

acre. At the Ontario societies have been tested buckwheat has proved not quite so good as

any past occasions to as we are experiencing now acquainted with roughage for cattle, passed along with clover; it can be sown in idle land, and in an abnormal year, a be left unsown until the weeds and grass into subjection.

June Japanese panicle yielder, but if seeding r July 1 the Hungarian. Dr. Zavitz reports at Guelph from course millet can be sfactory results. From re is considered about

t considerable land to es should be planted. planted in Middlesex ne, and it made good sacrifice some volume e autumn may be an s safer to use an early, or a variety that will

fall-plowed fields have perhaps, in the end, a t would be the wisest

Ontario is generally e land continues wet t or millet there will

Many will be inclined ng oats, corn and roots cases early-maturing t in touch with your

learn the opinion of and varieties. They e the number of days different varieties to

aste when the land will be more gratify-

FARMERS AND OWNERS.

Share Farming.

There are different the one way to work shares, and the other worked a farm both tions under which I

the one-third share ould furnish the farm rnish all the seed to expenses in regard to his property. The one-third of all that of all the increase had to pay were as k on the farm and ne; paid one-third f binder twine; did re insurance on my privilege of selling e farm.

e farmer would need y valued, then each ear half the losses d raised on the farm, the insurance on the ould insure his own n them. Of course, f a farmer's son is he son ought to have outside. I think take on both sides; along. Of course, t is just as well for to take some good er can see where he ng the farm, there so the only way to

J. M.

Partnership.

t cases with regard, it is quite diffi- one to suit I. T. of March 27. One ers, more especially st on getting your elieve his working sier for him to live

retired. This step is unwise, and I have too often seen it taken with very unsatisfactory results.

There is one farm which I know of particularly that is run on the partnership basis, and it is giving very good results. This farm consists of 150 acres. The father managed the affairs until his son became of age, and at this period was obliged to turn the whole ranch over and move away. The boy did not like the idea of his father quitting him all of a sudden. Of course, there had to be something done as "Mac" was about to do the same as his father did in his day—he had chosen a partner and had to provide a home for her, as he did not like the idea of bringing her to live in the same house with his parents. This is a very sad mistake too many young people make. It is very seldom seen or heard tell of where two families can live in harmony under the same roof, and once they disagree there will be strife and hard feelings for a long time. This young man of whom I write was wise and built a small but comfortable house for his parents, not in town but right on the old homestead, and, as they did not belong to the wealthy class, instead of raising a mortgage which would leave the son heavy in debt they drew up an agreement which called for a certain share of the returns to go to the parents as long as they lived. The old folk kept the wheels turning when the young couple were away, and never wearied of trying to do them a good turn.

I think if more of the parents would try to arrange matters, and show their boys they are willing to let them try their luck and not keep them as little boys until they are up in the thirties, there would not be so many of our good young farmers drifting toward the city.

Carleton Co., Ont.

"HAL."

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Operation of the High Tension Magneto.

The only parts of the magneto that require oil are the two bearings supporting the shaft, and the bearings on the distributor spindle, and these should be oiled very sparingly. Two drops of oil are enough for each ball bearing at one time, and should not be applied oftener than once per month. You are specially warned against flooding the magneto bearings with oil for the reason that the excess oil will get on the insulation of the high-tension wire and short circuit it. Many magnetos have been ruined in this way. Never allow the magneto to become damp, for moisture not only reduces the insulation but is liable to rust the armature tight to the magnet pole pieces. If exposed to the weather or to dirt, the instrument should be provided with a rubber, leather or brass cover. Never cover magneto with sheet iron.

Never oil the circuit breaker or circuit breaker mechanism, unless for a drop of sperm oil that may be applied to the cam roller by means of a toothpick. If oil gets on the circuit breaker contact points, it will cause them to spark badly, resulting in pitting or destruction of the points. If the oil is occasionally applied to the cam roller or should oil accumulate on breaker points, the breaker should be rinsed out with gasoline to remove the surplus. Pitted or carbonized contact points are capable of causing much trouble, and gummy oil or dirt will develop this trouble quicker than any other cause. Use only the best grade of thin sperm oil on the ball bearings. In the course of time the circuit breaker contact points will wear or burn, causing imperfect contact and too great a separation between the points. The contacts should be examined from time to time, and if rough or pitted should be dressed down to a flat, even bearing by means of a dead smooth file, and the distance readjusted. The contacts should not bear on a corner or edge, but should bear evenly over their entire surface to insure a maximum primary current.

The amount by which the contact points separate is of the utmost importance to the successful operation of the magneto, as points that open too far will generally cause the cylinder to overheat. Always maintain this distance equal to the amount specified by the maker, but in the absence of his specific instructions observe the following:

The breaker points should just barely open. About the thickness of a piece of writing paper is correct for the "K. W.," and about .5 mm., or 1/50 of an inch for the Bosch.

