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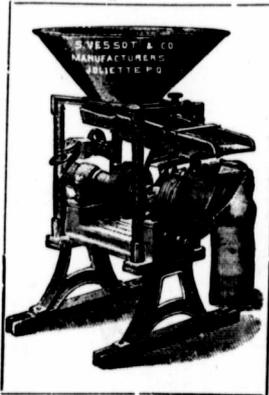
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ADDRESS—

THE FARMING WORLD
Confederation Life Building Toronto.

The Farming World

For Farmers and Stockmen

VOL. XX.

JUNE 24th, 1902.

No. 24

The Coronation of King Edward

THE coronation of King Edward II. which takes place on Thursday of this week, though making him no more king than he is at the present time, will mark an important period in the history of the British Empire. There will be gathered in London representatives from all the civilized nations of the earth and distinguished colonists from His Majesty's world-wide dominions will gather to do homage to King Edward and his noble Queen. The ceremonies connected with the coronation will be conducted on a most elaborate scale and a pageantry has been devised that will revive many of the customs of the middle ages. Because of these elaborate and **showy preparations** many thousands of the nobility and of the wealthy from all lands will gather in the world's metropolis to witness the splendor and magnificence of the occasion. It will be an event long to be remembered by every citizen of the British Empire. May King Edward and his goodly Queen live long to **enjoy the good will and loyalty** of their subjects which will be greatly strengthened by the events of this week.

King Edward became King on the memorable evening of January 22nd, 1901, when the good and great Queen breathed her last. The King entered upon his heritage with a long record of personal service to his country behind him. He was born on November 9th, 1842 at Buckingham Palace. His coming into the world was the crowning joy of the happy marriage of Queen Victoria with Prince Albert of Saxe-Cobourg, and the christening was celebrated at St. George's Chapel, Windsor, on January 25th, with great state and splendor. The infant prince received the name of Albert, after his father, and Edward, after his maternal grandfather, the Duke of Kent. His upbringing was of that simple kind so characteristic of the natural home life with which Victoria surrounded her children. The advice of the late Queen on the upbringing

of her children is worthy of being followed by every home in the land. "They," she said, "should be brought up as simply as possible, and in as domestic a way as possible; that, not interfering with their lessons, they should be as much as possible with their parents, and learn to place their greatest confidence in them in all things; and religious training is best given to a child at its mother's knee."

1875 the King visited India where he was welcomed in a royal and enthusiastic manner by all classes. Thus has the training of the King been such as would fit him to rule over the world's greatest empire.

Coronation Curios.

Now that London, that greatest city in the world, is full of people, many of them Canadians who are attending the coronation of the greatest monarch of the earth it may be appropriate to recall some curious customs and incidents connected with coronations of the past.

When the crown had been placed upon the head of Richard the Lion Hearted it is recorded that great alarm was caused by the appearance of a bat which came out from its hiding place under the church rafters and circled around the throne.

At the coronation of that most unfortunate sovereign, Charles 1st, it was discovered that in all London not sufficient purple velvet could be procured for the royal robes and the furniture of the throne room. The nearest city in which the material could be procured was Genoa but this would have caused a delay of nearly three months at that time so it was decided that the King should be robed in white velvet. When too late it was remembered that this was the color in which criminals under death penalty were arrayed; thus the King's Council establish a prophesy of evil borne out later by the unhappy Charles' execution.

Coronation Postponed.

Just as we go to press we learn that the Coronation ceremonies have been postponed indefinitely, owing to the serious illness of King Edward, who was operated upon on Tuesday for appendicitis. Late reports show that the King is resting quietly after the operation, but it will be sometime before he will be able to be crowned.

God Save the King.



King Edward VII. and Queen Alexandra in Coronation Robes.

The events in the life of the King are too numerous to receive more than a passing glance at this time. At the age of eighteen he became of age and a few months later made his memorable journey to Canada and the United States, landing at St. John's, Newfoundland, on July 24, 1860. In December 1861 the death of the Prince Consort cast a deep gloom over the royal household. King Edward was married on March 10, 1863, to the Princess Alexandra, the eldest daughter of Prince Christian, then Crown Prince of Denmark. This event was celebrated with great splendor and rejoicing throughout Great Britain. In the June of 1865 George, now Prince of Wales, was born. In

which criminals under death penalty were arrayed; thus the King's Council establish a prophesy of evil borne out later by the unhappy Charles' execution.

The Wire Worm and How to Destroy It

By Prof. Wm. Lohead, Ontario Agricultural College

Regarding the history of the wire-worm, etc., in reply to the inquiries from the correspondent in Lambton Co., I beg to give the following information:

Wire-worms are the grubs of long narrow, greyish-brown, or blackish beetles commonly known as skip-jacks or click-beetles. These beetles appear quite frequently in the spring, and the females deposit their eggs close to the roots of such plants as grasses or weeds. The grubs, or wire-worms, on being hatched, feed on the stem just above the true root, or on the roots themselves. They may even attack the seeds of corn, wheat, and other grains. They are easily recognized. They have 3 pairs of short legs, and are hard, smooth, shining, yellowish brown, and wire-like grubs. They are not very fastidious as to their food, and we know of no plant which is immune from their attacks. Many English farmers, however, seem to think that Buckwheat and Mustard are more immune than other plants from their attacks.

On account of their method of working below the surface of the ground, no reliable system has been devised for their control or destruction. Some few years ago, Prof. Comstock, of Cornell University, carried on a series of experiments lasting over 3 years in the endeavor to find out a satisfactory method of treating wire-worms. He tried to combat them along three lines: first, by the protection of the seed; second, by the destruction of the grubs, either by cultivation in clean fallow and supposedly immune crops, and by the use of insecticides and fertilizers; and, third, by trapping the adults (the click-beetles). He tried the following substances as a protection for the seed:

1. A coating of Paris Green and flour.
2. A coating of tar.
3. Soaking the seed in a solution of salt.
4. Soaking the seed in a solution of copperas.
5. Soaking the seed in a solution of chloride of lime and copperas.
6. Soaking the seed in a solution of kerosene oil.
7. Soaking the seed in a solution of spirits of turpentine.
8. Soaking the seed in a solution of strychnine solution.
9. Soaking the seed in a mixture of Paris Green and water.
10. Soaking the seed in a solution of alcoholic solution of arsenic.
11. Soaking the seed in a solution of arsenic and boiling water.
12. Soaking the seed in an alcoholic solution of corrosive sublimate.
13. Soaking the seed in a saturated solution of Potassium Cyanide.

In almost every case the wire-worms fed upon the grain or seed thus coated without injury to themselves; and Prof. Comstock was forced to the conclusion that it was not practicable to protect the seed by means of these substances even were it possible to use them without preventing or retarding the germination of the seed.

Buckwheat, Mustard and Rape, which are supposed by many to be immune crops, were found to be not entirely so, for the wire-worms in some instances fed upon these plants almost as readily as upon cereal plants.

Insecticides were also used in the effort to destroy wire-worms. The following were applied directly to the soil:

1. Kerosene emulsion, and pure kerosene.
2. Crude petroleum emulsion, and pure crude petroleum.
3. Poisoned dough.
4. Bisulphide of carbon.
5. Salt.
6. Muriate of potash.
7. Lime.
8. Chloride of lime.
9. Gas lime.

The results of these experiments showed that as insecticides most of these substances are of very doubtful value. Such a large amount of them would have to be used in many instances as to completely destroy all vegetation; and the cost would be so excessive as to make their application impracticable.

The following methods were found of value:

1. Trapping the wire-worms and beetles by means of lanterns, and in some cases by means of poisoned dough placed under boards in infested spots.

2. Plowing late in the fall, and keeping the earth stirred more or less up to the time winter sets in. By this means large numbers of the newly transformed pupae, which do not become fully hard until spring, will be destroyed. It must not be supposed, however, that all of the wire-worms will be killed by such treatment, for the ordinary wire-worms spend from 3 to 5 years in the ground feeding on the roots of plants before they appear as adult beetles. It is only when the wire-worms are transforming into pupae in the fall that they are very sensitive to disturbance of any kind.

When the worms are numerous in small areas, especially in spots on low, poorly drained land, they may be easily trapped by placing under boards bunches of clover or sweetened bran poisoned with Paris Green.

3. A short rotation of crops, in which the fields are not allowed to remain more than two seasons in grass land, will be found very effective. It is frequently observed that

wire-worms are more destructive during the second season after the sod is plowed up than the first. This is because there is sufficient vegetable matter in the soil during the first season to furnish a plentiful supply of food; but with the gradual rotting of the soil from another season's plowing, the food is removed and the wire-worms then take to the roots of the growing plants. With the breaking up and thorough working over of the grass land in the fall, much of the old vegetable matter may be destroyed.

4. By the application of mineral fertilizers, it is often possible to force the crops in the following season in spite of the wire-worms.

It will be many years yet before the full history of the wire-worm is known, and before the farmer can intelligently combat this very serious pest. The losses which occur through the action of the wire-worm in this province alone may be safely placed at hundreds of thousands of dollars annually.

Will Eat the San Jose Scale

It is generally believed that no good thing can come out of China but that country is likely to furnish this continent with a means whereby the San Jose Scale may be destroyed that will make this land indebted to China ever after. In China there is what is known as a "ladybird" beetle and it would appear that its only mission on earth is to follow up the scale and destroy it. This beetle is now being imported into the United States where it will be propagated and developed by the agricultural department and distributed gratuitously throughout the country to those engaged in growing fruit.

Dr. L. C. Howard, Chief of the Entomological Division at Washington, sent Dr. C. L. Marlitt his assistant to China, where he found the scale in the districts of the country where fruit was grown south of the "Great Wall," but although the destructive propensities were shown it was not allowed to carry them into effect, for the "ladybird" attended so strictly to business that the orchard destroyers had no chance to make any headway.

May Visit South Africa

An Experimental Farm system is under contemplation in South Africa. Lord Milner's secretary has been in communication with Prof. Robertson, from whom he obtained full information as to the character of the Dominion Experimental Farms and the service which they render to agriculture in this country. There is said to be a possibility of Prof. Robertson visiting South Africa to give the people there the benefit of his experience. If so he would be in a position to render great service to Canada as well as to South Africa by noting the opportunities wherever trade might be extended between the two countries.

Orchard Fertilization

Written for THE FARMING WORLD by A. McNeil, Chief Inspector Dominion Fruit Division

The following has been submitted to me: "What, according to your experience, do you consider the ideal system of fertilization for an apple orchard? I know that the practice of most men, even of our best orchardists, is to apply from year to year whatever they can afford, whatever is cheapest in the market, or what they think at the moment the orchard is needing. Is this the closest approach ideally to a system which we can make? What I am striving for is system in every department of orchard management. What is your system of fertilizing the orchard?"

I am a firm believer in a system of doing everything; and orchard work is no exception. Unfortunately, the varying condition of the soil composition renders an exact formula impossible for every orchard; but let us presume that we have the average orchard soil, a clay loam derived from the grinding down of the older rocks of Northern Ontario. This soil contains an abundance of potash and phosphates, with not a little nitrogen. These constituents, however, are not in a form in which they are readily available for plant food. But they are there just the same, and in sufficient quantities to last practically for all time.

If this soil lacks anything, it is apt to be humus and nitrates, and consequently in any system of fertilization humus and nitrates are to be specially considered. Our system, then consists for the most part in liberating the plant food that is already in the soil. This takes the form of cultivation, and the use of cover crops and barnyard manure. There may be exceptional places, light sandy soil, or even light loams where hardwood ashes, if they can be obtained for a reasonable price, would give good results. And possibly lime in the form of properly slaked burnt lime or of gypsum are profitable, but in the main the successful orchardist must depend upon barnyard manure and cover crops.

It will be readily seen that I do not regard the soil of the orchard as simply a location for trees with the expectation of having to supply all the plant food carried off by the crop, or used in the growth of the trees. On the contrary, I regard the soil as a bank, which will yield no interest, but will give every year a portion of the principal for my use. This portion of the principal is rendered available by the usual artifices of the agriculturist. He brings to his help all the forces of nature—the air, sunshine, rain, frost and snow, and the disintegrating powers of fermenting animal and vegetable matter and endeavors to use these to the best advantage.

He produces cover crops partly

for the protection of the plants during the winter; partly for their immense service in rendering the inert rock available for the production of his moneyed products.

The ideal orchard will be a comparatively small part of his farm, say from ten to twenty acres of a hundred acre farm. It will, however, be the chief money crop; and all the rest of the farm will contribute to its fertility. Stock will



A. McNeil

be raised. Feed for these will be grown; possibly under favourable circumstances, feed will be bought, but only in very rare cases will there be any thought of direct investment in commercial fertilizers. If commercial fertilizers would seem to be needed the lacking elements will be bought in the form of bran, and mill feed of various varieties, and will be fed to the stock; and the waste products of the herd will be applied to the orchard.

