tant part of our agriculture than it is even at the present time. If, on the other hand, the milking machine proves a failure and cannot be adapted to the needs of the average dairyman, this industry is bound to retrogade in the years to come, in so far as the quantity of the output is concerned. We have reached a stage when either more and cheaper help must be forthcoming, or the work must be lessened by machine milking or many farmers will be compelled to change to some other branch of agriculture in which not so much work is required to make it a success. There is every hope, however, that a cheap and thoroughly practical milking machine will be forthcoming at no distant date. There is a growing tendency to increase the production of butter, notwithstanding the fact that cheese prices are comparatively high. The advent of the farm separator has made it possible for the farmer to make butter at a greater profit than heretofore. It enables him to raise young stock on the farm and maintain his land in better condition.

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Power on the farm is always of importance, and is becoming increasingly so. A new interest has been added to this question by the freeing of denatured alcohol from revenue tax in the United States, thus making it possible to produce this product at a price at which it can be profitably used for manufacturing purposes. It can be used as fuel and as a substitute for gasoline in electro-gasoline engines. The cost is a trifle and will be less than gasoline. The sugar beet factories in the United States have already taken steps to instal plants for manufacturing alcohol out of the uncrystalized molasses, which has heretofore been a waste. As compared with gasoline, some recent tests have shown that in an engine of given cylinder dimensions and speed, alcohol, when properly used, will produce a greater output than the former, to the extent of some 20 per cent., as one expert claims. It is also believed that with an engine built for the purpose the thermal efficiency of alcohol may be raised to and above 30 per cent., while with gasoline the efficiency would be nearly 10 per cent. lower. In point of safety, too, alcohol has considerable advantage. It works well in engines, giving very clean combustion. As to its comparative cost data differ, some tests showing a decided advantage for alcohol over gasoline. All sorts of vegetable waste as well as surplus grain in times of exceptional crops can be utilized for alcohol-making. Some improvement is, however, necessary in the method of manufacturing. It must be cheap, simple and effective.

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In so far as Canada is concerned, alcohol for manufacturing purposes has paid no duty whatever since 1889. The trade in this commodity has been controlled by the Inland Revenue Department. Alcohol has been purchased from the distillers at 49c per gallon and rendered unfit for use as a beverage by an admixture of wood alcohol. This mixture produced methylated spirits, which has been sold by the department under certain conditions at $1.10 per gallon for No. 1 grade and $1.50 for No. 2. At the beginning of August a reduction to 90c and $1.25 per gallon was made. Experiments are now being conducted with a view to obtaining a more economical de-naturing mixture, so that a further reduction in price can be made. However, at these prices in Canada, alcohol cannot compete with gasoline. What is wanted in Canada is not "free alcohol" but cheap alcohol. Prices must go down over fifty per cent. before an alcohol denatured to protect the revenue can be furnished as an illuminant or fuel. In some districts of the United States it has been shown that alcohol can be produced at a cost below 25c per gallon, and there seems to be no good reason for believing that it cannot be produced in Canada equally as cheap.

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Coming to the more social and business side of farm life, the new features of note are developments in free rural mail delivery and rural telephones. Canada has not made a start in the former yet and from the present attitude of the post office authorities in regard to it is not likely to for some time. Rural mail delivery is now the common thing in most of the States of the Union, and miles of new routes are being established every year. The influence of this movement will eventually effect things upon this side of the line and bring about free rural delivery in the older parts of Canada at least, in spite of the powers that be. A new development in rural mail delivery in the United States is that of bringing the automobile into use for distributing the mail. The Post Office Department at Washington is now making a test of the automobile for this work, though individual carriers have used it in some sections where the roads are good for several years. A special automobile motor car is being tried, which can be supplied to country postmen at about $600 each. With the automobile brought into use for this work, a more rapid and better delivery service should result.

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The rural telephone movement is gradually spreading over the country. Recent legislation at Ottawa, compelling trunk lines to give connection with local companies, has made things easier and placed the rural phone in a position to do much better service for the farming community. The rural phone is of the greatest possible advantage to the farmer, both socially and otherwise. They can be conducted cheaply and will return a good interest on the investment.

J. W. W.

Fall Wheat Growing

To insure a probability of success it is essential that the various stages of preparation during the next few weeks should be thoroughly and intelligently carried out. Experience shows that wheat generally thrives best when sown on an inverted clover sod, a cultivated pea stubble, or a bare summer fallow. With our present methods of farming the last named has been largely discarded, as being too expensive. The plowing down of clover and other green crops should be done at least a month before seeding. If the land is worked up, and sown immediately after plowing, the green stuff will not have decayed, but will be heating to such an extent as to prove very detrimental, if not entirely ruinous to the wheat crop.

The old practice of plowing the ground two or three times, has, in my opinion, but little to recommend it. The frequent plowing makes the subsoil too loose and open, so that it becomes more or less saturated with water, which by freezing and thawing in winter heaves the plants and kills them. Also in times of drouth the soil dries out very quickly, with serious injury to the crop. The ideal seed bed then is pulverized at the surface merely, and is compact below; the roots thus coming in contact with solid earth, which holds the moisture much more readily and is in a position to assimilate the available plant food, and so enable the plant to make an early and rapid growth. Moreover, the grain does not lodge so easily and a better stand of grass seed is obtained. The land should be plowed quite shallow as soon as practicable after the previous crop has been removed, and followed by frequent surface cultivation. There are three reasons for the latter operation: the conserving of moisture, the liberation of plant food, and the germination of weed seeds.

THE TIME FOR SOWING

depends largely on circumstances. When sown too early there is danger of too rank and succulent a growth, especially on very rich lands. Therefore, other things being favorable, the poorer the soil the earlier seeding may be done with safety. Early sown wheat being, however, subject to attack from the Hessian fly, it is usually well to wait until after a slight frost. Generally from the first to the twentieth of September will be the best time. Although no hard and fast rule can be laid down, it may be broadly stated, as the result of observation, that while early sowing is often better than late sowing, late sowing is seldom better than early sowing.

The quantity of wheat sown per acre depends chiefly on the character of the soil, the size of the grains and the time of sowing. As a rule, one and one-half to two bushels will be sufficient. On rich soils less seed will do than on poor soils, as a thick seeding will tend to increase lodging. With fewer plants they grow naturally; the sun gets in more, the straw is heavier, and the plant is healthier. If sown thickly it tillers little, and produces few heads per plant. When sown thinly it stools more and the heads are larger, often enough to counterbalance the thin seeding. If a variety having small grains is sown less seed is required. As the result of nearly 400 determinations it was found that there was about an average of 12,000 kernels in a pound of wheat. In some samples there was less than 8,000, while in others 24,000 kernels to the pound. One bushel of seed in the one case being equal to three bushels in the other. When sown early a smaller quantity will do, as each plant will have time to grow larger; will stool out and cover more ground.

The two main factors in obtaining a large yield are a fertile soil and good seed. A judicious selection and grading of seed wheat will work wonders in this direction. Care should be taken in the first place to secure the seed from that part of the crop that has given the most satisfactory returns. This may be done by storing a load or two where it could be specially set apart for seed; then by making a free use of the fanning mill a choice sample could be easily obtained.

J. H. M.

Elgin Co., Ont.

New Proverbs—Uneasy lies the head that wears a false hood. Actresses happen in the best regulated families. If in doubt about the time, look at the kitchen clock and run for the train. Many are called, but few get up.