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WILL BE SPENT ANYWAY.

In practice it works out almost invariably that no matter how much the assessment of a municipality is raised, and the revenue thereby increased, the extra money is always spent. It has been so in St. Catharines and will no doubt continue to be so.

A few years ago, it will be recalled, a campaign was conducted here to advance the assessment. It was argued that much of the property was getting off too easily and that if the assessments were increased the city could reduce the tax rate. The increase was made and made to such an extent that from eight and nine millions the total assessment was advanced to last year's fifteen millions. And yet how has the whole process worked out? The fact is that the tax rate has gone steadily up till it is the highest now it has ever been.

Furthermore, the money raised by the increase in both rate and assessment has been used in one way or another so that so far as borrowing powers is concerned the city has only a margin of \$274,000 against which about \$60,000 is to be charged as last year's percentage of local improvements. The Public School Board want most of what is left.

It will be seen that while in theory the raising of assessment looks good, in fact it is only another way of taking more money out of the people's pockets for expenditures which could be lessened.

A natural increase in the assessment of a growing city is inevitable, but it should not be unduly promoted, for we venture the opinion that no matter how much revenue is raised some means will be devised of spending it.

GETTING THEIR JOBS BACK.

The Wingham Free Press, discussing the employment of returned men, says:

One of the first essentials in reconstruction is to get every returned soldier into the ranks of the producer or into permanent profitable employment at the earliest possible moment. Every inducement should be offered to the men not to put off the beginning which will have to be made sooner or later with regular civilian work.

Especially ought they to be encouraged to settle down again at the work to which they have been accustomed, and in this direction the responsibility rests with the employers to see that every assistance is forthcoming. Reinstatement of enlisted men was generally implied, if not specifically promised at the time of their enlistment.

PRINTERS LEAD.

The willingness of employers to take back into their employment the men who left them to go overseas is testified to by such announcements as that of the Employer-Printers' and Bookbinders' Association which comprises some forty printing establishments in this city. The members of this Association have publicly pledged themselves to reinstate all enlisted employes capable of following their occupations, and to give a full and fair trial to those who, having suffered some disability in the war, are doubtful of their capabilities. It will be necessary for the former employes of these firms merely to make application for their old jobs in order to get them back and find others more suitable to them.

The example of the Printers' Association will doubtless be followed by all the other trades and professions.

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GRAIN MIXTURE VALUES

Oats 34 Lbs., Barley 48 Lbs., the Best Combination.

By Opening Surface to Rains, Many Dollars May Be Made by Increased Crops—Full Directions Given Regarding Starting Early Celery.

(Contributed by Ontario Department of Agriculture, Toronto.)

A LARGE amount of experimental work has been conducted at the Ontario Agricultural College in testing grains both singly and in combination for the production of grain. The results of experiments indicate that there is practically no advantage in growing in combination two or more varieties of grain of the same class. Quite decided advantages, however, have been obtained from certain combinations of grain of different classes.

In an experiment which extended over a period of five years in which oats, barley, spring wheat and peas were grown separately and all the different combinations which could be obtained by having two, three and four grains in each mixture, it was found that in about ninety per cent. of the experiments the mixed grains gave a greater yield per acre than the same grains when grown separately. Oats and barley came at the head of the list, giving slightly over two hundred pounds of grain per acre more than when either one was grown alone.

It is important to use in combination varieties which will grow satisfactorily together and which will mature at the same time. Such varieties as the O.A.C. No. 21 barley and the Daubeney, Alaska or O.A.C. No. 3 oats give very good results.

Of twenty-five different mixtures with different proportions of oats and barley used for five years in experimental work it was found that the greatest returns were obtained by using one bushel, by weight, of each or a mixture of 84 pounds (24 pounds of oats and 48 pounds of barley).
 —Dr. C. A. Zavitz, O. A. College, Guelph.

Open Your Surface Drains.

Drainage—either surface or underground—is essential if farming is to be profitable. With the dearth of labour and machinery, the depleted labour market and the increased cost of underdraining, progress is retarded somewhat. Everything, however, has been done which growing crops permit. Yet forty per cent (40%) of Ontario is in urgent need of drainage. The underdrainage of so much cannot be accomplished in a short period of time, hence that which renders timely service, even though only of temporary duration, must be taken advantage of.

Surface draining must be resorted to. Several lines will be necessary. Indeed, if the majority of furrows open in the ploughed ground and connect them by opening up cross channels through the lower-lying parts of the field—cleaning out all the furrows thus traversed—a system would be formed whereby the water could be carried to outlets quickly, efficiently and satisfactorily in the early spring.

Not alone to level fields or farms does this apply. Large areas of Ontario are quite rolling, hence naturally drained. Yet, a small open ditch or deep furrow will pay for the trouble necessary to make a channel by the greater ease with which water can escape, thus permitting quicker disposal of the same, hence hastening the drying of the land.