See that the spring that forces the cam roller into contact with the cam has not weakened nor broken, and also observe the condition of the cam roller.

Sometimes the cam roller furnished with the magneto will be soft, and will develop a flat spot. If the roller is flattened a new one should be substituted for it, as such a condition will change the time, and result in misfiring. There should be no lost motion in the breaker mechanism or loose joints. Try these occasionally, and if much worn they should be renewed, as worn joints cause the timing to change. The engine is stopped by short circuiting the primary circuit to the engine frame. This control is usually affected by means of a wire run from the primary terminal of the magneto to one contact of a switch, the other terminal of the switch being connected with the engine frame. When the switch is closed the magneto is short circuited, and stops generating. Wear of the gearing causes backlash or lost motion, which results in the magneto sparking out of time. Slipping of the shaft coupling also causes a change in the timing. See that the keys or

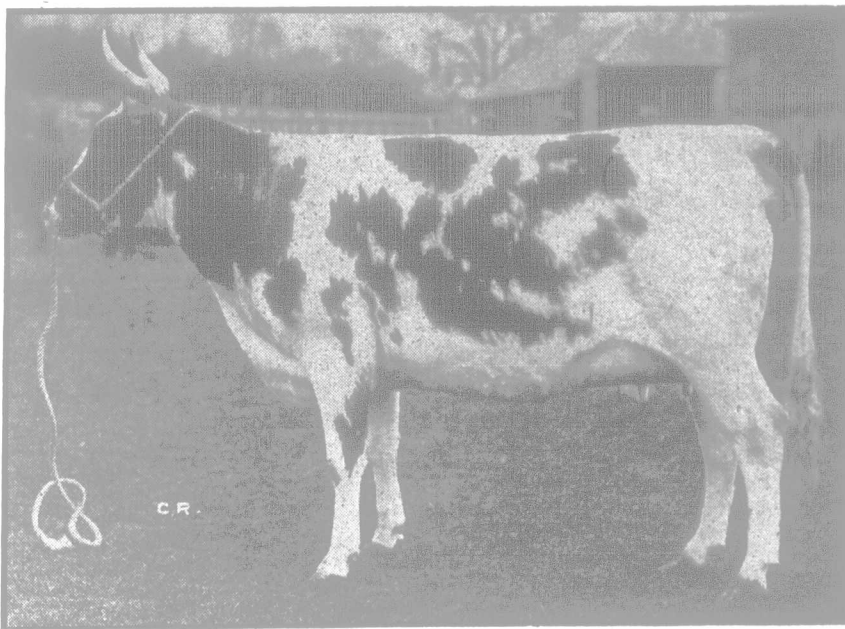
pins are in their proper places. If the bearings are much worn, the armature will strike the pole pieces. This hammering will result in the destruction of the armature; provide the magneto with new bearings immediately after knocking develops. If the gears that drive the magneto are removed for any reason, care should be taken to put them together in exactly the same relative positions that they were in, before dismantling.

Always mark the teeth of the gears before taking apart; that is, scratch a tooth of one gear, and also the two teeth of the other gear that lie on either side of the first tooth. If marked in this way it will be an easy matter to get the gears meshed in the proper relation when the machine is reassembled.

Do not put oil into the distributor, as oil will surely short circuit the high-tension current. After the magneto has been in service for some time, carbon dust will collect in the distributor from the wear of the revolving brush. If the dust is not removed frequently short circuits are liable to take place, which will result in misfiring. The distributor cover should be removed about once per month, and the interior wiped out with a handkerchief moistened with gasoline; clean off brush and see that it makes good contact.

Make sure that the brushes are not stuck in the holders so that they cannot make proper contact with the segments of the distributor or the slip rings on the armature. Gummy oil or rough spots on the brushes will cause sticking, and should be remedied by scraping or by rinsing in gasoline. See that the high-tension cable is in good condition and does not touch metal work of engine or of magneto at any point, causing a short circuit. Do not allow oil to be thrown on the high-tension wire, as oil rots the rubber insulation rapidly, and if the insulation becomes oil soaked the current is liable to jump to the frame work or across the wires themselves; leaky high-tension cables are the cause of much trouble in the ignition system.

High-tension magnetos produce a spark of different character than that developed by battery coils, the magneto spark being of lower voltage but of much greater volume than the battery spark. This results in a difference in the adjustment of the spark gap of the plug, the lower voltage of the magneto demanding a shorter gap. If the spark points of the plug are too far apart the compression in the cylinder will prevent the spark from passing, which will either cause the engine to stop or misfire. If the spark gap is long enough to suppress the spark, sparks will be seen jumping across the safety gap of the magneto.