But it may be said, how about the rest of the farm, how will we keep up the fertility of that? This is a question that is usually asked by the theoretical farmer, who farms the farmers in some comfortable city office. The country farmer knows that by the judicious rotation of crops in which the legumes will form a prominent part, and by the judicious use of the manure that is not required for more costly crops, all the coarser grains can be grown continuously upon such land as I have indicated. Of course it is an easy matter to take individual cases where such a system would not work, but speaking for the average farmer on the average orchard, there is no system of farming that will pay so well. I can confidently recommend almost every farmer in Ontario to plant from ten to twenty acres of orchard; and if he plants good winter varieties, such as the Baldwin, Greening or Ben Davis, he need neither fear that he will exhaust his soil, if he stocks the rest of the farm to the full limit, or that he will ever want a profitable market for his apples.

The Jersey Breeders' meeting at the farm of B. H. Bull & Son, Brampton, on Friday last, was a success. Full report next week.

Crop Conditions in the United States

The following extracts regarding the condition of crops in the United States on June 1st will be found interesting:

Preliminary reports of the spring wheat acreage indicate a reduction of about 2,511,000 acres, or 12.8 per cent. Of the 19 States reporting spring wheat, 13 report a reduced acreage, Washington being the only State having 100,000 acres or upward in this product that reports an increase.

The average condition of spring wheat on June 1 was 95.4 as compared with 92 at the corresponding date last year, 87.3 on June 1, 1900, and a ten-year average of 92.6. The present reported average condition has been exceeded only three times in the last fifteen years.

The average condition of winter wheat on June 1 was 76.1, as compared with 76.4 on May 1, 1902, 87.8 on June 1, 1901, 82.7 on June 1, 1900, and 80.3, the mean of the June averages of the last ten years.

The total reported acreage in oats is about four-tenths of 1 per cent in excess of the acreage harvested last year. The changes in acreage are very evenly distributed and are generally inconsiderable, 25 States and Territories reporting some enlargement of their acreage and 24 some reduction.

The average condition of oats is 90.6, against 85.3 on June 1, 1901, 91.7 at the corresponding date in 1900, and a ten year average of 90.

The acreage reported as under barley exceeds the acreage harvested last year by 8.5 per cent. The average condition of barley is 93.6, against 91 on June 1, 1901, 86.2 at the corresponding date in 1900, and a ten year average of 88.6.

The average condition of apples is, on the whole, unfavorable. Of the 14 large producing States but two report a condition above the ten year average, as follows: North Carolina 68, a gain of 1 point, and Michigan 87, a gain of 6 points. In Maine the condition is 93, corresponding with the ten year average in that State. New York reports a condition 5 points below the ten year average, Illinois and Iowa 9 points, Ohio 12, Pennsylvania and Kansas 16, Kentucky, Virginia and Tennessee 17, Mississippi and Indiana 19 points, and in the remaining States it is probable that less than an average crop will be produced.

The present prospects of the peach crop are quite favorable, notwithstanding the fact that several important peach-growing States report conditions considerably below their ten year averages. The States showing such reductions are: Tennessee 5 points, Georgia 8, Kansas 32, and Missouri 35 points. On the other hand, Mississippi reports a condition 1 point, Virginia 2, South Carolina 5, North Carolina 7, Alabama 10, Texas 13, California 16, and Arkansas 25 points above such average.

Can Run Out Land Be Brought Under Cultivation

All over this Dominion, especially in the older sections, are seen large tracts of land, which produce a thin crop of starved-looking grass, in many cases not worth mowing, which is usually looked at as of no crop-producing value. But is this land as poor as it appears. The ordinary farmer will tell you that all the fertility was taken out of the soil in former crops, and this is true of one or more elements of productiveness. But he does not always take into consideration the fact that the soil contains a number of important elements of plant food, the loss of any one of which, whether partial or total, decreases the productiveness of that soil. Plants must have three of these elements for their proper growth and maturity: nitrogen, potash and phosphoric acid, and in the absence of any one of these elements, the crop shows the effect. There is a large amount of the two last-named elements even in the poorest soil, but it is in combination with other elements and compounds that keep it locked up, so to speak, and thus unavailable, or not in a fit condition for the use of plants. Often a coat of lime or plaster on poor or exhausted land will act on these elements, setting free gases or compounds which, when dissolved in the soil water, becomes available. Especially is this action of lime or plaster noticeable on heavy soils, or soils which contain a large proportion of organic matter. This is sometimes of far more benefit than stable manure, on account of its quick action, both mechanically and chemically improving the soil, and I have seen soil that was considered incapable of a crop, when a dressing of the lime or plaster was applied showed the results in better quality of grasses, and even clover began to grow in certain parts of the field. A mistaken idea appears to be prevalent that the analysis of a poor soil will show just what it is in need of, which elements can then be applied in order to produce a satisfactory crop. But this is seldom the case, as soils only a few feet apart may differ widely in their constituents. The most satisfactory way is to have several plots of the same size in different crops without fertilizer and notice their growth. If they appear weak and sickly, or rank growing, they probably need potash or phosphoric acid, or if stunted and pale nitrogen is in all likelihood the most needed elements. Thus it can be ascertained in a very simple way much knowledge, which, coming from experience is doubly valuable, more so than any conflicting experiments, or from reports or what is read on the subject. The great object, however, that is now considered most important in soil

improvement is the supplying of nitrogen in the form of organic matter to the soil by the turning under of such crops as clover, peas, buckwheat, etc. This green manuring plan has many advocates, and has been discussed so thoroughly in the Agricultural press of recent years, than anything I might say on the subject might not be new to my readers, still the objects gained by this method of fertilizing should be kept in mind. Every one has noticed small bunches of nodules on the roots of clover, peas, etc. These nodules, which are the home of minute bacteria, are most important. These bacteria have been found out by careful investigation to be capable of drawing the free nitrogen of the air and furnishing it in the form of nitrates to the plant. When the crop is turned under these ferments or microbes increase in the organic matter and cause further changes and by the decay of the plant more of this most important element is set free. An acre of clover turned under is considered, by some authorities, equal to ten tons of manure. Of course, where cattle are kept, the crop can be cut and fed, and the manure produced will be near equal in value and besides the roots and stubble still contain large quantities of plant food. These are the most satisfactory methods up-to-date of improving naturally drained, but poor land, and the success that has been met with in the carrying out of these plans has proved their value. Every one interested ought to treat a small plot of poor land as an experiment the coming season, and I am sure they will be well rewarded for their trouble.

E. M., Halifax Co., N. S.

Judges and Judging.

"One who undertakes to place the awards in the show room must not only be able to do his work fearlessly and in justice to all, but he must be able to give a reason in every case when necessary and have backbone enough to stand by his decisions when disgruntled, ignorant or unprincipled exhibitors are determined to have the awards changed in their favor. This question of competency is a delicate one to handle and still it is an important one."

The above statement by a prominent American poultry breeder and exhibitor is sound and to the point. What applies to the judging of poultry, applies also to the judging of any kind of live stock. Not only must a judge be thoroughly competent for the work, but he must be honorable enough to place the awards where they properly belong. We do not think there is much dishonesty in placing the

awards at the larger Canadian shows, but we have heard of cases where the judge was not altogether above suspicion. The educational value of our shows is coming to be recognized more and more, and it becomes more of a necessity than ever before that none but competent and upright men should place the awards in any show ring. The judge should be capable of giving a reason for everything he does. In this way only can the show be made of the greatest educational value, not only to the exhibitor, but also to the onlooker. The judging at any show is as an important part of any fair as the exhibits themselves.

New Customer—Is that your dog?

Barber—Yes, sir.

New Customer—He seems very fond of watching you cut hair.

Barber—Itsh not that, shir. Sometimes I make a little mistake and take little pieces off schentlemen's ears.

PROFITABLE PIGS

At present prices scarcely anything has more price in it for the farmer than the raising of pigs, and where the by-products of the cheese and butter factories can be utilized the work is doubly profitable. By feeding Herbageum to the mother and the little ones from the very beginning the full food value of these by-products and other coarse foods may be secured, and the perfect state of health this aromatic will keep the pigs in will promote such a healthy rapid growth than at least five months' growth with Herbageum will be equal to six months' growth without it. We do not make this statement at random, it is vouched for by feeders and breeders from one end of Canada to the other. We will quote from but one of them here, but he writes directly to the point of our statement. Mr. Edmund Cain of Altona, Ont., writes: "We find Herbageum makes a wonderful difference in fattening hogs. We obtain as goods results at five months with it as at six months without it."

The Beaver Mfg. Co. of Galt are the sole manufacturers of Herbageum, and claim that in the preparation of this aromatic nature's lines are closely followed.

Our Western Letter

Wheat Acreage. Live Stock Reports. Prices for Shorthorns.

Winnipeg, June 6th, 1902.

So persistent have been the rumors of decreased wheat acreage in Manitoba, owing to the unfavorable weather during seeding, and so unanimous have been the reports of all agencies interested in receiving an early estimate of the probable area that it has been taken for granted by all that the area devoted to wheat this year would not equal that of 1901. In view of this the government crop bulletin just issued comes as a surprise to all, showing as it does, an increase in wheat of 28,000 acres, and of all grain crops, 223,000 acres. A per-District.

usal of the report shows that all over the country work has been delayed by excessive rainfall, and that in many townships the wheat area has been lessened through this delay. At the same time this area under oats and barley has proportionately increased. An increase of one and one half per cent. in wheat may be considered unimportant, but in a season when every influence would tend to prevent any increase whatever, this figure becomes a significant index of what might have been expected under more favorable circumstances.

The principal statistics contained in the report are as follows:

District.	Area Under Crop.		
	Wheat	Oats	Barley
Northwestern.....	210,430	129,360	30,250
Southwestern.....	768,790	232,000	59,740
North Central.....	353,940	110,600	85,000
South Central.....	524,200	151,000	80,000
Eastern.....	182,580	102,000	74,800
			Acres
Total.....	2,039,940	725,060	329,790
Total area under Flax.....			41,200
Total area under Rye.....			2,559
Total area under Peas.....			1,596
Total area under Corn.....			2,205
Total area under Brome.....			12,485
Increase in area under Wheat.....			28,195
Increase in area under Oats.....			35,109
Increase in area under Barley.....			138,781
Increase in area under Flax.....			20,222
Total increase in area under grain crops including rye, peas and corn.....			223,149
		Potatoes—Acres.	Roots—Acres.
Northwestern.....		3,300	1,540
Southwestern.....		5,500	4,495
North Central.....		3,995	2,125
South Central.....		3,550	1,210
Eastern.....		5,660	2,805
Total.....		22,005	12,175
			Acres.
Total area under grain crops.....			3,142,350
Total area under all crops.....			3,189,015

The following table for the convenience of reference, gives a comparison of the area in crop for 1902 with that of 1900 and 1901:

	1900	1901	1902
	Acres	Acres	Acres
Wheat.....	1,457,396	2,011,835	2,039,940
Oats.....	429,108	689,951	725,060
Barley.....	155,111	191,009	329,790
Flax.....	20,437	20,978	41,200
Potatoes.....	16,880	24,429	22,005
Roots.....	7,482	10,214	12,175
Total crop area.....	2,122,500	2,961,409	3,189,015
		Cattle Fattened During Winter.	M'ch Cows.
Northwestern District.....		1,540	22,920
Southwestern District.....		2,175	19,865
North Central District.....		1,955	15,005
South Central District.....		1,438	23,200
Eastern District.....		2,800	38,845
Total.....		9,908	119,835

A portion of the report is devoted to the discussion of these figures and the unexpected increase in crop area in the various districts. The South Western is the only district which shows a decreased wheat area. This is stated to be due to the fact that last year's crop area was abnormally large. Live stock are reported in good condition,

showing the effect of the abundant hay crop of 1901.

The prospects for dairying are reported good and a list of the creameries and cheese factories is included. A large number of quotations are made from the reports from which the Bulletin is compiled. These are interesting reading, but too lengthy for reproduction.

These crop reports are published at regular periods by the Department of Agriculture, Winnipeg, and may be had free on application to that office.

It is a remarkable testimony to the confidence of all parties in these publications, that notwithstanding the surprising nature of the figures, no question has been raised as to their veracity or reliability.