These surface drains should be opened at least once per year; the best time to do so is in the late autumn after the fall work is done. Labour can be obtained then with less difficulty and at less cost. The work may be done by hand or by the use of a team if water does not prevent.

Starting Early Celery.

The starting of early celery should be done immediately as the seed is slow in germination; requiring about four weeks before ready for the first transplanting. The seed should be sown in flats in a soil very sandy in nature. This soil is pressed down about 1/2 an inch in the box and then the celery is sown broadcast over it. The box is then watered through burlap and is left covered with burlap or brown paper until the seed germinates. When the plants are showing two or three leaves they are transplanted into flats, 2 inches each way in soil that is sandy in nature but well-fertilized with good manure and commercial fertilizer, such as a nitrogenous nature. Good fertilizer is necessary at this stage so that the plants will not receive any check. The plants should be thoroughly sprayed with Bordeaux Mixture when they first break into third or true leaf, so that they will be kept free from blight, and every week after being set in the field.

Another method in use among growers is that of sowing in hot beds. The seed is planted in rows about 4 inches apart; in making these rows they take a piece of wood about an inch wide and press it down on the soil making a furrow about 1/2 of an inch deep in which the seed is sown. It is then covered with burlap or paper as stated before.

Celery to germinate properly should be kept at a temperature of 70 degrees until the young plants are growing in good shape, when it is well to lower it to 55 or 60 degrees.
 —A. H. MacLennan, Ontario Vegetable Specialist.

HINTS ON GETTING MILK

Three Essentials in Cooling Explained.

Make That Spring on Your Farm a Profit Question—It Should Be Enlarged, Cleaned Out Well and Cribbed in an Efficient Way.

(Contributed by Ontario Department of Agriculture, Toronto.)

BACTERIA, larger or smaller numbers are always present in freshly drawn milk. At temperatures between 50 deg. F. and 68 deg. F. (blood heat) they grow and multiply rapidly, causing the milk to become quickly spoiled. As the temperature falls below 50 deg. F., the bacteria become less active, the changes caused by them are less marked, so the milk keeps sweet and in good condition for a longer time.

| Temp. held. | Bacteria Per C.C. after 24 hours. |
|-------------|-----------------------------------|
| 40 deg. F. | 250,000 |
| 50 deg. F. | 1,170,000 |
| 60 deg. F. | 24,800,000 |

The above table shows how low temperatures check bacterial multiplication in milk. This is the scientific fact upon which the practice of milk cooling is founded. In practice a dairyman should bear in mind three things in connection with the cooling of milk: First—cool milk with as little delay as possible after it comes from the cow. Second—cool milk to 88 low temperature as possible, say somewhere between 40 deg. F. and 50 deg. F. Third—cool milk with as little contamination as possible from outside sources, such as dust, dirty utensils, water splashing, etc. If these three points were regularly attended to by all dairies a marked improvement in the general quality of our milk supplies would be noticeable right away.

The quickest way to cool milk is to run it over some form of tubular or surface cooler, built by hand, immediately it is drawn from the cow. In this way milk may be rapidly cooled to within two or three degrees of the temperature of the water used. The objections to this method are: First—cooling water is not available all summer, enough ice should be put up during the winter to ensure the milk being brought to a sufficiently low temperature during the warmer portions of the year.

The importance of prompt and thorough cooling of milk is still insufficiently appreciated by many milk producers. There is no cheaper and simpler method by which milk quality may be improved. H. Lund, B.S.A., O. A. College, Guelph.

Making the Farm Spring More Serviceable.

Fortunately a great many farmers of Canada can boast of a good spring of water on their farms. In some cases it is the only reliable and perennial source of water, and when this is the case it usually receives proper care. Probably, however, in general, the spring is a secondary consideration as a water supply, particularly domestic, and consequently is let "run wild" more or less, and is not, therefore, rendering the service it might if it were properly equipped. The object of this article is to make a few suggestions for the improvement of springs in general.

In the first place the spring should be enlarged, deepened and cleaned out well and then cribbed up in some efficient way. Probably the best method is to get a large concrete or sewer pipe tile or two, about 3 1/2 feet in diameter, and put them down in the spring, cementing the joints well. Put an overflow pipe through the wall of the upper tile close to the high water mark of the spring, and connect the overflow pipe to a tile drain that leads down to a good outlet some distance away. If it is not connected to a drain the open end should be screened. If the spring be in the pasture it should be fenced in and the overflow pipe referred to extended horizontally to a trough outside the fence. The top should be provided with a tight cover made of concrete or heavy plank.

