

fertilizers or manure certain parts are most in need of. I must also interview my nearby neighbor farmers as to what kind of a market the nearest town or city is for certain articles of farm produce.

As regards live stock, I shall aim to have the best I can afford. It takes no more feed for a good, well-bred horse, cow, sheep, hog or hen, than for an indifferent or poor one, and profits in some cases would be

double or treble. I do not mean choice, pedigreed stock, with show records, but intend to improve my present farm stock by each year breeding the best females to pure-bred sires (known producers of good, typical stock). This should in time give me choice, high grades, a credit to the farm and the community in which I will be situated.

To sum up briefly: "Progress" shall be the watch-

word, and I hope with good health and His help to make this old world, or at least a small portion of it, just a trifle better for my having lived in it. And in years to come, long after I have found my last resting place, may it be truthfully said of me, "He was an ideal farmer and a good neighbor."

Northumberland Co., Ont.

UNCLE ELL.

Automobiles, Farm Machinery and Farm Motors.

Advantages of a Six-Cylinder.

What are the advantages or otherwise of a six-cylinder over a four-cylinder auto? Which has the most power, and which is the most economical on fuel?

J. Q.
Ans.—The throws of the crank shaft in a four-cylinder motor are set to operate at 180 degrees. Any other arrangement would be impossible, because the power impulses must be timed evenly and accurately. Consequently, in a four-cylinder motor, each cylinder completes its power stroke before its successor commences a new one. This means that the power regularly drops to zero in a four-cylinder and runs on momentum. In a six-cylinder motor, the crank shaft throws are set at 120 degrees, so that one power impulse overlaps another. The six-cylinder has, as a result, a continuous stream of power. A single cylinder engine can have more power than a six or a twelve because power depends upon the piston displacement. There are single-cylinder gas engines which develop 200 h. p. and there are six-cylinders which only develop around 30. It is the bore and stroke that determine the amount of power developed and gas used, not the number of cylinders.

AUTO.

Buggy vs. Auto.

Is there any reason in the world why a farmer should not give to his automobile the same care and attention that he accorded the buggy and the cutter? The answer is distinctly and positively in the negative. We could say a thousand nos and still not be too emphatic. The writer has visited Canadian farms from coast to coast, and upon innumerable occasions seen farm machinery out in the open, unprotected from rain, wind, snow and all the various atmospheric changes. Invariably, however, no farm was found where neglect could be charged against the buggy and the cutter. These seem to be personal things, with very intimate associations attached to them. They were used for such interesting social purposes that if the farmer himself did not accord them affectionate attention, the boy around the place saw that they did not suffer. You all know the pride with which you took an outfit to church or to a wedding or to a courtesy call. When you returned, the buggy was

cleaned from the front end of the shaft to the farthest part of the rear tire. We want to bespeak for the automobile, the same studious attention and the same kind regard, rather than let your car suffer depreciation because of your lack of pride in its appearance. Maybe we can arouse your sympathy by saying that the automobile is under greater stress and strain than your buggy ever dreamed of. The motor car of the present day possesses a body that was first washed with acid, in order that every indication of rust might be removed, and also, that ever incipient cause of rust might also be effectually taken away. After the acid bath, at least four or five coats of rough paint are applied, and these are, in turn, rubbed until the surface is so smooth that the reflection of a light is even and uniform throughout. The final painting and varnishing operations are carried out in rooms of fixed temperature, and under the most exacting conditions. No buggy or cutter was ever given the same minute service in its manufacture that is constantly accorded the automobile, and so, if for no other reason, your automobile should be well looked after, because in the first instance, it is of gentler birth than the buggy. Then you must remember that horse-drawn vehicles never travelled at great rates of speed. They never struck obstacles with the same force, nor did they have dust, dirt and grit flying against them with anything like the same energy. If you expect strenuous services, you must give strenuous care. We know we can appeal to your pocketbook by stating that there is no reason in the world why the glossy finish of the car should not be retained for a very long time, if you are at all thoughtful and tidy. Here are a few simple rules that you can follow without any outlay of money.