Another interesting report is about to be issued by the Department of Agriculture for the North-West Territories, being the annual report of the secretary of the Horse-Breeders' and Cattle Breeders' Association. The conditions affecting breeding and marketing in the Territories are exhaustively dealt with. It is no news that horse breeding in the far West is becoming an important industry, and it is equally well-known that the Territorial government is doing its utmost to foster, encourage and assist the breeders. Through the introduction of Alberta horses to the British army authorities, a new impetus has been given to the business and perhaps a new direction given to the results sought in breeding, and the secretary believes that the quality of Alberta horses, thoroughly proven in the South African campaigns, will result in the purchase of increased numbers of these horses for army purposes. In this connection it might be noted that there is now a remount purchasing officer in the west and that he is not as heretofore limited in his purchases to any definite number, large or small. This officer, Major Gore, expresses the most favorable opinion of Alberta horses. One of the chief obstacles to profitable horse breeding is the unrestricted importation of Montana cayuses, of which 7,223 valued at an average of less than \$32 were brought into Manitoba and the Territories in 1901. By an abuse of the "settlers' effects" clause of the customs regulations, many of these animals brought in for sale, escaped payment of duties.

The report of the Cattle Breeders' Association calls attention to the superiority of western bred cattle for western breeders, and advises them to purchase as extensively as possible among themselves. We would like to add to this that the Territorial breeders are wisely we think, making large purchases in Manitoba. A large proportion of the matters discussed in the report have already been referred to in this column.

We have already on more than one occasion expressed satisfaction at the activity and personal interest in the advancement of all lines of agriculture shown by the Commissioner of Agriculture and his deputy. The present report indicates that there has been no relaxation of that interest during the past year.

The star event of the past week among western breeders was the dispersion sale of Walter Lynch's pioneer herd of high class Shorthorns. Mr. Lynch is probably the

oldest breeder of Shorthorns in the province, his herd having been founded in 1871. The high quality of the herd and the rare event of a dispersion sale combined to attract a large number of bidders and spectators, there being over 600 present from all parts of the province. Over sixty head were offered which sold at an average of \$207.04. Fifty two females brought an average of \$206.26. The first animal offered was a five year old cow, Imogene 2nd, 30197, which went to James McKenzie, of Burnside for \$400.00. The highest price brought by any animal was the sum of \$400 paid for a 5 year old cow, Vivien, 32692. The head of the herd, Scottish Canadian 36100, imported in dam, went to James Bray, of Longburn, Manitoba, for \$355. Rosette XV

went to Hon. Thos. Greenway for \$415. This is the only animal in the herd which was not bred by Mr. Lynch. It is a satisfaction to know that the bulk of this fine herd remains in the province, as they were almost without exception breeding animals of tip-top quality. Among the largest purchasers were James Bray, Longburn, who secured six head for \$1,065; G. Lyttle, Neepawa, three head for \$675; Dr. McConnell, Morden, three head for \$1,095; James Moore, Virden, three head for \$411; Glen, Campbell, Dauphin, five head for \$815. Mr. Lynch is giving up business because of advancing years; although not an old man, he thinks himself entitled to a little leisure after so many years of hard and successful work.

to carry the country over to the new crop, for it is admitted that the supply of cattle in feed lots was never smaller than it is now, and present prices of corn are preventing much export. It is the opinion of some of the best informed that even a bumper crop will not send corn below 50 cents for the next year, and this being the case, it certainly looks like a high cattle market for the same length of time.

"Another factor in favor of the maintenance of present prices is the fact that the feed lots are now about empty and the only source of supply from now until the next crop of fat steers can be turned out a year or more from now are the grassers, which will supply the market only for the next few months.

"The sheep branch of the industry has been preserving a remarkably good condition. The same mild winter, free from dust storms, has produced remarkably clean wool, although not such heavy fleeces; but the quality is bringing the growers handsome prices. Buyers went into the fields early and a strong demand sent prices up several cents a pound. This year they are ranging from 12 to 14 cents, with exceptional extra fine at 15 cents. The mutton market was better than a year ago, fed stock selling as high as \$7.55 a cwt. These prices were superinduced by light supplies in feed lots because of the high price of corn. The shipments this fall of grass-fat stock off the ranges promises to be very heavy, as the grass pretty well over the entire West is good, excepting in the territories where the moisture has not been sufficient to sustain the great flocks and which will be greatly augmented by a lamb crop which it is estimated will average 80 per cent."

Cattle and Sheep in the West

Bulletin No. 38 issued from the office of the National Live Stock Association, Denver, Colorado, on June 14 last, gives some important information in regard to live stock conditions in the Western States, from which we select the following:

"The range cattle and sheep industry got its hard knocks at both the upper and lower end of the country during certain periods of the past six months, but with the closing of the first half of the year, with good grass all over the country, the poorest being in Arizona and New Mexico, those early troubles are about forgotten and unparalleled success with profitable prices is on the horizon. There is nothing that can cloud it, except it may be a poor corn crop; but that is hardly a probability, for the reports at date are extremely favorable for an abundance, with the consequence that stock cattle and sheep from the ranges will find a splendid market this fall.

"Abundant corn cannot, however, insure much cheaper beef than is now going to market, from the fact that the industry is justified in taking advantage of the question of supply and demand. The results will show that there is not to be had for feed lots the number of mature cattle to make heavy steer beef necessary to supply the demand for another year at least. Of all the heavy movement from the south and southwest to the north this spring, to go on pasture to prepare for feed lots, not one-fourth are over 2-year-olds. With old cows, the situation is somewhat different. For several years the cattle raisers of the south have been holding on to their aged breeding females, thinking it more profitable to keep them and raise calves than to send them to market. At present, however, there is a good supply of the younger breeding females added to most of the herds, and the belief is that now is a good time to dispose of the aged stock. Thus the offerings of grass cows this fall at the markets will be liberal.

"While the winter on the ranges of the north was mild, there was

but really one bad storm, that about the middle of March, which really did any damage. It was short but severe, and fortunately also only local. Since then, generally speaking, the range has been improving and to such a degree that the movement of cattle from the south has not had its equal in numbers for several years; the movement through the Denver stock yards, for instance, being greater than any season since the yards were opened. One day 21,000 head were in the yards. Then there is the movement north by the way of the Missouri river also.

"While market prices ruled comparatively high during the first quarter of the year, there was not a full measure of realization by the shipper. The mild winter referred to resulted in lighter weight cattle, they weighing out 100 to 150 pounds lighter than during the same season a year ago. During the second quarter a new state of affairs sprung up. It was the "beef trust" agitation. The high price of beef prevailing was due entirely to the short supply of cattle caused by the drouth last summer and the increased price of corn which prevented a large proportion of small feeders from buying stock last year when the cattle were selling cheap compared with the present prices. There has been an increased consumption of meat on account of the prosperous times and the unprecedented export demand. This, with the admitted short supply and the high price of feed, naturally brought about the high prices paid for the marketable animals.

"The prospects for cheaper beef even a year from now, what are they? The statement in reply is made that it depends entirely on the corn crop. The largest crop the country ever had was 2,300,000,000 bushels. The crop last year was estimated at 1,500,000,000 bushels. There was approximately 600,000,000 bushels of old corn left, making a total of 2,100,000,000 bushels in the country last November. On March 1 the total estimated amount on hand was 400,000,000 bushels, and just about enough

Destroying Lice on Poultry

There is one plan of killing lice on poultry that never fails, says Mirror and Farmer. Make a tub of strong soapsuds and use good whaleoil soap or carbolic acid soap. Select a warm day and have your suds warm. Take each fowl and immerse it in the suds, head and all, but do not stop with simply dipping the fowl, but rub the suds well into the feathers. In other words give the bird a good washing, so that the suds may reach the skin. Do not be afraid to dip the head under and saturate the neck feathers. Repeat in clear, warm water and turn the bird loose in a yard where there is no shade and the sun will soon dry them off. Now add two quarts of kerosene to your suds, first making an emulsion with plenty of soap, and sprinkle the suds over every part of the poultry house, floor, roosts, ceiling, sides, and, in fact, every place where a louse could hide, and your fowls will be free from the pests. The roosts should be well saturated with pure kerosene. Burn all the material in the nests, saturate the boxes with the suds, make new nests and then repeat the process once a month.

The Sugar Beet World

Devoted to Sugar Beet Culture in Canada and Allied Industries. Specially
Representing the Farmers' Interests

Edited by JAMES FOWLER

Sugar Beetlets

The French Sugar Manufacturer's Syndicate have made careful experiments to determine the best spacing between rows of sugar beets. The experimental plots varied from 15½ to 19½ inches. The lowest results were obtained from the 15½ and 19½ inches, each being equal, the highest from the 17½ inches.

A beet sugar company is being organized in Germany on a new plan. Upwards of two thousand (2,000) grocers are in the combination. It is expected that the price of sugar to the consumer will be greatly reduced by this method.

The Philadelphia Sugar Beet is responsible for the statement that the first sugar beet factory in Italy was started in 1891. Two years ago there were thirteen factories with an annual output of twenty-three thousand tons (23,000). Today there are thirty-three factories with an output of seventy-four million and five hundred thousand (74,500,000) tons of sugar.

The farmers of Manitoba have turned their attention to the cultivation of sugar beets. After careful experiments, should the climate and soil be found suitable, a new industry of almost unlimited possibilities will be introduced into the great North West.

The United States Department of Agriculture finds that the average returns from an acre of sugar beets is \$50.00 and the total outlay in labor, etc., is \$35.00, leaving a net profit of \$15.00 an acre. It is estimated this year that the state of Michigan with her many beet sugar factories will be barely able to supply the whole of the population of that state.

Now for Sugar

There are a limited few, and some of them stand in high places,—who steadily set their faces against the introduction of sugar beets into Canada. They still stand unabashed and their undeceiving is at hand. All unbelievers will now be surprised to learn that the Ontario Sugar Beet Company, Limited, with their immense factory at Berlin expect to begin operations early in October. The steel structure work is now being put up and will be completed at an early date. The managing director of the company reports that the crop prospects are magnificent and that the farmers are delighted. He also suggests a visit from the directors about the 8th or 10th of July to inspect the growing beets when all cleaning and cultivating will be practically completed for the season.

Points for Sugar Beet Growers

In a discussion of the sugar beet growing in western Kansas in 1901, and some of the shortcomings, obstacles and mistakes revealed by the first year's experience with an unfamiliar business, Secretary F. D. Coburn, in his March quarterly report of the State Board of Agriculture, says:

To those unfamiliar with gardening methods, used to gaining large returns from fields, the sorghums and alfalfa, which, by comparison, almost care for themselves, and from the buffalo-grass, which requires no thought, the idea of planting a few beets in a small plot, and carefully watching and watering and weeding those beets, was new, and, in practice, not altogether attractive.

In summarizing the obstacles to profitable beet-raising during the first year, we may emphasize the lack of appreciation of the fact, that while beets yield high returns to careful labor, they demand that labor. That the composition of the

soil in the locality under consideration is well adapted to beet culture is evidenced by the high sugar content and purity of the year's product. The beets which received proper attention were of good form (long and tapering), from growing deep into the ground and entirely beneath the surface, clean, and easily topped, thus giving about the minimum tare to the net weight available in manufacture. That the average tonnage was low is explained in a general way by lack of timely moisture in many instances during the germinating and growing season. Among the reasons for this lack and for the lessened yield were these:

1. The contracts with the factory were made too late to admit of proper preparation of the ground, which needs deep plowing and thorough cleaning, pulverizing and watering. Insufficient pulverizing and leveling led to ineffective irrigation and seeding.

2. The requisite facilities for pumping and storing well water

Copper and Brass Work

Of every description. Special attention given to plants for Beet Sugar
Factories, Glucose, &c. Get our quotations.

COULTER & CAMPBELL

185-7 GEORGE STREET,

TORONTO, ONT.

The Booth Copper Co., Limited

COPPERSMITHS

Established 1854

COPPER WORK FOR



Sugar Houses

Breweries

Distilleries, Etc.

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TORONTO, CANADA

E. H. DYER & CO.

BUILDERS OF

SUGAR MACHINERY

CLEVELAND, OHIO

Will contract to build complete beet sugar plants, including all machinery and buildings; also furnish the necessary technical and skilled help to operate them.

Now Building the Factory at Berlin.

were in many cases lacking, and when the ditches from the river could not be drawn upon, no water was available.

3. The seed distribution by the factory was late, and the season so far advanced as to cause the soil to dry very rapidly and prevent germination where early irrigation had not been provided.

4. Instructions were to plant the seed one and one-half inches deep. With late planting and warm winds, the covering was in every case too shallow to retain moisture for germination. This was a common cause of the poor stand.

5. Horse cultivators were not available for all when needed, and laborers scarce for hoeing, so that in some fields weeds had more than a fair chance.

6. In other cases, owing to inexperienced and careless help, the thinning was improperly done, and beets left too far apart.

7. Beets need moderate moisture for about four months after planting. As heretofore explained, the machinery for proper watering from wells had not been placed, and the ditches leading from the river failed when most needed, the river water having been already appropriated in Colorado.