Grace 3rd.

Champion Ayrshire cow at Kilmarnock, 1919.

The spark gap distance most commonly recommended by magneto manufacturers is 1/64 of an inch, or a little greater than the thickness of an ordinary business card, which is about 1/32 of the gap usually specified for the battery and coil spark.

Do not attempt to take the magneto entirely apart unless you are an expert in electrical matters, and you are especially warned against removing the magnets from the frame. All the parts that need adjustment by the user are arranged so as to be readily accessible, and any amateur tinkering with the armature or magnets will place matters in a far worse shape than they were in the beginning. Examine spark plugs occasionally and see that the spark gap has not increased from the original 1/64 of an inch by the burning action of the spark, or by the warping of the plug.—From "Gas Engine Trouble and Installation."

THE DAIRY.

Warm milk readily absorbs odors. Do not leave the can of milk near the barnyard.

Those calves which have a slight touch of scours will be benefitted by adding lime-water to the milk.

Mixing warm and cold cream is not a good practice. Cool the cream as soon as it comes from the separator.

It does not pay to dog the cows, but yet a well-trained dog may be used to advantage on the dairy farm.

Feed the calves before the milk gets too cold, if you would avoid digestive troubles and their attendant disorders.

In order to enhance the cream cheques next winter it is advisable to provide corn silage or roots in abundance for the succulent part of the ration. These feeds, along with clover hay and a little grain, will assist in getting the best results from the cow.

Are you doing all you can to market high-grade milk or cream? Remember that your can of lower-grade dairy product will tend to lower the grade of the entire vat of milk or churnful of cream. It is impossible for the cheese or buttermaker to manufacture a high-grade product from low-grade milk or cream.

The milking machine is a labor-saver and some dairymen have been using it for a number of years with satisfaction. It is essential, however, with any make of machine, that it be handled properly and kept thoroughly clean. Defective milk with a milking machine is as often the fault of the operator as it is of the machine.

It is estimated that a two-year-old heifer will give about seventy per cent. as much milk as she will when mature; a three-year-old, eighty per cent.; and a four-year-old, ninety per cent. At five years of age a cow is, as a rule, at her best. Some two-year-olds make a poor showing in their first lactation because they were stunted as calves and yearlings.

The present price of cheese and butter is unprecedented for this time of year. This is due to the supply not equalling the demand. Give the cows a chance to do their best. This may be done by changing the pasture occasionally; feeding grain, hay or silage when the grass commences to dry up; seeing that the cows have water regularly; giving a liberal supply of salt, and milking regularly.

Success Comes to Those Who Try.

The ambitious person ever endeavors to excel. No task is too hard for him to undertake and with each success he gains strength for greater achievement. Canadians have produced their share of champion cows, fat bullocks, grains, etc., all honor to those who succeed. There are those who contend that the winning of these championships is the result of good "luck" or they just happen. However, behind each winning is the man or woman who has given many hours, days, months and years of careful planning, and working with a definite goal in view. One reason why we do not have more high record cows, more champion steers, more bushels of grain that will win in world competitions is due to lack of an ideal, energy and concentrated effort on the part of the individuals. Some say that the moneyed men have the advantage as they can afford to buy the best cows available and then purchase or grow the feeds necessary. True, they can, but are the champion cows always found in the herds of "gentlemen farmers." It requires something besides

money to breed, feed and develop animals that can win against all comers at the pail or in the show-ring. Champions crop up from unexpected places which should be an encouragement to every ambitious man. Elaborate barns, rich fertile fields with luxuriant crops are not the essential. Although the crops are needed. Cows which have turned out champions in many breeds of kine have changed hands at very moderate figures well within the reach of the average dairyman. Rolo Mercena De Kol, the Oxford County cow which recently caused a sensation in the dairy world was bought by her present owner at below the four-hundred dollar mark. Other instances of similar nature have occurred. The above mentioned cow was not especially fitted for winning a championship; she performed the feat under what might be termed ordinary conditions but she possessed the blood of heavy producers and she was in the care of a young man intensely interested in his work. The producing ability of a herd may be increased by the use of a sire of right conformation and ancestry. But, breeding above is not enough. The calf, heifer, cow must be fed on a ration which produces growth, substance and later milk and fat. There is always room at the top and even if some cows have reached a high rung in the production ladder there are yet a few rungs to climb. In your herd may be a cow capable of going a rung higher than such cows as May Echo Sylvia, Rolo Mercena De Kol, Jemima Johanna of Riverside, Sunbeam of Edgeley, Jean Armour, etc. Too many dairy-