The top, if made of mohair or any rubberized material, should be cleaned with pure soap and water, but be careful that all the soap is rubbed out. The upholstery, no matter whether it is tufted or pleated, should be gone over thoroughly with a brush. Dirt will not hurt genuine leather unless it is allowed to become clogged so that if you remove the dirt after each trip, your leather will constantly retain its original appearance. The carpets in the car will be much improved by the use of turpentine for clean-up purposes. On the body of the machine, we suggest warm water, applied so that every particle of foreign matter is removed before any polish-

ing with chamois or soft cloths takes place. If you cannot get warm water, cold water serves almost as well. The nickel parts of the top and engine and body, and also of the accessories, can be given an extremely beautiful lustre with any polish used on your household table ware. A clear, bright windshield is a joy forever, and all that it is necessary to secure this lasting happiness is a chamois leather and pure soap. You will find a number of products advertised for the cleaning of glass. The motor of your car is best handled with a gasoline spray. There is no occasion at all for getting your hands dirty, if you will wipe off the engine with waste, the best quality of which can be secured from factories turning out hosiery. Water will remove all dirt from the cuts and abrasions of your tires, and there are a great many cements that will close them up. If for any special reason you desire a particularly spick and span appearance, we would suggest the use of a tire paint compounded from any materials productive of a grey color. A small amount of expense in the purchase of carriage fasteners, will make your top tighter and firmer for all winter and summer purposes, and incidentally will prevent tearing and ripping. If, however, any of the curtains should become torn, a small patch, quickly applied, may be the prevention that spells a pound of cure. Perhaps you know that wind has been responsible for destroying a great many side curtains in places where a split or a tear has been neglected.

We did not intend in this article to jump from body care to mechanical care, but we have been asked to say something about self-starters. In most of the electric cranking motors the current goes through the brushes from the storage battery, and sometimes these brushes cause inefficiency through failure to make a good contact. If your electric motor seems to be wanting in power, you had better examine the brushes carefully and see that the point of contact is sufficient for the transmission of energy. Of course, sometimes one of the cells becomes weak and the other ones find it impossible to develop enough power for turning over the motor. This condition calls for the services of an expert repairman. There is one other difficulty that may arise, and that is a particle or two of dust between the contact points. I suppose this would seem like a very trifling fault, but it has infinite possibilities in so far as the creation of trouble is concerned.

AUTO.

THE DAIRY.

Prices at Public Auctions.

Holstein sales in Canada compare favorably with those across the line. The well-bred, heavy-producing animals command a good price. At a Philadelphia sale, 64 Holsteins brought an average of \$168. The top price was \$400 for a bull calf born July 5, 1916. At the Alleghany County Breeders' sale 24 animals were sold for an average of \$191; the top price being \$550 for Emma Segis De Kol. The Sissons' Consignment sale held at Poughkeepsie, New York, early in February, was considered a success although the average price was not particularly high. Eighty-one animals were offered and brought a total of \$9,372. The top price was \$350 for the bull King Ormsby Pontiac Korndyke. The New York State College sale of Holsteins was held about the middle of February and the average price was \$371. Choice Model Glista brought \$1,500. At Lincoln, Neb., 80 animals were sold at an average of \$132, and at St. Jacobs, Ill., 50 Holsteins averaged \$157. At I. N. Howe's sale, Morsley, Ont., the average price was \$162.85.

Good Cows Plus Fifty Per Cent.

EDITOR "THE FARMER'S ADVOCATE":

The man familiar with cows may make a fairly close estimate of what any one in a given herd will give, possibly per day, per month or per year. Does it follow she is the "best" cow? It depends somewhat on what the owner is after; he may look for a large flow of milk, he may require plenty of cream, or, wisely, he may expect a substantial profit above the cost of feed. So your cows, as a herd, may "average" 6,000 pounds of milk and 200 pounds of fat, but is each one earning a good profit? Cow testing, checking up each individual, will answer this and many other questions. It will also help, as it has helped many dairymen, to add at least fifty per cent. to their income from the same number of cows, because they keep those that are known to be efficient. Your average may be 7,000 pounds, but in three years perhaps you can make it over 10,000 pounds, but it won't be unless each one is up to a good standard. Write the Dairy Commissioner, Ottawa, for milk record forms. Your letter does not need a postage stamp.