8. Where water was lacking, some injury was done by insects, which ate the leaves and retarded growth.

The experience of the majority of growers led to the conclusion that the three important requisites for a more favorable yield were: (1) Early preparation of the soil, by subsoiling, fertilizing, and irrigating during the winter, and reduction to fine tilth in the spring; (2) provision for supplying well water in addition to ditch irrigation, facilities for the latter to be also increased; and (3) available helpers for the thinning, cultivating and harvesting seasons.

Pointers for Wheelmen

For several years the advertisements of the Mead Cycle Company have appeared in the columns of the Farming World. Every year the business of this company has grown until now it exceeds 50,000 bicycles sold through mail orders all over the world each year. The Mead Cycle Company keeps its factories running all winter storing up wheels of the finest quality, and is always ready in the spring and summer to fill orders promptly at prices which are lower than any manufacturer selling on the old plan, through local dealers, can deliver a wheel of even inferior quality. The Mead Cycle Company can ship any wheel at any price the same day the order is received. Readers of this paper can be assured of prompt and honorable treatment. When writing for catalogues and prices mention the Farming World and address Mead Cycle Company, Dept. R 143, Chicago.

Aunt Dinah (to her son and him) —Heah, yo' Cotton C, Doyle John-sing, yo' take dat key outen yo' mouf! Yo want to get de locky-jaw?"

The American Construction & Supply Co.

Main Offices: Western Department:
71 Broadway, New York, N.Y. **305 Telegraph Block, Detroit, Mich.**

**Specialties:—BUILDING OF BEET SUGAR FACTORIES;
AND BEET SUGAR FACTORY SUPPLIES.**

We have the record of building modern equipped and economical running factories. More than 20 years' experience in this special business. Correspondence solicited.

We are also sole representatives of BUETTNER & MEYER, Urdingen, Germany, manufacturers of the best pulp drier in the world. This drier received the prize of 20,000 marks offered by the "Centralverein für die Rubenzucker-industrie" in Germany.

Bartlett, Hayward & Co.

ESTABLISHED 1882

Designers and Constructors

Beet Sugar Factories

RESULTS GUARANTEED

Works and Main Office: Branch Office:
BALTIMORE, MD. **100 Broadway, NEW YORK, N.Y.**

The Kilby Manufacturing Co.

FOUNDERS AND MACHINISTS

Corner Lake and **Cleveland, Ohio** New York Office:
220 Broadway.
 Kirland Streets.

**Builders of Complete Machinery for Beet, Cane and
Glucose Sugar Houses and Refineries.**

American Copper, Brass and Iron Works ESTABLISHED 1887

OTTO MEINSHAUSEN, Pres., Treas and Mgr

113-119 Michigan St., cor. La Salle Ave., CHICAGO, U.S.A.

Cable Address: "MEINSHAUSEN" A.B.C. Code.



AMERICAN COPPER BRASS & IRON WORKS

Will Contract for complete Plants in any part of the world for **Brewers, Distillers, Beet Sugar Factories, Refineries, Glucose Works, Etc., Etc.**

The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep and Swine Breeders' Association, and of the Farmers' Institute System of the Province of Ontario.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees—Cattle Breeders, \$1; Sheep Breeders, \$1; Swine Breeders, \$2.
BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale are published once a month. Over 10,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

A. P. WESTERVELT, Secy. ary.
Parliament Buildings, Toronto, Ont.

FARM HELP EXCHANGE.

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to A. P. Westervelt, Secretary, Live Stock Association. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected and where last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

Help Wanted.

Wanted.—A good general farm hand to work on a farm near Toronto for at least two months. Would prefer one for five months or would hire suitable man for a year. Will pay \$25.00 per month for five months. Board and comfortable home. Not much heavy work but must be able to plough and attend to horses. No. 110. a.

Wanted a man to work on a farm in York County. Must be a fair ploughman and a good hand with horses. Wages \$20 a month and board for five or six months. No. 108. b.

Wanted.—A young man to work on a dairy farm near Toronto and do general farm work. Will engage by month or year. Wages according to experience. No. 109. b

Wanted.—A young man to work on a farm in Brant County. Good wages. No. 106. b.

Domestic Help Wanted

Wanted.—A housekeeper, a thoroughly good woman, middle age preferred, to take charge of the work on a 100 acre farm where dairying is done. Woman will not be expected to do milking. Must be an economical housekeeper, with first-class references and must be

willing to work. May come on trial for one or two months, and if satisfactory will be engaged by the year. House very comfortable, heated with hot water and supplied with all modern conveniences. Three men employed all year. No washing to do except for the Manager. Methodist, Presbyterian and English churches within two miles of farm. Neighborhood good. Permanent home to right party. No. 107. b.

N.B.—Where no name is mentioned in the advertisement, apply to A. P. Westervelt, Parliament Buildings, Toronto, giving number of advertisement.

Farmers' Institutes.

Under this head the Superintendent of Farmers Institutes will each week publish matter relating to Institute work. This will include instruction to secretaries and other officers, general information about Institutes and Institute work, suggestions to delegates, etc. He will also from time to time review some of the published results of experiments conducted at the various Agricultural Colleges and Experiment Stations of Canada and the United States. In this way he hopes to give Institute members some valuable agricultural information which they might not otherwise receive, on account of not having access to the original publications. If any member at any time desires further information along any of the lines discussed, by applying to the Superintendent he will be put in direct communication with the Institution that has carried on the work.

G. C. CREELMAN,
Superintendent Farmers' Institutes.

South Oxford Institute

The executive officers of the South Oxford Farmers' Institute beg to present for your consideration the following as the 14th annual report.

We are much pleased to report that our operations throughout the past year have been fairly successful and that our farmers are taking greater interest than ever in Institute work. Owing chiefly to the counter attraction of the Pan-American exhibition, our excursion to the O. A. C., Guelph, was not as well patronized as the one held the previous year. The executive concluded that as the net receipts from the excursion would be small, the best method of disbursing them

would be to hold some additional supplementary meetings and it was decided to hold six meetings at the following places: Oxford Centre, Beachville, Ingersoll, Springford, Tilsonburg and Brownsville. The two regular meetings were held as usual at Norwich and Mt. Elgin. The delegates sent to the regular meetings were Messrs. C. W. Nash, Toronto, and R. S. Stevenson, Ancaster, whose addresses were mainly of a very practical nature and were much appreciated by our farmers.

The delegates sent to our supplementary meetings were Messrs. T. G. Raynor, Rose Hall and T. H. Mason, Straffordville, both graduates of the O. A. C. and both good practical farmers, from whom we received a great amount of good practical information. We were fortunate also in securing the assistance of Messrs. Geo. Rice of Currie's Crossing and E. F. Parks, of Burgessville, who have acquired a continental reputation as breeders and exhibitors of pure bred stock of the highest quality, while we also received valuable assistance from Messrs. R. Carroll, Norwich, A. Rose, Woodstock, R. W. Hawkins, Brownsville, John Clarkson, Woodstock, R. Simister, Ingersoll, and Mr. Bowman of the Ingersoll Packing Co., who had a number of sides of bacon from the packing house on exhibition at the Ingersoll meeting. His address was of an eminently practical nature and we think if the Company could be induced to have Mr. Bowman repeat his lecture at some of our meetings next winter, it would be of great benefit to farmers engaged in the production of bacon hogs. The approximate attendance at Mount Elgin was seventy-five in the afternoon and three hundred in the evening, and at Norwich three hundred in the afternoon and three hundred in the evening. The approximate attendance at the six supplementary meetings being as follows:

	Aft.	Night.
Oxford Centre	30	60
Beachville	100	100
Ingersoll	100	55
Springford	75	200
Tilsonburg	90	100
Brownsville	40	55

At the Mount Elgin meeting there were nine addresses, at Norwich nine, at Oxford Centre four, at Beachville seven, at Ingersoll nine, at Springfield seven, at Tilsonburg six, in addition to an address of welcome by Mayor Sinclair, and addresses from three of the resident ministers at the evening meeting, and at Brownsville seven.

The interest taken by the farmers in the Institute appears to be steadily on the increase. The membership for the past five years being as follows:

1898	176	members
1899	211	"
1900	267	"
1901	303	"
1902	432	"

Out of ninety-seven Institutes in the Province of Ontario only five had larger membership than South Oxford to April 30th last. While this is very gratifying there are still a great number of farmers in the county who are not members, and we feel that a little active work on the part of the directors in securing members would place old South Oxford at the head of the list. At present the great majority of the directors never secure the name of a single person for membership. We trust that the new directors will make it a point to thoroughly canvass their respective neighborhoods and endeavor to secure a large increase in membership for the coming year and thus greatly benefit their fellow farmers who join, as the reports and bulletins to which members are entitled contain a vast amount of very valuable information.

We affiliated last winter with the Ontario Provincial Winter Fair, thus securing for our members free admission to that great exhibition. We would strongly recommend that the same course be pursued this coming winter. The success of the Winter Fair has been simply phenomenal. The enormous building recently erected in the city of Guelph for the permanent location of the Fair, proved utterly inadequate to hold the people who came in thousands last winter to visit it. Alterations and enlargements will take place before the next fair is held and we would strongly advise our members to pay a visit to the next one.

We have another excursion arranged to the O. A. C. on June 18 and would suggest that a good method to adopt in disposing of the proceeds would be to hold a still greater number of supplementary meetings and by so doing bring within the reach of every farmer in the country the great benefit to be derived from memberships in the Farmers' Institute.

We desire to acknowledge with thanks the generous support received from the county press in helping to advertise and report our meetings and trust that the new executive will receive as warm support and will be enabled to carry on the work of the Institute with still greater success in the future. All of which is respectfully submitted.

(Sgd.) John McKee, Sec.-Tr.

Soil Cultivation

BY MYRON A. GEE, FISHERVILLE

The four great sources of national wealth are the productions of the soil, forests, mines and fisheries. The ore taken from the mines can never be replaced, the forests require centuries to grow another crop, the fisheries under modern methods are being depleted, but the soil if intelligently tilled, a proper rotation of crops grown, and a

good selection of seeds sown, will produce year after year, for an indefinite period, good paying crops.

The three main principles of soil cultivation are, first, drainage; second, manuring; third, tillage. Drainage is first to be considered, as no crop will yield satisfactorily if there is a surplus of surface water.

DRAINAGE

Lands are drained by surface drainage and tile drains. Sandy lands generally have natural drainage, needing neither ditches nor tile. Land that is well drained can be worked earlier in spring and early sowing always increases the crop. It is also more easily worked than undrained land. Drainage also prevents the loss of plant food by its being absorbed into the soil instead of running off.

MANURING

All stock should as far as possible be fed on the farm and the manure taken good care of, if the fertility of the farm is to be maintained. Have the barn-yard small so that it can be deeply bedded all over. Draw the manure directly from the stable to the field or pile it in a compact heap, mixing all kinds together to prevent fire-fanging. Farm yard manure both fertilizes the ground and supplies humus. The humus improves the mechanical texture of the land and prevents leaching. It holds moisture from the sun, and by making the land dark in color it absorbs more heat from the sun. This makes the land warmer, causes a quicker and more vigorous germination of grains sown, and is a considerable factor in growing a heavy crop. The vegetable matter of manure in decomposing acts mechanically on the mineral elements in the soil, and makes the phosphates and potash available for the growing plants. Humus or vegetable matter (which is mostly nitrogenous) is the element lacking in nearly all the impoverished fields and can be returned to the land by plowing down clover and green catch crops, and growing lots of peas.

TILLAGE

The preparing of a seed bed is very important. It matters not how rich a field may be if the roots of the plants are not able to range through it and take the fertility out, a partial crop will be the result. Land, especially clay, should not be touched when too wet. Soils need stirring to allow heat and air to get into them and to aid in preparing plant food. By having a fine mulch of dry soil on the surface of the land it prevents moisture being taken from it by sun and wind, arresting it just where the growing plants need it. Tramping land by stock when wet, and pasturing too heavily on the catches of clover are two reasons why many farms are not more productive than they are at present. Ontario must soon come to the day when intensive farming will be the practice rather than the extensive farming, which is so much followed to-day.

Lucerne or Alfalfa

BY F. C. ELFORD, HOLMESVILLE

There are probably very good reasons why lucerne should be attracting so much attention and gaining in popularity as it is at present. Not the least of these is the fact that in spite of the exceedingly dry seasons which we have, it will grow and produce a splendid crop of valuable fodder or pasture. Lucerne is frequently spoken of as a comparatively new plant, while, as a matter of fact, it is a very old plant, having been cultivated by the Greeks and Romans long before the Christian Era. Later it was introduced into South America, gradually travelling northward through New Mexico, Southern, Western and Northern States, and lastly into Canada, where the more it is known the better it is liked.