The spring becomes particularly serviceable if it happens to be located on an elevation considerably greater than the house and barns, for then the water can be piped down under the first line of stables, tanks in the buildings. From the tanks the water flows by gravity to the points of service. Or if the supply is great enough and a fall of a few feet can be secured within a short distance, say 20 or 40 feet of the spring, a hydraulic ram may be installed for pumping the water of a spring to the house and barns. Usually it is pumped into a storage tank in the attic of the house or loft of barn, and from these gravitates to the various plumbing fixtures in the house and the troughs and drinking basins in the stables. If you are particularly interested in this subject of the farm spring and how to make it more serviceable write the Department of Agriculture, Toronto, for a copy of Bulletin 267, which tells you all about it. It costs very little for the information except a postal card and a two-cent postage stamp.—R. R. Graham, B.S.A., O. A. College, Guelph.

A silver-plated bell has been anonymously presented to Guildford for use by the town crier on the day peace is signed.

PLANT POTATOES NOW

Increased Yield Secured by Hilling Them.

Good Combs Beekeeper's Asset—Best Are Always Produced During Heavy Honey Flow—Best of Care Should Be Taken of New Combs.

(Contributed by Ontario Department of Agriculture, Toronto.)

EXTENSIVE experimental work, under ordinary conditions, has shown that it is a good plan to use good-sized seed potatoes, and to cut them into pieces of from one to two ounces in weight, and having two, three or four eyes in each piece. It is an excellent plan to throw the freshly-cut pieces in finely ground sand plaster or gypsum and to plant the sets immediately after cutting. The best returns have been obtained by planting the sets in rows about 28 inches apart and leaving the sets singly from 12 to 15 inches apart in the rows. In the average of seven years' experiments it was found in planting potatoes one, three, five and seven inches deep that the highest average results were obtained from planting three inches, and the second best from planting five inches in depth. Under average conditions it is usually wise to plant about four inches but the depth of planting would, of course, depend considerably upon the quality and condition of the soil. If the soil is a sandy loam, the depth of planting may be deeper than in the case of a heavy damp soil.

In experiments extending over a period of ten years it has been found that about four bushels per acre increase has been obtained from hilling the potatoes in comparison with level cultivation.—Dr. C. A. Zavitz, O. A. College, Guelph.

Good Combs Beekeeper's Asset.

An asset to the extracted honey producer is combs, good combs and plenty of combs. It is sometimes a problem to obtain and maintain a sufficient stock, especially if the apiary is being enlarged. Moreover, there are several important problems associated. Fundamentally, good combs are obtainable only when "built" in full sheets of wire foundation. Such combs will come naturally built combs will not stand the wear and tear of repeated honey extraction. Beside being weak and likely to break out of the frames, naturally built combs are usually contaminated with wax, and if not in excess, the presence of drone cells in combs, used either in the brood chamber or in extracting supers, is a source of continued disadvantage. Drone cells in combs are always costly. They may cost swarms; they may dampen the honey-storing instincts (bees are adverse to the storing of honey in drone cells, until there is no other space available) if the drone cells are in the super, their presence induces the queen to leave the brood chamber. It is a maxim to have only combs of all worker cells reinforced with wire; to this end full sheets of foundation are essential and economical.

The best combs are always produced during a honey flow, yes, when there is a surplus coming in, good combs may be produced in any part of the season, just prior to the cropping season; yet, regardless of season, the best of combs are obtainable only on strong colonies. Conversely, weak colonies, without the stimulation of the honey flow, fail to draw out the foundation evenly and fully; holes may even be gnawed in the foundations, which holes, when built in, will probably be filled with drone cells. With one frame of full foundation, to be drawn out, may be supplied alternately with combs of brood or honey. Moreover, the tendency is for bees to bulge the old combs, and to correspond, only partially draw out the foundation of the new comb, perhaps leaving the corners open. The best results are usual when several frames with foundation are grouped on one side of the hive, or of the super given. In order to induce the attaching of the comb to the bottom bar, new combs may be drawn out in the super, over a powerful colony and during a honey flow.

Having acquired new combs, good care should be taken of them. If they are intended for extracted honey production, they should be kept apart from the brood nest, allowing brood to be reared in them. Combs darkened with brood rearing are not considered as wholesome for honey production as are virgin (new) combs. Full evidence that dark combs will darken and hence deteriorate the light grades of honey. One generation of brood in a comb may not injure it for light honey cropping; it is thought by some to toughen and strengthen the comb, yet the more particular producers are equipping with virgin combs for the supers. These choice extracting combs are a valuable asset. Preserved from year to year, they should endure. Although bee labor has not advanced in price, all bee supplies are increasingly costly, hence good combs are to-day a greater asset than ever. Burton M. Gates, O. A. College, Guelph.

Extravagant Use of Straw.

The use of at least a limited amount of bedding for beef cattle is advisable, but the extravagant use of straw, coarse hay, etc., for this purpose should be discouraged. All such roughages that are to be used for bedding, either for fattening or breeding animals, should first be offered them in the hay rack and that which is refused used for bedding. If stover is fed the stalks, while somewhat difficult to handle, make satisfactory bedding material and should be used for this purpose rather than burned or otherwise disposed of.

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