C. F. W.

HORTICULTURE.

Plan your garden first, and then procure the required amount of seed from some reliable source. Be particular about the seed, so much depends on it.

It will pay to spray and spray well again this season. It will also be wise to buy the spraying material early and have it on hand. Rush orders cannot be depended on this year; delivery is too uncertain.

Orchardists should be busy pruning now on every occasion when the weather is favorable; there will be little opportunity for such work when the spring opens up, and the brush should be drawn away before it is time to apply the dormant spray.

Under certain conditions Prof. L. Caesar, Provincial Entomologist, recommends postponing the dormant spray until the buds are bursting; this is to more effectively combat scab. Read the article on this subject in the issue of March 1.

Start as many kinds of vegetables as possible in boxes and flats in the house or purchase the young plants from gardeners. It will pay well indeed to have plenty of vegetables for the table this season and it will pay better still to have them early.

Perhaps the "Johnson" method of orchard cultivation can be advantageously applied on many farms this spring. This system consists in cultivating every alternate space between rows of trees and leaving the remaining areas in grass. It saves in labor and seed for cover crop.

Gardens on the farm are seldom too fertile or too well prepared. A small garden well looked after will yield more than a larger though neglected one. Put on plenty of well-rotted manure if it is available and if not horse manure will do all right. Make the soil fertile, work it deeply, plant the seeds early, hoe and cultivate frequently and keep down the weeds; in these respects the farm garden is frequently neglected.

In spite of all the pessimism that prevailed among fruit growers at the beginning of the war, prices have remained as high as usual for most classes of fruit and have mounted higher for others. It has been thus for the last thirty or forty years. There have always

been those who could see ruin ahead, but to the good, careful growers the impending disaster is like the pot of gold at the foot of the rainbow—always receding.

Mosaic Disease of Tomatoes.

The Mosaic disease is seen in tomato leaves when the plants are about a foot high or later. It is not a leaf spot or blight, but consists of a general unhealthy condition of the leaves, indicated by light or yellowish-green areas with dark green, normal areas between. Since the lighter parts are not so vigorous, the normal, healthy areas often grow faster, thus producing an irregular or blistered effect. Diseased plants are weaker than healthy plants and set less fruit. This is not a serious disease generally, but it is prevalent enough in a number of cases each year, and sometimes causes considerable damage.

The disease appears to pass the winter in two ways: (1) in the field, in the soil or in old plant remains; (2) in the seed bed. The first does not seem to be of serious importance, but it is not advisable to grow tomatoes on land where the mosaic disease has been bad during the previous year. Seed-bed infection, on the other hand, seems to be responsible for all the bad cases of the disease yet seen. The common practice of adding new soil to that of the old tomato seed bed is what causes the trouble, since the disease germs still linger in the soil. Danger from this cause can readily be avoided by completely changing the seed bed soil as soon as the disease appears in the field. This discarded soil is apparently harmless for other plants.

A more extended account of this disease has been given in the Central Experimental Farm Reports of 1915 and 1916.—Experimental Farm note.

How We Grow Strawberries.

EDITOR "THE FARMER'S ADVOCATE":

We have had success with both spring and fall planting of strawberries, but we prefer spring planting generally, for a year from the following June we have the bumper crop.

We prepare the ground by having it a rich summer fallow, and then we plant rows four feet apart; and, though some prefer them two feet apart in the row, we do not like them so far apart, as closer, they form in a body sooner. The patch should be kept well hoed and cultivated free of weeds, both before and after the crop is harvested, but it should never be disturbed after the buds are formed. After the ground has frozen