I think the chief objections to lucerne have been raised by persons, who not knowing it, have tried it once or twice and failed, those who have been growing it for years are its strongest advocates. In our experience of fifteen or sixteen years, the best results have been obtained by following a hoed crop, using as a nurse crop about one bushel of barley or oats per acre. We sow at least twenty pounds of good seed per acre. We put the seeder in front of the drill thereby getting a deeper covering for the seed. Too much care can not be taken in the preparation of the seed bed. Twenty pounds is little enough, some sow thirty.

The first winter and spring is the critical period of its history, and in order to get it safely past this danger point, it is better not to pasture after the nurse crop is taken off, but to allow the young clover to grow and form a mulch so as to protect its roots from the frost. The next season, though it may not look very promising at first, it will produce two or three crops of hay or fodder and the stand will become thicker with each successive cutting. Considerable of the lack of success in growing lucerne has been the failure to comply with one or two minor, yet all important rules, viz., lack of sufficient previous preparation of the soil, too shallow covering of the seed, and close pasturing the first fall.

Probably the most important consideration with lucerne is the time of cutting. It must be cut early. If it is not, instead of a palatable, nutritious hay, we have an indigestible fodder.

The practice of mixing lucerne seed with red clover and timothy has not been followed with success. By the time the red clover and timothy are ready to cut, the lucerne has passed its cutting stage and the hay is of poor quality. For this reason lucerne has rather a bad reputation. R. Harcourt issued in 1900 a bulletin (No. 111) on the composition and digestibility of lucerne. His very valuable experiments showed that, to obtain the greatest proportion of digestible matter, the hay should be cut when not more than one third of

it is in bloom. I think it is better to cut a few days before this time than as many days after it.

In cutting, our practice has been to avoid, as far as possible, leaving the hay in the swath over night. Start the mower going when the dew is off in the morning and rake early in the afternoon, when it is still tough, and put it into small coils before night. Much of the quality as well as quantity is lost by allowing it to remain in the swath too long. Cure it in the coil. Hay cut at this age and cured after this manner makes an exceedingly palatable and nutritious ration. All stock from hens to horses like it and will fatten upon it. Chemists claim that for feeding purposes a ton of it is equal to a ton of bran. Those who have fed it extensively, say that for working horses it is as good as timothy hay and oats. It makes an excellent pasture for all kinds of stock, especially hogs, but there is danger of pasturing it too closely and killing it.

As a fodder crop lucerne excels. It can be cut early in May and thereafter every five or six weeks throughout the season. An acre of it will often produce as much green fodder as an acre of corn. As a soiling crop for milch cows, it has no equal. Soiling is certainly more economical than a bare pasture with cattle tormented with flies, scorching in a hot sun. Lucerne is preeminently a dry weather plant. It does not burn out when young, like the red clover, and no summer is so dry that it will not produce a crop. Its roots go deep and are able to get from the subsoil all the moisture required. Like other clovers, it has the power of taking nitrogen from the atmosphere.

It is not an uncommon thing to see a field of lucerne growing green and rank, while the next field of red clover or timothy may be burned almost to the ground, though some people claim that it will grow on any soil short of bare rock, the nature of the plant is not adapted to wet soils, nor is it fitted for a short rotation. Since we have to combat dry, hot seasons, farmers would do well to have at least one or two fields seeded to lucerne. This would supplement the pastures and guarantee a certain amount of valuable hay for the winter feeding.

Agriculture in Public Schools

BY G. K. MILLS

(Continued from last week.)

SCHOOL EQUIPMENT.

Now a few words as to how I would like to see our schools equipped. I would like to see every country, or even town school, provided with a plot of ground varying from one-half to one acre, according to attendance. This could be divided into four sections, one would contain fruit trees, both large fruits and small, as well as a few ornamental trees. Many very useful and educative lessons could

be taught from these, e. g., grafting, budding, spraying, wrapping, transplanting, methods of growing fruit trees from seed, etc. The second section would be the vegetable garden. Plots could be assigned to each child in which methods of preparing his soil and planting his seed might be illustrated. The third would be the experimental portion. The pupil would be directed to sow his seed broadcast, in drills, thick or sparingly, at a depth of one, two, three inches, etc. The fourth would be devoted to horticulture. Lack of time prevents my entering into any extensive description as to how this school garden, as it might be called, could be used to the greatest advantage of any pupil.

This programme is extensive and leave each of you to answer the question for yourselves, whether this method of training the mind, that I have tried to outline, when the pupil is set to work under proper direction to solve these problems for himself and learn to ask himself the reason why, is not a better one, than where the pupil sits trying desperately to memorize a lot of facts of which he understands little and cares less. Would not this method be the best kind of mental training, no matter what might be his aim in life? Would it not tend to develop that thinking and inquiring mind that asks itself the reason why, and is not content with tradition?

Now, some very clever man will say, as did an American educationist, "you would give us nothing but haysed schools." I do not speak against the present work done in the public schools; far from it. I do not think there is a harder working or more conscientious class of people in Ontario than our public school teachers, but the pressure is so great and the drudgery so wearing that they have not time for this, nor have they anyone to guide and direct them aright.

But, you say, we have our public school inspectors. You have one here; you know him; I do not, except by report. I do know he is strong on continuation class work. I believe in continuation classes. The brains and energy of this, or any other country, find their way to prominence from the farm, and the hardest part of that journey is that which lies between the public school and the university, and it is our duty to make it as easy as possible. But I appeal to you as intelligent men to consider if any school with one teacher, has a right to expect continuation classes. Surely the vast majority of younger pupils, who can only remain in school for a few years at most are being neglected. It is well to encourage continuation

When washing greasy dishes or pots and pans, Lever's Dry Soap (a powder) will remove the grease with the greatest ease. 28

classes where it can be done without neglecting the majority for one or two, but there is a greater work for inspectors than trying to establish more continuation classes than the neighboring inspectorate. This work is to keep abreast of the times and needs of the country, and in it the inspectors should encourage and guide the young teacher. It is a great work, a heavy task and without the sympathy and direction, which he has a right to expect from the inspector, what wonder if the task becomes too heavy for youth and inexperience, and the crushing word, "failure," has to be written over against his work.

What has the government done, and what is it doing? What it has done you know as well as I, but I might mention what it is doing. Sir William McDonald, of Montreal, has donated \$125,000 to the Agricultural College at Guelph for the establishment of a school where the public school teacher may receive the necessary training to carry out some such work as I have outlined. The government will, no doubt, support this school when built and maintain it if necessary.

Now let us see what county councils and agricultural societies could and ought to do to help on this work. Prizes of sufficient value could be given for, say the best collection of injurious plants, injurious insects, the best methods of teaching the work as proved by the work of the pupils, the best vegetables, fruit, etc., grown by the pupils, all of which work must be certified to by the teacher, and, if the inspector to show that the necessary, a statement furnished by work is being well done. In these and other ways the work could be encouraged.

The question is frequently asked, "Why does the boy leave the farm?" Various reasons have been given and cures propounded, but I do not think anything would have a more beneficial effect than to open his eyes to the fact that he is living in the midst of beauty and plenty if he is only prepared to make use of these opportunities. His calling would be clothed with a new dignity and value, and he would not only cease to be envious of the boy in the city, but learn to pity him. Only in this way can you stay this great exodus. Teach him to know that the farm can be made profitable, if he will only bring intelligence to bear on his work. Teach him to see some of the beauties and possibilities that surround him and he will be more satisfied and crave less after the uncertain glamor of the town.

Taken from school boys' examination papers:

"An optimist is a man who looks after your eyes, and a pessimist is a man who looks after your feet."

"A man who looks on the bright side of things is called an optimist, and the one who looks on the dull side is called a pianist."

The Farm Home



The Coronation of Queen Victoria

The following description of the coronation ceremonial in 1837, when Victoria was crowned Queen of Great Britain and Ireland and the Dominions beyond the sea, makes interesting reading in view of the ceremonies that take place at Westminster Abbey on Thursday of this week:

The coronation ceremonial in 1837 was as follows:

The Queen, with the princes and the princesses of the blood royal, arrived at the west entrance of the abbey and was received by the officers of state, noblemen bearing the regalia and the bishops carrying the patina, chalice and Bible. After leaving the robing-chamber, the procession moved up the nave, while the anthem, "I was glad," was sung. The Queen ascended the platform and sat on a chair midway between the chair of homage and the altar. First took place the "recognition" by the Archbishop of Canterbury. He repeated the words: "Sirs, I present unto you Queen Victoria, the undoubted queen of this realm: wherefore, all

you who are come this day to do your homage, are you willing to do the same?"

Cries of "God save Queen Victoria!"

The same words were repeated by the Archbishop, turning to the north, south and west sides of the abbey, the Queen turning in the same direction. Trumpets sounded and drums beat. The Archbishop proceeded to the altar and stood at the north side. The bishops next placed the patina, Bible and chalice on the altar.

The Queen, supported by two bishops, advanced to the altar and, kneeling, made her first offering—a pall of cloth of gold, which the Archbishop placed on the altar. Another offering was an ingot of gold of one pound weight, which was placed in an oblation basin. A short prayer by the Archbishop followed. The regalia were placed on the altar, and the litany was read and the "Sanctus" sung. The Archbishop read the communion service, assisted by the Bishops of Rochester and Carlisle. The Bishop

of London preached a sermon; text, II. Chronicles xxxiv., 31.

Then the Archbishop asked the Queen the question prescribed by the service. The Queen went to the altar and, kneeling, placed her right hand on the gospels brought by the Archbishop and took the oath: "The things which I have here before promised I will perform and keep. So help me God." She kissed the Book and signed the transcript of the oath, then returned to her chair. The choir sang "Veni, Creator, spiritus."

Then followed the anointing. The Queen laid aside the crimson robe and sat in King Edward's chair, while four Knights of the Garter held over her head a cloth of gold. The Dean of Westminster took the "ampulla" from the altar and poured oil into the anointing-spoon the Archbishop then anointed the Queen's head and hand in the form of a cross, pronouncing the words, "Be thou anointed," et cetera. After the Archbishop had blessed her, the Queen resumed her seat.

The Lord Chamberlain then presented the "spurs." Viscount Melbourne presented the sword of state, which was laid on the altar and then redeemed for one hundred shillings and carried through the rest of the ceremony.

Then followed the investing with the royal robe and the delivery of the orb. A ruby ring was placed on the fourth finger of the Queen's right hand. The Duke of Norfolk presented a glove bearing the Howard arms, which the Queen put on. The scepter with the cross and the scepter with the dove, or rod of equity, were presented.

Then followed the actual coronation. The Archbishop took St. Edward's crown, blessed it and, attended by the dignitaries, advanced to the Queen and placed it on her head.

The people shouted "God save the Queen," the peers and the peeresses put on their coronets, the bishops their caps, the kings-at-arms their crowns; trumpets were sounded, drums beat, guns fired.

The Archbishop pronounced the exhortation, "Be strong and of good courage"; the choir sang the anthem, "The Queen shall rejoice." The Archbishop then presented a Bible to the Queen and pronounced a benediction. The "Te-Deum" was sung, while the Queen moved to the chair she had first used, supported by two bishops. She was then enthroned into the chair of homage by the Archbishop, bishops and peers. The Archbishop delivered a short exhortation, the Queen returned the scepters and the homage began.

First the Archbishop of Canterbury, accompanied by the other prelates, knelt and said the words of homage, which they repeated, kissed the Queen's hand and retired. The Dukes of Sussex and Gloucester followed; they touched the crown and kissed the Queen's left

cheek. The dukes and other peers followed, the senior of each rank pronouncing the words and each peer kissing her hand. During this ceremony the choir sang, "This is the day the Lord hath made," and the Treasurer threw about the coronation medals.

The Archbishop then went to the altar, followed by the Queen, who gave her crown to the Lord Chamberlain to hold and kneel down. Holy communion was celebrated, the Queen having first offered a purse of gold. She then went to the throne, wearing her crown and holding the two scepters. The Archbishop proceeded with the communion service and pronounced the final blessing. The choir sang the "Hallelujah Anthem," the Queen left the throne, passed into St. Edward's Chapel and put on a purple velvet robe, received the orb in her left hand and the scepter in her right, and advanced in procession to the west door of the abbey, with the four swords carried before her as previously, and the coronation ceremonies were over.

Hints by May Manton

Woman's Blouse Waist, 4160.

Blouse Waists with big collars finishing the open necks are in the height of style and are as becoming and comfortable as they are smart. This pretty example is shown in blue chambray with trimming and shield of white needlework and is charmingly dainty, but the design suits all washable fabrics, pongee and waist silks equally well.



