

CANADA'S YOUNG FARMERS AND
FUTURE LEADERS.Organize for Leadership and Public
Speaking.

EDITOR "THE FARMER'S ADVOCATE":

Summer and autumn are drawing to a close. Winter the season when the farmer's life is the freest, is at hand, and this is the time when you should consider the organization of a Literary Society, a Dramatic, or Literary and Dramatic Society. The Literary Society is probably the easiest to start; a Dramatic Society is harder than the combination of the two, but the community should consider one of them. The Farmers' Club is a good thing, but it has almost become a business organization, which is certainly not the thing to prove a strong attraction to young people.

If you have a recognized community leader, put it before him and enlist his aid and co-operation; if not—be a community leader yourself. The world is anxious to be led, and it only demands a wise leader. If you determine to do this, go out and speak to your friends and you will be surprised to find that that is exactly what they want, but they are awaiting a leader. As I said, you will find that is what they want, but they will also want someone else to do the work; and there is the opportunity for you to demonstrate your latent powers of leadership.

You will have to call an organization meeting and elect officers. Don't elect all boys, or all girls. A country club must (because of the scarcity of members) embrace both sexes, and if such is the case they should share the work equally. Boys, of course, have the name of being much better equipped for executive offices, but strange as it may seem, an interested girl is usually a better officer. Don't elect a dozen or so vice-presidents, and then leave all the work to the executive, as is sometimes the custom. One vice-president is sufficient, and then elect a weekly committee. These should be elected in advance of their meeting by a couple of weeks. This does not allow the work to become drudgery to the executive, and it also distributes work and responsibility.

You will have much difficulty in organizing your first debate, if your district is not above the average in enthusiasm. The hottest enthusiast cools on being asked to make the first speech in a debate. I believe the first debaters should read their papers, if they are nervous. Of course, there is no question but that the speaker who does not read has a better chance than the one who does. His speech is invariably more convincing than one which is read, and, above all, the speaker can bend his previous plan of speech to produce the greatest countereffect against his opponent after hearing his speech. But all who remember their first speech will know that it is almost a physical impossibility for a nervous person, without previous training, to do this. Therefore, I say again, I would not criticize a read speech on first attempts.

I am a firm believer in political subject for debates. For this reason the "Mock Parliament" is good, but it is a subject in itself. The object of the club eventually is to train leaders, and it is on these very questions that the future leader will work. Above all, the important political question is the easiest on which to procure material, as all newspapers will bear opinions pro or con. There is also a greater demand on the intellect in a political debate than in one on, for example, "Fire is more useful than water." You say fire produces heat and they must believe you, but say that such a bill will produce certain results and it must be proved before they will believe you. This calls for genuine brain power, adroit and convincing delivery, and solid reasons. What better training could the future farmer candidate ask? I venture to say that many farmers elected to the Ontario House in the recent election would appreciate such a training, and many more there are who have a greater brain, but cannot express themselves. Inability to speak publicly is a leader's greatest weakness. How often does the glib tongue overset solid ability? Let no member say no to a request to take part. The audience gains much from hearing him, but the speaker gains a thousand times more.

The Dramatic Club has similar possibilities with regard to public speaking, but it is not a training so much of debative thought, as it is a classical education. Read the trial scene of the "Merchant of Venice," and it is an interesting story; play it and it becomes fraught with a thousand little meanings not previously noticed. The well-played play also has local commercial possibilities which the debate has not. This will help pay your expenses.

You will probably start in a schoolhouse, or from house to house, or in a church basement, but always have in view the community hall. "Low aim is crime."

goal, for an ideal ceases to be an ideal when it has been attained.

Think of the work you will accomplish! In this I believe lies the salvation of the country. They can talk as they like of improving industrial conditions in the country, to keep the boys on the farm; I believe that the boy is not such a materialist. Make life worth living on the farm and he will stay. And it is the community hall, the community gathering, and, above all, the community spirit which will supply the missing factor in life on the farm. We all believe that the farm is the best place in the world to "work". The only trouble is that at present the life consists mostly of work, with none of the clubs, plays, etc., our city cousins see. Supply this to the country and surely we have nothing more to demand, surely scientific farming will increase, and rural Canada become a place no boy or girl will want to leave.

Professor O. J. Stevenson, Guelph, will, I believe, help anyone in this cause, as he is at present conducting such a campaign.

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R. L. E.

AUTOMOBILES, FARM MACHINERY
AND FARM MOTORS.

Hydraulic Rams.

There are many places where hydraulic rams could be installed to advantage in order to secure efficient and constant pumping service for the farm water supply. Where the water must not be lifted more than four or five times as high as the fall, the efficiency of a hydraulic ram is equal to that of the best pumps; in fact, some authorities tell us that where the lift is no greater than this the hydraulic ram will prove superior to most pumping apparatus. The efficiency of the ram has reference to the amount of water actually delivered at



A Ten-year-old Competitor in the Recent Tractor Contest at Chatham.

