our educational plans in relation to the young child we are surely erring more grieviously in our duty—or rather lack of duty—towards our country youth. Those who have had occasion to make it a matter of personal study tell us that the vital stage in character formation ranges through a period varying from fourteen to eighteen years. Experience gives evidence also that during no other period of life are the mental faculties so alert, the desire for intellectual intercourse so keen, or the spiritual nature so sensitive. And yet during this most critical period in the life of our country youth—the only seed-time of his life—we leave his education almost entirely to chance!

I repeat that the country boy is not getting a square deal, and he knows it, and shows it by a spirit of unrest, the symptoms of which are only too well known. He begins to chafe under parental control. His mother's efforts to soothe him, and his father's attempt to restrain him are alike of little avail. His mental and spiritual nature are demanding satisfaction, and finding none—for what provision have we made?—he chafes until he finally breaks his tether and is away. To him the city looks promising and thither he goes. Sometimes he has a definite purpose in view and makes good. More frequently he fills the void in his life with worthless recreations, and his future usefulness in a greater or less degree is marred.

Can the farming industry thus afford to lose its men, or Canada afford to let her richest asset go thus undeveloped?

And now I come to the special need for public buildings in rural communities to which I alluded in a former issue of this magazine. Never has the need for educated farmers been more apparent than it is to-day, but were this not true, it is surely none the less our most imperative duty to give our Canadian youth in rural districts a better opportunity to develop their native talents instead of forcing them to go out from their homes to gather the shreds of an education that are borne upon the winds of chance. We have as great, if not greater, need for night schools in the rural districts than we have in the cities, and there is surely no good reason why we should not have them. They could be conveniently located at various centres, and the course of studies could be adapted to the needs of the communities.

Some miserly person may grumble "We can't afford it." But the intelligent farmer knows we can afford it. He knows it is just what we can afford. For he knows, or should know, that the biggest bank account ever hoarded will not buy for his son or his daughter in the years to come the opportunities for self-improvement that are denied to them in their youth.

Norfolk Co., Ont. N. L. M.

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Minimizing Wear and Tear of Gears.

The biggest item in the up-keep of even a medium-priced automobile during the first two years of its life is depreciation. Gasoline, oil, grease, tires, and cleaning cost money, but they infrequently aggregate as much as the loss which must be charged to wear and tear. It is a fact that the careful driver often receives twenty per cent. more for his machine when he wishes to sell it than does the man who has been negligent and not mindful of the little instances where a small and immediate repair bill could have been made to take the place of a later and much larger one.

There is so much kerosene in the present gasoline supplied to the motor trade that complete combustion is extremely difficult in the winter months. When the kerosene is not consumed in the firing chambers it finds an outlet past the pistons, being sent down into the crank case by the force of the explosions. The arrival of the kerosene has a tendency to weaken the lubricating oil in the crank case, and prevents it from fully exercising its proper function. There should always be a thin film of oil on every surface of a power plant exposed to friction. Sometimes, however, this film cannot be maintained, because the oil has lost its viscosity or adhesive quality through the presence of kerosene. If you wish to prolong the life of your motor you must change the oil at regular intervals, possibly every five hundred to one thousand miles. Not long ago an experiment was made in an American city, that verifies every claim that has been put forth for the repeated changing of the oil. A motor was examined as to its exact condition, and then operated with new oil for a definite period. The lubricant was then changed and a supply of old worn oil placed in the crank case. When the motor had been run the same time with the old lubricant that it had been with the new it was found that considerably more wear had taken place with the old than with the new oil. There was practically no indication of wear in the first instance, and very evident signs in the second one. The engineer who carried out this test stated positively that the age of a motor may almost be said to depend upon the number of times the oil in it is changed.

What is true of the power plant is equally applicable to other parts of the auto. You can prevent a great many spring breakages by carefully oiling and graphiting the spring leaves and subsequently enclosing the entire spring in a leather casing known as a boot. Tires will give exceptional mileage under proper use, but can be very easily abused into blowing out at short distances. Just as soon as a sand blister or cut appears in one of your casings have it treated in order that the life of the tread, the breaker strip and the fabric may be given every opportunity to produce maximum efficiency. Never allow your tires to run without proper inflation, and if you are putting your machine away for the winter see to it that the tires are removed from the wheels and placed in some cool, dark corner of your garage or home, away from any oil or grease. Should you not find it convenient to remove the tires, you can at least reduce the air pressure to thirty or forty pounds, where it cannot produce a very bad effect.

It is also advisable to go over your upholstery with a fine brush and clean out the tufts or plaits. Any accumulation of foreign matter sooner or later causes unnecessary wear. A thin application of sweet oil thoroughly rubbed in renews the life of the leather and adds immeasurably to its appearance.

Owners have been put to considerable expense at times through rust and other elements of decay that unfailingly come to a motor in operation. We will cite one instance that will surely illustrate others. It is policy to drain your radiator at frequent intervals, in order that the supply of water may be fresh at all times. This also serves the purpose of keeping the petcocks and plugs free from rust. Cases are not uncommon where owners have gone long mileages and eventually found that the radiator drain pipe plug could not be removed because it had rusted in solidly. Expensive boring was found necessary, when such a difficulty could easily have been forestalled.

This advice regarding the lessening of depreciation through the application of proper care applies very particularly to the battery. It is a simple matter to keep up the required amount of distilled water. Many owners and drivers are subjected to great expense when they fail to keep the water over the plates. Should your battery produce a heavy substance on top you can rest assured that a cleansing process is necessary. Nothing maintains the appearance and surface of a battery top better than ordinary vaseline. Corrosions have a tendency to cause poor connection with all its resulting difficulties. AUTO.

THE DAIRY.

Dairy Rations.

EDITOR "THE FARMER'S ADVOCATE":

In compounding a suitable ration for milking cows, the primary requirements for milk production must be always kept in view, no matter what feeds are available, or what price they are selling for. Because protein forms a fairly large constituent of milk, it must be present in some part of the ration in large quantities. It is a fairly safe guide to go by, because as a general thing when enough protein is supplied the other necessary constituents of the ration will have been supplied, providing the ration has enough bulk. That is to say, if the ration has enough dry matter, is palatable, and supplies sufficient protein, it is generally properly balanced.

The feeds available in large quantities this year are largely roughages as roots, silage and hay. The question of compounding the ration then rests entirely on the selection of concentrates. Because of its widely varied uses, oats may be considered to be more expensive than other feeds analyzing the same, but at the same time its good qualities make its presence in a dairy ration practically indispensable. Fortunately, most dairy farms have a fair amount of oats on hand, but one grain alone does not give satisfactory results, no matter how good it may be. To secure palatability, variety must be secured. Bran is pre-eminently a dairy feed. At present market prices it is as cheap as anything approaching it in nutrients. Brewers' grains analyze a little better in protein and fat, but are considerably lower in carbohydrates. This feed is not available in all districts, and where it can be secured, is about equal to bran. Gluten feed is another concentrate that can be used to advantage. Its guaranteed analysis gives it about 18 per cent. protein as it is manufactured at present, and it carries about 44 per cent. of carbohydrates and around 4 per cent. (?) of fat. It can be used in combination with other grains, and of all concentrates on the market is second only to oats when fed as the only grain in a ration.

Of those feeds very rich in protein, that are available