4160 Blouse Waist.
32 to 40 bust.

The blouse is cut with fronts and back only is arranged in gathers at the waist line. At the neck is a round collar that flares open at the front where it is cut to form points. Beneath this collar is attached the shield with the stock which closes at the centre-back. The sleeves are in bishop style with straight cuffs.

The quantity required for the medium size is 4 yards 21 inches wide, 4 yards 27 inches wide, 3½ yards 32 inches wide or 2 yards 44 inches wide with ¾ yard for shield, stock and cuffs.

The pattern 4160 is cut in sizes for a 32, 34, 36, 38 and 40 inch bust measure.

The price of above pattern post-paid is only 10 cents. Send orders to The Farming World, Confederation Life Building, Toronto, giving size wanted.

A Sparrow Song

Up among the chimney pots

Very near the sky,
Sunny days and rainy days,
Busily I fly!

Such a lot of work to do,
Living in a spout,
Tiles to wash and leads to sweep
And eaves to tidy out.

Such a heap to keep in mind—
Sills where crumbs are spread,
Sills where cats lie curled in heaps
(Cats like you better dead).

Babies warm and bare who think
You don't need wings to fly,
Neighbors who appropriate
Your gargoyle on the sly.

Wisps of hay to carry up
(Moving is a bore!)
Friends who settle roofs away,
And "wish you'd visit more"!

Really, near the sky there seems
Little time for play!

Heavens! What do folks on earth
Find to do all day?
—Evelyn Glover, in the Young People's Weekly.

Care of the Hair.

The hair suffers by reason of much ill-directed energy expended on its behalf, as well as by neglect.

Dressing the hair is so commonly done without intelligent appreciation of its needs, or is so often habitually disregarded, that the hair is rarely the adornment that it might be.

A vigorous growth of hair is dependent upon the healthfulness of the scalp. Baldness, for example, is the usual accompaniment of a tight, thin scalp, while a soft, loose scalp, with a bountiful blood supply, will ordinarily produce an abundant growth of hair.

The scalp has been not inaptly compared to the soil, which is productive according to its nutritive ability, and also according to the well-judged care bestowed upon it.

Brisk, daily brushing is indispensable to the health of the hair. The scalp must be subjected to friction from the brush for the sake of cleanliness. A brush with rather stiff bristles is necessary in case the hair is thick. If the hair is thin, a softer brush accomplishes the same result. The root of the hair—the portion upon which growth depends—is stimulated by intimate contact with the brush, which should produce a sensation of pleasurable warmth in the scalp.

Brush that scratches and irritates should be discarded.

The comb plays a minor part in hair-dressing, but requires equal care in its selection. It should have widely spaced, smooth and blunt-pointed teeth. The use of the old-fashioned, fine-toothed comb cannot be approved at any time, as it subjects the large, strong hairs to pulling and injury by splitting or cracking them, and may also tear the scalp.

No! No! No! No!

This word is used four times by Prof. W. Hodgson Ellis, Official Analyst to the Dominion Government, in reporting the result of his analyses of Sunlight Soap.

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Too frequent drenching is apt to be harmful to the hair, since it is thus apt to be kept moist and damp. This state is favorable to decomposition here as elsewhere. It is sufficient in most cases to practice washing the hair not often than once a week. A good toilet soap is to be used, the hair subsequently being well rinsed and carefully dried.

When the hair has not sufficient oil of itself, some substitute may be provided, for which nothing serves better than vaseline or olive oil. This is to be applied to the scalp or to the roots of the hair. The brisk, daily brushing recommended above is also a stimulant to the oil glands.

Singeing the ends of the hair is of no value as a means of stimulating its growth. The same may be said of close cropping, yet this is commendable in childhood, since it renders cleanliness of the scalp attainable, and allows free access of the air to the scalp, which is therefore consequently less subjected to prolonged dampness and decomposition.—Youth's Companion.

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QUESTIONS AND ANSWERS

The Best Way to Preserve Eggs

A subscriber at Morris, Ill., asks for information regarding *egg* preservatives. A thorough investigation of the various methods of preserving eggs was made at the Central Experimental Farm, Ottawa, during 1901. In the report of the Farms for that year just issued, Mr. Frank T. Shutt, M.A., chief chemist, gives his conclusions upon the work conducted as follows:

The preservative solutions that gave the best results were lime-water and the lime-water containing 1 per cent salt. There was not much difference between the eggs, cooked or uncooked, to sight, smell or taste, kept in these two solutions, but such as there was, we considered, showed the eggs in the latter to be slightly the better.

The addition of salt to the lime-water to an extent exceeding 1 per cent would appear to be no advantage; indeed, when the salt present amounted to 2 per cent we noticed that the quality of the preserved eggs had suffered. The 1 per cent solution is prepared by dissolving 1½ ounces of common salt in each gallon of the saturated lime-water.

The common salt solutions without lime, both 1 per cent and 2 per cent, caused the eggs to have a more marked and disagreeable odour, especially on cooking. All the eggs in the 2 per cent fluid were unusable.

Vaseline-covered eggs were not quite as well preserved as those simply in lime-water.

The paraffin-covered eggs were decidedly inferior to those simply preserved by lime-water.

The eggs dipped in a solution of permanganate of potash were de-

cidely bad, showing that the claims for this much vaunted chemical are without foundation.

In summing up the conclusions from the work of 1901, we feel justified in repeating the statement that saturated lime-water is a most effective preservative. We can further say that it is a cheap, easily prepared and pleasant fluid to handle. The addition of a small amount of salt (not exceeding 1 per cent) appears to be an advantage, but a larger amount—even 2 per cent—of salt is decidedly detrimental to the quality of the preserved eggs.

The Central Canada Exhibition

The directors of the Central Canada Exhibition, Ottawa, display there usual enterprise in the preliminary arrangements. Theirs will be the first of the big exhibitions on the list. It opens on the 22nd of August and closes on the 30th, and promises to be of unusual interest. Stockmen and other exhibitors will be interested in an announcement just made by the secretary. It reads as follows:—

"Owing to ours being the first exhibition on the circuit this year, we realized that in accordance with previous arrangements our Western exhibitors of stock would have to pay full freight rates in coming here; we anticipated this might be an obstacle in the way and prevent some of our usual exhibitors from attending our fair. We took the matter up with the railways to see what could be done; we stated the facts to them, and are now pleased to inform you that the Canada Atlantic, Grand Trunk and Canadian Pacific have arranged matters so that the charges to exhibitors of stock coming to this exhibition will be about the same as in previous years. The arrangement made is, that full rates will be charged from original shipping point to Ottawa, such exhibits will be returned direct from here to the next Exhibition, or home free. We trust this will meet with the approval of our patrons from the West, and hope that they will all be with us as heretofore."

Kill One in Four.

Dairy Commissioner McConnell says that 25 per cent of the cows kept for dairy purposes in Minnesota do not pay for their feed. It would be economy to the owners to butcher them. If the department had the money he would pay an expert to go the rounds and test every herd in order to inform the owners what animals were paying for themselves and what might as well be turned into beef.—Minneapolis Journal.

"Now that our engagement is off," said the beautiful blonde, "I shall expect you to return my photograph and lock of hair." "I'll return the photo," replied the young man in the case, "but I want you to understand that I'm not advertising myself as a hair restorer."—Chicago News.

DRAINAGE.

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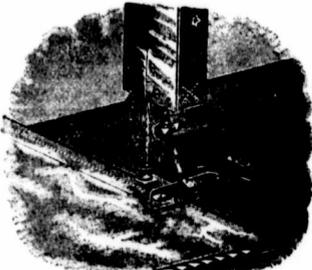
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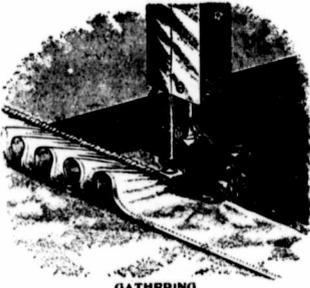
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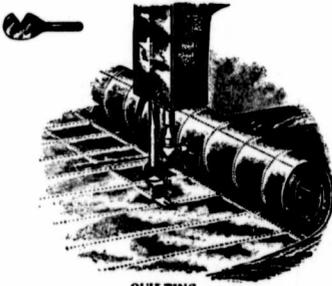
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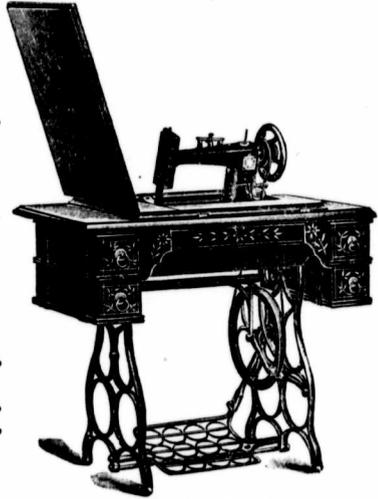
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P.O.....

About Soiling Crops.

Soiling crops are no longer an experiment, but their presence in the farmer's field now marks the man with a business head. By their use the flow of milk can be sustained throughout the dry summer months and the flesh of the fattening cattle increased. In their use a little extra labor is involved since they should be cut and fed in a green condition. This can be easily done once a week, as they will not spoil if not piled too deeply on the stable floor. However, this slight disadvantage is recompensed by the saving of land, since only about one-fourth the land is required as when pasturage is relied upon entirely.

Undoubtedly, the best soiling crop for mid-summer and early fall is sorghum. Of this crop Prof. Curtiss says: "Its hardness, vigor and growth, abundant yield and adaptation to our soil, place it among the most reliable and profitable crops of the farm, regardless of drouth or other abnormal climatic conditions. Any part of the crop not needed for summer feeding in the green style can be cured in the form of excellent winter fodder."

Corn sown or drilled during the first half of July will furnish a good September feed. Hungarian millet is also good—sow it during June at the rate of one bushel per acre. For an October ration, peas and barley if sown one and one-half bushels per acre during July will supplement the pasturage producing a fall feed that will make the dairy cow a valuable animal.

However, in the use of these crops the regular grain ration should be maintained at least in part; in other words they are simply an adjunct to the regular ration.—Iowa Agriculturist.

Butter for the English Market.

Prof. G. V. McKay of Iows, who, by the way, is another of the many young Canadians who have made their mark in Uncle Sam's domains, has recently been telling the dairymen of the West how to make butter for the English market. Among other things he said: "What is required for that market is good, clean, mild flavored butter with very little salt, and very little coloring added. It is not necessary that the cream should be pasteurized, as I found the dealers there were divided on the question the same as we are here. The highest selling butter on the English market is the French roll made from raw cream. This is a very high flavored butter with a high nose aroma. On the other hand the best Danish butter is made from pasteurized cream. The Danes skim a very thin cream, about 18 per cent. fat, hence they are not troubled with the mealy condition of the butter that is sometimes present in pasteurized butter, especially when the cream has a high percentage of fat. I would not advise using more than ½ ounce of salt to the pound of

butter. The Manchester market prefers a very light colored butter, while the London market will stand about the same shade as the New York market.

"I would ripen cream to about 5 of 1 per cent. of acid, or as soon as cream begins to thicken, cool it down to churning temperature. What is desired is a mild, clean flavor. I would advise working butter twice with an interval of two or three hours between the working. If the butter contains much water, it will not affect its sale, so long as it has a dry appearance. England has no fixed standard on the amount of water butter should contain. Danish butter runs about 15 per cent.

"Butter will sell better in the English market if put up in boxes instead of tubs. Some merchants suggested that Americans adopt a box of their own and do away with the tub, as there was a prejudice against it.

"While we undoubtedly never will be leaders in that market, owing to our large home trade, I want to see our standard so raised in the English market, that whenever we send butter abroad it will command the highest price. There might be some excuse for Denmark with her cool climate and her proximity to England getting her butter there in better condition than we could, but we could certainly have no excuse for far away New Zealand and Australia surpassing us in that market. With modern refrigeration accommodations, distance and transportation have very little effect on the quality of the butter.

"We have passed the period where the country grocer sets the price for our dairy products. The leading markets of the world are our markets to-day. We can send butter to England for about 1½¢ per pound; so whenever we make an honest effort to gain the reputation in that market that we should, we will succeed."

The last two paragraphs should set our dairymen thinking. We are as near to the English market as the American dairymen is and Canadian butter should have first preference there.

Ups and Downs of the Wheel.

The varying mood of the public, influenced as it is by fads and fashions, is a curious study. In this regard there is no more interesting history than that of the bicycle. From its crude introduction until the pneumatic tire and cushion frame were established its progress was remarkable, and the climax was reached three years ago when wheeling amounted to a positive craze. Then there were black days, but this year again finds it in universal favor. The truth is, there never will be anything to take the place of the bicycle as a convenience, especially in the country where one has not city accommodation for travel. The big revival is due to this and to the fact that a good bicycle is now within the easy reach of any pocketbook.