its destination. There is, of course, a great deal of waste because where only fifty or sixty per cent. of the water is actually pumped into a storage tank, the other forty or fifty per cent. is waste. This means then that where a hydraulic ram is to be installed the water supply must be abundant. Rams are seldom used where the lift is more than twenty-five times the fall. Where the lift is only twice the amount of fall the efficiency of a ram is ninety per cent.; with three times it is eighty-five per cent.; four times eighty per cent.; five times seventy-five per cent.; ten times fifty-seven per cent.; fifteen times forty-two per cent.; twenty times thirty per cent., and twenty-five times twenty-three per cent. Where the ratio of lift to fall is one to two, the amount of water required per minute to operate the ram and deliver one gallon per minute is 2.22 gallons; where the ratio is one to three, or the lift three times the fall, the supply of water must be 3.47 gallons per minute. Five gallons are required where the ratio is one to four; 6.67 gallons for one to five; 17.54 gallons for one to ten; 35.91 for one to fifteen; 66.67 for one to twenty; and 108.70 for one to twenty-five. The amount of water raised in gallons may be calculated by using the following formula:

$$x = \frac{a \times b \times c}{d}$$

In this formula, X equals the quantity of water raised in gallons; A is the amount of water supplied to the ram in gallons; B is the fall from the source of supply to the ram; C is the efficiency of the ram taken from the above figures; and D is the lift from the ram to the storage tank in feet. Suppose, for instance, we could supply a ram with 25 gallons of water per minute with a fall of 10 feet, and the water is to be delivered to an attic 40 feet above the ram. How much water per minute would be supplied to the tank? We see in the first place that the efficiency of the ram will be 80 per cent., because the lift is four times the fall, and 80 per cent. is the efficiency for this ratio, as given above. We have 25 gallons per minute falling from a height of 10 feet, which figures are equivalent to the letters A and B in the formula. D is equal to 40 feet, and if 25 is multiplied by 10, and the result divided by 40 and this result multiplied by the efficiency of the ram, or 80

per cent., we find that the amount delivered to the storage tank in the attic will be 5 gallons per minute.

There are five main parts to a ram, the drive-pipe, the waste valve, the delivery pipe, the air chamber, and the admission valve. The water flows down the drive-pipe and out of the waste valve when the ram is first started. When sufficient velocity has been gained by the water, the waste valve is suddenly closed. This sudden closing confines the water in the casing, and, because such a large quantity of water cannot be stopped on the instant, the admission valve is opened forcibly, so that a small amount of water will flow into the air chamber. The admission valve then shuts and as the water has slowed down, the waste valve again opens and the water flows out. This enables a gain in velocity to take place, and when sufficient velocity has been created by the water the whole proceeding is repeated. In short, this action goes on times without number, provided only that a sufficient quantity of water is supplied to the ram. It is necessary to have air in the air chamber because it compresses when the admission valve is forcibly opened. The water constantly absorbs a little of the air, until in time it will be all exhausted, which would cause the ram to stop were there not a way of admitting more air into the air chamber. This is provided by a small hole just at the top of the drive-pipe, near the air chamber. The water rushing past it sucks in a very little air, but quite enough to prevent exhaustion of the air in the air chamber.

Such a ram will raise a part of the water supplied to it to any desired height. It is quite possible, by the use of a hydraulic ram and ram pump, to pump clear, pure water from a spring or brook by the use of undesirable or impure water from another pond or stream. Rams and ram pumps are usually placed at the bottom of a pit dug into the ground, the head being increased in that way, while the waste water can be easily drained from the pit through a drain pipe leading from the pit to a lower level. Care must be taken that the ram purchased will be workable on the highest head of water that can be used. It is possible to secure an adjustable arrangement on the waste valve, so that it will not stick if a higher head is used than was first thought possible. Different sizes of rams can be purchased to accommodate different quantities of supply.

THE DAIRY.

At a recent fair in Wisconsin an eighteen-year-old cow was shown that had given in her lifetime over 100 tons of milk. This is some record surely. Her best record we are told is 19,143 pounds milk and 814.6 pounds butter-fat.

Some one has recently said that in more than 100 schools in Ontario, hot lunches are provided for pupils at noon. Milk and its products should be a prominent part of such lunches. The idea is entirely commendable and should be widely adopted.

The Holstein-Friesian News Bulletin says, that the University of California has recently instituted a "record of production" for grade cows. The object to recognize the work of meritorious producers and to encourage more efficient production methods among commercial dairymen. The work is to be carried on in connection with county cow testing associations.

Messrs. Haley & Lee, recent exhibitors from Ontario at the National Dairy Show, Chicago, sold Homestead Susie Colantha to an Pennsylvania purchaser for \$7,500. This is the cow that Judge W. S. Moscrip described at the National as one of the grandest cows he had ever seen, under the skin. Does this price represent the top utility value of such an animal? What is the relation between price and value of pure-bred stock?

Some time ago we read about the Jersey bull that dined at the Waldorf-Astoria hotel in New York. Now comes the word that his grandmother, Financial King's Interest, although nineteen years old was so indignant at this freak proceeding that she went on official test test to show the world that she is still a producer notwithstanding the handicap of a frivolous grandson. She has proven her point, too, for she has produced an average of 825 pounds milk and 44 pounds butter-fat over a period of seven months. For a cow nearly old enough to vote this is pretty good.

The upward trend of the cheese market recently, was halted for a few days owing to rather disturbing news that the Belgian Government would not pay more than the price being paid by the British Ministry of Food, for Canadian cheese. Relative to this matter the Dairy Produce Market Report issued by Dairy Commissioner Ruddick for the week ending October 25, says as follows:

"The beginning of the week the cheese market was strong, Peterboro selling 1,049 boxes on Wednesday at 28 13-16c. That afternoon a cable was received by the Cheese Export Committee from the British Ministry of Food stating that arrangements had been completed whereby the Belgian Government will not in future 'pay higher than parity with our prices.' This cable proved an unsettling feature because it was not clear if it referred solely to purchases by the Belgian Government or if private trading by Belgian importers would be stopped. If the former the effect would be negligible; if the latter it would be more serious. The Committee cabled for further information on this point and a reply was received on Saturday that the arrangement applied. The aim of your club should be far beyond the ultimate