Low Round Trip Rates, Via Union Pacific, from Missouri River,

\$ 15.00	To Denver, Colorado Springs, and Pueblo, Colo., July 1 to 13, inclusive, August 1 to 14, 23 to 24, and 30 to 31, inclusive.
\$ 19.00	To Denver, Colorado Springs, and Pueblo, Colo., June 25 to 30, inclusive, July 14 to 31, inclusive.
\$25.00	To Salt Lake City and Ogden, Utah, August 1 to 14, inclusive.
\$25.00	To Glenwood Springs, Colo., July 1 to 13, inclusive, August 1 to 14, 23 to 24 and 30 to 31, inclusive.
\$30.00	To Salt Lake City and Ogden, Utah, July 1 to 13, inclusive, August 23 to 24, and 30 to 31, inclusive.
\$ 31.00	To Glenwood Springs, Colo., June 25 to 30, inclusive, July 14 to 31, inclusive.
\$32.00	To Salt Lake City and Ogden, Utah, June 25 to 30, inclusive, July 14 to 31, inclusive.
\$45.00	To San Francisco or Los Angeles, Cal., August 2 to 10, inclusive.
\$45.00	To Portland, Ore., Tacoma and Seattle, Wash., July 11 to 21, inclusive.

Correspondingly Low Rates from Intermediate Points
Full information cheerfully furnished on application to

G. G. HERRING, G.A.,
126 Woodward Ave., Detroit, Mich.
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63 Yonge Street, Toronto, Ont.

WOOD ENGRAVING,
PHOTO ENGRAVING,
HALF TONES
168 BAY ST
J.L. JONES ENG. CO
TORONTO

British Columbia Farms.

If you are thinking of going to the Pacific Coast try British Columbia: No extremes of temperature. No cyclones, No dust storms, No cloud bursts, No droughts, No blizzards. Fertile land, and the heaviest crops per acre in Canada, we make this statement without fear of contradiction. The land is cheap and the markets and prices for farm produce the best on the Pacific Coast! Write for Farm Pamphlet to the Settlers' Association, Box 540, Vancouver, B.C.
When writing please refer to this paper.

THE BEST BUTTER

Can only be secured by close attention to every detail. Much of the paper sold as vegetable parchment for wrappers is only imitation, and quite liable to impart a bad flavor to butter. We import large quantities of the genuine article direct from Germany. We supply it plain or printed. Write for samples and prices.

Sentinel-Review Co. Ltd.,
B. x 721, Woodstock, Ont.

ONTARIO VETERINARY COLLEGE, Limited

Temperance St., Toronto, Can.

Affiliated with the University of Toronto.
Patrons: Governor General of Canada and Lieutenant-Governor of Ontario. The most successful Veterinary Institution in America. Experienced Teachers. Fees, \$65 per session.

PRINCIPAL PROF. SMITH, F.R.C.V.S.,
TORONTO, CANADA

PURE-BRED STOCK

NOTES AND NEWS FROM THE BREEDERS

These columns are set apart exclusively for the use of breeders of pure-bred stock and poultry. Any information as to importations made, the sale and purchase of stock and the condition of herds and flocks that is not in the nature of an advertisement will be welcomed. Our desire is to make this the medium for conveying information as to the transfer of pure-bred animals and the condition of live stock throughout the country. The co-operation of all breeders is earnestly solicited in making this department as useful and as interesting as possible. The editor reserves the right to eliminate any matter that he may consider better suited to our advertising columns.

Cattle.

A combination sale of Shorthorns consigned by Messrs. Edwards, Dryden and Cochrane held at Chicago on the 13th and 14th inst., was in most respects a decided success. The noteworthy feature of the sale from a Canadian standpoint was the high average of prices which ruled for Mr. Dryden's Canadian bred females as compared with the imported stock. This is most gratifying, as according to the reports the bidding was made strictly on the merits of the animals offered and without any sentimental bias whatever. The tip-top price of the sale was on a bid of \$2,010 for Mr. Cochrane's bull, Golden Mist, Imp.

Good reports come from Medicine Hat District in reference to beef growing. Notwithstanding the unusually wet spring the grass is in fine condition and beef is doing exceedingly well. Mr. Bray the secretary of the Medicine Hat Stock Growers' Association reports a shipment of 84 steers on the 26th of January, May 3rd a bunch of 113, on the 28th a further lot of 35. These animals all averaged up in good condition from 1,400 to 1,600 lbs. A stray four year old steer was captured and tipped the scale at 2,075 lbs. and netted \$83.

The Range Type of Cattle

This province is becoming more and more a supply ground for bulls for the Western ranches and more particularly for our own Canadian ranches. A knowledge, then, of the kind of cattle best suited for ranching purposes will therefore not come amiss. There is a complaint among many American ranchers that the grade Herefords so common on western ranches are losing in size and weight. This is ascribed to bad selection by the ranchers in purchasing their bulls. John H. Culley in discussing this matter from the ranchers' point of view in a recent issue of the Chicago Live Stock Report, says:

In a word, we need in the far west, as we have always needed, hardy cattle: something excellent for beef—thrift, plucky, a born grazer, indifferent to wet or cold, snow or sun; something that won't die. The death-rate, not the market value, is the chief factor in our balance at profit and loss.

It was for the above desiderata alone,—because he was fat when others were thin, rustling hard when others had thrown up the sponge, alive, at least, when others were feeding the vultures—that western breeders chose and continue to use the Hereford; and there is nothing

visible, at present, to take his place.

It will not do to blink the question of the loss in size and weight in our Hereford graded herds; nor, recognizing the facts, to depend upon the doubtful expedient of an occasional infusion of Shorthorn blood. Have our range breeders used wisdom, always, in their selection of Hereford bulls? Have they kept the type, whose lines experience delineated, always fixed before their eyes? They have talked much about bone and scale and ruggedness; have they always taken care to get them?

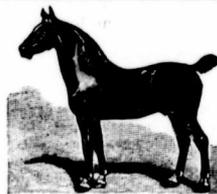
About a year ago I was standing in a small barn on one of the most famous Hereford farms in America. The barn had two box stalls. Out of one looked—and I shall not easily forget that colossal countenance—a wide-out, square, rugged bull, massive, large-boned, strong in neck and head and horn. I fancied him shaking them defiantly at an approaching blizzard, and carrying, withal, a wealth of level flesh on that great frame. In the other stood a well known bull but of a different type. Quality, early maturity, smoothness and finish were, indeed, written all over him,—in his neat, fine head and horn, his smooth, ripe, rounded dumpling of a body, his fine bone and trim joints. Sydney Smith once said of a hot day that it was the sort of day on which one would like to "take off one's flesh and sit in one's bones," and as I watched this plump, fashionable fellow, I thought that if by some chance he were to "take off his flesh and sit in his bones" there wouldn't be much of him.

I stood some time with the proprietor comparing the two types in relation to their use as range animals. The big-boned fellow would have regenerated, I believe, a whole continent of undersized Herefords. Mr. —'s remark was, "Well, the range men when they come here always say they want big-boned bulls, but they always buy the fat ones!"

Preserving Eggs.

The Rhode Island Station has been making some experiments in the preservation of eggs. For this purpose various sample lots of fertile and unfertile eggs were placed in preparations of waterglass, dry table salt, limewater and salt brine, vaseline, ashes, gypsum, powdered sulphur and sulphur fumes, permanganate of potash, salicylic acid and salt brine.

"Of the different methods tested in the series of experiments," the



WILL NOT SCAR OR BLEMISH.

GOMBAULT'S CAUSTIC BALSAM

is the safest and most effective lotion or blister for ailments of

HORSES and CATTLE

and supersedes all caustery or firing. It is prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government Stud.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY Cleveland, Ohio,
OR 21 FRONT STREET WEST, TORONTO, ONT



LUMP JAW

Easily and thoroughly cured. New, common-sense method, no operations. No cure no pay. FREE. A practical, illustrated treatise on the absolute cure of Lump-Jaw, free if you ask for Fleming's No. 257 Fleming Bros., Chemists, 56 Front St., West, Toronto, Ont.

STOCK

DAVID McCRAE, Janesville, Guelph, Canada, Importer and Breeder of Galloway Cattle, Clydesdale Horses, and Cotswold Sheep. Choice animals for sale.

JOHN DRYDEN

BROOKLIN, ONTARIO

BREEDER OF

CRUICKSHANK SHORTHORNS and CHOICE SHROPSHIRE SHEEP

Choice Young Bulls and Ram Lambs for sale. Write for prices.

QUEENSTON HEIGHTS SHORTHORNS.

Scotch and Scotch-topped choice young cows and heifers for sale at moderate prices.

HUDSON USHER,

Queenston, Ont.

Shropshires For Sale.

Six ram lambs, four shearing rams, one two year ram, one stock ram, ewes all ages. Extra good blood. Prices reasonable.

J. F. BRUNTON, ara, Ont.

OHIO IMPROVED

Chester White Swine

CHOICE PIGS, 6 to 8 weeks old, pairs not killed. Boars fit for service. Pedigrees furnished. Prices reasonable.

TILMAN E. BOWMAN,
BERLIN, ONT.

Station reports, "the old way of using slaked lime and salt brine proved to be very effectual, and has the advantage of being inexpensive. It is also not difficult to practice. For a period of a few weeks only, smearing the eggs with vaseline may prove an effectual method of preservation. In the place of vaseline almost any clean, greasy substance may be used. For a period of a few months only, packing in dry table salt is worthy of recommendation. Of all the substances experimented with, the waterglass solution proved most worthy of commendation. The experiments showed that the waterglass solution could be reduced to three per cent, and still retain its preserving quality. It can be obtained at most druggists at from 40 to 60c. per gallon, easily manipulated and the solution may be repeatedly used. The eggs should be completely immersed in the solution, and if any eggs float, an inner cover which will sink them below the surface of the liquid should be used. In several tests where the eggs were placed in stone jars, inverted saucers were used for this purpose. The expense for the waterglass at even 60c. per gallon would amount to about two-thirds of a cent for a dozen eggs. Of course, this does not include the expense of the jar or other receptacles, which may be of stoneware, glass or even wood."

Personality in Disease

Bad humor coats the tongue as readily as bad food. Worry, the fidgets, and a chronic case of "the blues" may be more dangerous to health than germs and microbes. For an invalid, the worst of all habits is the sick habit. Many invalids would be well within a week's time, were it not that they are so deeply addicted to the habit of staying sick.

The courage with which an individual meets and faces a serious illness is often the deciding factor. If he droops and is faint-hearted, he yields to the disease. If he is strong and hopeful he conquers.

The firmly uttered words of even a very sick man, "I will live," "I will have health," "I will not die," are usually prophetic.

The physiological effects of faith as contrasted with the pathological effects of despair are seen most sharply in the sick-room.—Dudley Fulton, M.D., in Good Health.

Teacher—In the sentence, "Mary milks the cow," what is the word cow?

Johnny—Cow is a noun, feminine gender, and stands for Marv.

Teacher—What nonsense! Why does cow stand for Marv?

Johnny—So Mary can tend to the milking.

LADIES, WHY SUFFER?

Dr. Jones' Restorative, restores health and vigor to the generative organs, \$2.00 per bottle.

BROXIDE CHEMICAL CO., Toronto

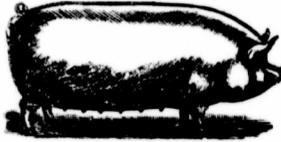
Rapids Farm Ayrshires

Reinforced by a recent importation of 20 Cows, 2 Bulls, and a number of Calves, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows this year. Representatives of this herd won the first herd prize at the exhibitions at Toronto, London and Ottawa. **Come and See or Write for Prices.**

Young Bulls and Heifers for sale, bred from high-class imported stock.

**ROBERT HUNTER, Manager for W. W. Ogilvie Co.,
Lachine Rapids, Quebec**

OAK LODGE YORKSHIRES



Years of CAREFUL BREEDING have made the OAK LODGE YORKSHIRES the Standard of Quality for IDEAL BACON HOGS.

The championship against all breeds has been won by this herd for 4 years at the Provincial Winter Fair, on foot and in dressed carcass competition.

Prices are reasonable.
J. E. BRETHER, Burford, Ont

AYRSHIRES AND YORKSHIRES FOR SALE

I have a number of choice cows and heifers, 2-year old heifers in calf, and bull and heifer calves sired by "Blair Athol of St. Annes." Breeders will find this a rare opportunity to get choice Ayrshires at low prices. I have three choice litters of Yorkshire pigs, six weeks old, ready to ship. Quick buyers will get bargains.

JOHN H. DOUGLAS, Warkworth, Ont.

BELL .. PIANOS ... AND .. ORGANS.



Built to last a lifetime
By the Largest Makers
in Canada



BELL is the Musician's Favorite

The BELL ORGAN AND PIANO CO. Limited, GUELPH, Ontario

Catalogue No. 41 Free.



Contains Over
1,000 Recipes

The most practical cook book in the world. The receipts are of a kind that appeal to the common sense of the housekeeper. Grouped together in black-face type at the commencement of each receipt is a statement giving the kind and quantity of ingredients required. The chapter on "The Sick" is itself worth the price of the book. Bound in substantial oilcloth cover for the kitchen.

A Copy of the Ideal Cook Book will be sent free to any present subscriber sending one new subscription to THE FARMING WORLD, or to any subscriber not in arrears for 50c. The published price of the book is \$1.00.

THE FARMING WORLD, Confederation Life Building, Toronto.

Enclosed find \$1.00. Send FARMING WORLD for one year to

Name

(New subscriber)

P.O.

Send Cook Book free to

Name

P.O.

Market Review and Forecast

Office of the Farming World, Confederation Life Bldg.

Toronto, June 23rd, 1902.

Interviews with some of our leading merchants bring to light a state of business not altogether satisfactory so early in the season. Notwithstanding the somewhat late spring and the cool weather which has prevailed trade has slackened down to midsummer basis.

Money is steady at 5 p.c. with a slightly downward tendency.

A feature of the grain trade is the altogether unusual scarcity of coarse grains throughout Ontario. The export business is also disappointing, partially to be accounted for by the shortage of last year's corn crop in the United States and the fact that the shipment of last season's Manitoba wheat is almost completed.

Wheat.

The report of the growing crop in Manitoba continues most encouraging. Notwithstanding the somewhat wet spring the outlook for an early harvest is bright with a splendid yield almost assured.

The latest reports from France, Germany and England indicate increased yields over those of last year, while Russia promises a record breaker. However it is yet too early to prognosticate. The following prices rule on Toronto market, for red and white 77c, for goose 68c, Manitoba No. 1 hard 85c, No. 1 Northern 82c.

Oats and Barley.

The market is quiet and steady with indications for slightly advanced prices, the scarcity of coarse grains throughout Ontario, permitting this opinion. Oats on Toronto market 48c to 49c. Montreal 48½c. Exporters stand firm at 47c. Barley, Toronto 55c No. 1, 53c for No. 2 middle, 48c for No. 3. Montreal exported 33,027 bushels with a market firm on car lots of No. 3 at 58c.

Peas and Corn

The same slight upward tendency rules here. Last week our report for peas was 76c, to-day 78c rules on Toronto market. A slightly higher rate in Montreal. The scarcity of corn has resulted in a firm market. Canadian corn sold on Toronto market for 69c while from Montreal the report comes from 70c to 70½c in car lots.

Beans and Shorts

This week's quotations show an advance of about 50c since our last



Trees! Trees!! Trees!!!

We have a full and complete assortment of Fruit and Ornamental Trees which we offer at lowest prices possible. Farmers wishing to buy stock absolutely first hand and without paying commission to agents, should write to us at once for prices.

We also make a specialty of Packing Dealers' Orders.

WINONA NURSERY CO., Winona, Ont.

report with a very irregular market. The car lot sales have been made during the past week at \$18.50, \$19.50 and \$20.00. Millers have asked as high as \$20.50. Shorts rule from 22c to 23c.

Potatoes and Beans.

With prospects of the new crop a decided falling off in the demand for old potatoes is the result with corresponding slump in prices, 75c to 78c being about the outside in job lots and 70c to 75c in car lots.

Hay and Straw.

A good hay crop is almost assured throughout Ontario and Quebec for this year. The Maritime Provinces' tonnage will be above the average. As usual when haying operations are about to commence there is a drop in the price. Last week they were paying \$7.50 to \$7.75 in the neighborhood of Montreal. Nothing but the most choice will bring more than \$7.50 this week while ordinary lots can be bought for \$6.50. Toronto market prices rule for best timothy at \$10.50 to \$12.00, clover \$7.75 to \$9.00, sheaf straw \$7.50 to \$8.50, loose per ton \$5.00.

Eggs and Poultry.

The steady growth of the poultry and egg trade has been one of the notable features of the produce market. When one looks back at the poultry transactions of three or four years ago and compares them with the returns recently made which show a million and a half dollars received for Canadian eggs from Great Britain alone last year, one gets some little idea of the possibilities of this trade. The first shipment of this season's fresh eggs has just been made to London and has been well received. A movement is on foot among the leading buyers to almost immediately adopt a uniform price West of Toronto of 12c, and east of Toronto 12½c. Strictly new laid eggs on Toronto market bring from 17c to 18c, ordinary lots from 14c to 15c.

Outside points in Ontario 12c to 13c. In Montreal 13½c rules for ordinary lots with a downward tendency. In the Maritime Provinces 13c rules with a weakened market.

The Canadian Produce Co., Ltd., 36 and 38 Esplanade St. East, Toronto, will pay until further notice for live chickens, 8c; for ducks and turkeys, 11c; for geese, 6c. per lb. All must be young birds. For hens 4c. per lb. Dressed poultry, dry picked except hens, ½c lb. higher. Broilers under two pounds in weight 20c. per pound. These prices are for weight on arrival. Crates for live poultry supplied free, and express paid up to 50c. per 100 lbs. of chickens. No thin birds will be taken.

Cheese

A feature of the market is the extreme caution displayed by British buyers. Cable orders are few and the limits are low. Belleville, Brockville and eastern points report slightly lower prices. With the increased facilities for producing a high grade article in Canada our dealers may hopefully look forward to a lively demand for Canadian cheese at top prices. The finest western article on the Montreal market sells at 9½c, 9¾c for the finest Eastern Townships and 9¾c to 9½c for the best Quebecs.

Butter

The Trade Bulletin furnishes the following quotations:—

Receipts during the past week were 23,021 pkgs. against 29,770 for the week previous, and 19,524 for the corresponding week last year. The exports for the past week were 18,073 pkgs. from Montreal against 14,310 pkgs. for the same week last year. Contrary to general expectation the market at the close of last week waxed decidedly stronger and prices advanced fully ½c, fancy creamery selling on this market at 20½c to 20¾c and fine at 20c to 20½c whilst a considerable portion of the offerings

POULTRY, BUTTER AND EGGS

We will be pleased to receive shipments of Poultry (dressed or alive), Butter and Eggs in any quantity, and will forward, upon application, empty crates and egg cases. Payments weekly by Express Order.

Toronto Poultry and Produce Co. - Office, 470 Yonge St., TORONTO

WANTED—BUTTER, POULTRY, EGGS

We have a large outlet, having Twenty-one Retail Stores in Toronto and suburbs. Payments weekly. Established 1884.

The WM. DAVIES CO., Limited

Head Office—Retail Dept. Correspondence invited. 24 Queen St. West TORONTO

which ranks as good fresh merchantable stock sold at 19c to 19½c and 19½c. In dairy butter, holders in the best Western sections ask 15½c to 16c l.o.b., a car of closely selected bringing a fraction more. Here the sale of 110 tubs selected Western sold at 17c. The market closes steady for finest creamery with prices ¼c lower at 20½c to 20¾c. We quote as follows:—
Finest creamery.....20½c to 20¾c
Good to fine.....19c to 20c
Dairy Eastern Town-ships.....17½c to 18½c
Dairy Western.....16c to 17½c

The Toronto market,—dairy rules 15c to 16c, tub 15c to 16c, creamery in boxes 19c to 20c.

Wool.

The backward season and the cold weather have somewhat interfered with the market of this year's clip. The shearing of sheep is now in progress in the North-West but will not influence the market until about the 10th of July. Prices at present rule at 12½c to 13c for washed fleece with a decided downward tendency.

Cattle

Export Cattle.—Choice loads of heavy shippers are worth from \$6.50 to \$7.00 per cwt., medium exporters \$6.00 to \$6.25. Heavy export bulls sold at \$5.00 to \$5.75 and light ones at \$4.25 to \$4.35 per cwt., choice export cows sold at \$4.85 to \$5.75 per cwt.

Butchers' Cattle.—Choice picked lots of these, equal in quality to the best exporters, weighing 1,100 to 1,150 lbs. each, sold at \$5.25 to \$5.75 per cwt. Choice picked lots of butchers' heifers and steers, 925 to 1,025 lbs. each sold at \$5.35 to \$5.60, good cattle at \$5.25 to \$5.40, medium at \$5.00 to \$5.30 and inferior to common at \$3.75 to \$4.50 per cwt. Loads of butchers' and exporters' mixed sold at \$5.50 to \$5.70 per cwt.

Feeders.—Light steers, 900 to 1,000 lbs. each sold at \$4.25 to \$5.00 per cwt.

Stockers.—Well bred young steers weighing 400 to 850 lbs. each sold at \$3.50 to \$4.25, and off colors and those of inferior quality at \$3.00 to \$3.50 per cwt.

Calves.—At Toronto market good to choice calves bring \$3.50 to \$4.50 per cwt. and \$2.00 to \$3.00 each.

Milch Cows.—These sold at \$30 to \$50 each.

The closing of the market last week was noted by unusually dull transactions. Strictly choice bees held their price while all below that grade were 10c to 15c lower. A report from Chicago just received is interesting. It says:—

"While prime bees have advanced to the highest point of the season—as well as the highest in many

years—the common and inferior grades show a sharp decline from a week ago, and the spread between poor and choice cattle is the widest in a long time. The slump in values of low-grade natives is largely due to the liberal supply of shorted grassy stuff, also to the Texas cattle most of which have had some cotton-seed meal on grass and are being sent in freely just now, competing with the inferior native stuff to the disadvantage of the latter. There is also a common class of straight Texas grassers coming which their owners are making a big mistake in marketing just now, as a great deal of this stuff which now goes for canners at a low price would if held until fall be much more desirable for slaughtering purposes and net the owners more money.

"Good prime steers \$7.50 to \$8, poor to medium \$4.75, stockers and feeders \$2.50 to \$5.25."

Sheep and Lambs.

A lot of lambs sold in Chicago on Monday last at \$7.60, which is the highest price ever paid on Chicago market. A steady decline has set in and the prices now rule as follows:—

Choice wethers \$4.75 to \$5.25, fair to good sheep \$4.00 to \$4.50, choice yearlings \$5.50 to \$6.00, choice lambs \$6.75 to \$7.10, common to medium lambs \$4.00 to \$5.00.

Hogs

Prices are about the same as last week with a somewhat firmer market and prospects for a slight advance. The top figure at Chicago for the best heavy touched \$7.65. The bills of the desirable, medium and heavy grades sold at \$7.35 to \$7.50. In Montreal the supply is very limited and packers are paying \$7.00 freely for the right grades. On Toronto market dressed hogs bring from \$9.00 to \$9.25.

For the week ending June 28th the Wm. Davies Co., Toronto, will pay \$6.87½ per cwt. for select bacon hogs, \$6.62½ for lights and \$6.62½ for fats.

Horses

The demand for good general purpose horses is lively and a good business is being done. Grand's special sale last week was well attended and all the horses offered were sold at fairly good prices.

Carriage horses from.....	\$180-\$250
Draught.....	140-200
General purpose.....	120-150
Drivers.....	100-175
Second hand.....	25-75

A little boy, the son of a Christian Scientist, has a toothache. "If you had my faith, darling," the mother said, "you would have no toothache." "Yes," the boy replied; "and if you had my toothache, you wouldn't have your faith."—Atchison Globe.

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The solutions of copper sulphate and caustic soda should be put into the barrel or tank only after nearly filling it with water, and afterwards thoroughly agitated by pumping the mixture back into the tank through the hose with nozzle removed. The mixing of spray preparations of this sort outside the spray tank is unnecessary—the process may be best conducted by putting the ingredients directly into the tank—but not until water enough has been added to make them quite dilute.

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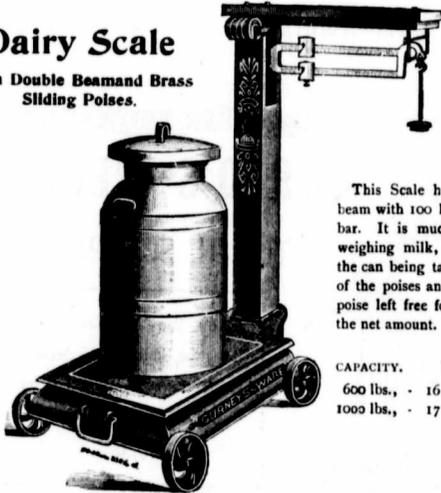
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