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to make his money... the important grade... NG POTATOES.

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EFFICIENT FARMING

WHY I BOUGHT THE LARGER TRUCK.

In this age of hurry and bustle it is conceded that a truck is an essential to the average farmer. Whenever and wherever farmers meet the conversation turns sooner or later to trucks. Their relative size and value forms the topic of many discussions. I live on a farm of 205 acres, 176 of which is cleared. During the wave of prosperity following the war, I purchased two light trucks, one of three-quarters and the other of one-ton capacity. The lighter one was practically demolished in an accident recently and I found it necessary to replace it. Since I was perfectly satisfied with the make of the old one, my only consideration was the proper size of the new. I hesitated for quite a while before making my final decision in the matter.

I had kept a record of the cost of operation of both trucks, which I consulted very carefully. I discussed the matter with neighbors who had one of either size, or both, and learned their experiences. I talked to a number of truck salesmen and to one district manager and found that in the majority of cases of farmers similarly situated their experiences coincided with mine.

My principal market is located fourteen miles from my farm, while one that I use at certain seasons is thirty-six miles distant. My farm is on a good dirt road, one mile from a highway connecting these towns. This gives me an excellent road with a low cost of truck operation.

According to my records, it cost me 1.7 cents per mile for gas and oil for the three-quarter ton, and two cents for the one ton truck. I have the original tires on both trucks, and apparently they have worn about the same. In the item of repairs the lighter one suffers. It has cost me \$49.80, against \$81.50 for the heavier truck.

In regard to the saving of time, there is very little difference. On personally conducted tests the short haul was made with an average saving of about ten minutes, and the long haul netted half an hour in favor of the lighter truck. When the drivers are together, which is frequently the case, there is no difference, as they return together. I have found this to be real economy, especially on long hauls, for one of the trucks may develop trouble. The presence of the second driver has, on several occasions, more than compensated me for any time one may lose by waiting for the other to unload.

Since I did not own trucks prior to the war and, consequently, have never worn out one by fair wear and tear, I am dependent upon the district manager of a popular make of trucks for my information on comparative longevity. According to the records the average life of the three-quarter ton truck is 7.9 years, while the average ton truck is in service for 8.3 years. In consolidating my records I find the lighter one cheaper to operate in regard to gas and oil to the extent of .3 cent per mile. In trip time the difference is negligible, as is the case with tires. Repairs show a balance of \$18.30 in favor of the heavier one, while statistics show its life to be six months longer. In addition to this, its ability to carry twenty-five per cent more per load allows it to do as much in four trips as the smaller one does in five. This factor has been of inestimable value to me in both time and money during the busy seasons. My experiences and investigation has proven conclusively to me that the ton truck is the ideal size to fill the requirements of the average farmer.

BAD SMELLS.

A little reflection regarding habits of lower animals and of man leads to the conclusion that the sense of smell is of great importance. The startled deer stands with dilated nostril to the breeze, sure that her nose, before her eyes, will tell her whether to flee. The hungry wolf presses with relentless speed upon a trail which the human being cannot distinguish at all. We may believe that once all men were similarly endowed, for in certain primitive tribes the acuteness of the sense of smell is not altogether lost. W. H. Hudson tells of the cannibal tribes of Queensland who were found to hunt by smell a large species of boar with which they supplement their more gruesome diet. The evil smell of the skunk is produced to discourage his enemies and constitutes a powerful weapon of self-defence. According to the theory of natural selection, those species would survive which made use of their noses to distinguish good food from bad. The omnivorous skunk foils his enemies that he is bad food even before he is dead, whereas they leave him alone. Man, too, makes use of his nose to avoid bad food. We speak of the "taste" of a rotten egg, but if the nose is cold in the head, he will be able to eat a bad egg without tasting its badness. The same instinct which makes him distrust a bad egg makes him also distrust a leaky drain pipe (after all

the two smells are very much alike). Thus he has always sought to keep away from the odors which result from the putrefaction of organic wastes. With the dawn of the industrial era, the problem of "manufactured" smells connected with industry also claimed attention. The necessity of making laws to deal with this situation gave urgency to the question: What is the effect of odors on health?

Mr. X may complain to the Health Officer that a disagreeable smell comes from the garden of his neighbor, Mr. Y, and that his family have sore throats in consequence, but the Health Officer, though anxious to suppress the nuisance, has no direct evidence as to the poisonousness of the smell. Through there are of course poisonous gases, like hydrogen sulphide, that have a pronounced smell, we cannot say that it is their smell which is harmful nor indeed can we ascribe any known disease to odor. People whose occupations lead them to work among disagreeable smells soon become insensitive to them, and it is now well established that the care of sewers and sewage works is a healthy occupation.

Less directly, however, smells have a real sanitary significance. A smell of "drains" suggests the possibility of a polluted water supply; a smell of coal gas suggests the presence of the deadly inodorous carbon monoxide. In such cases, smell is a clue to some extent of sanitary importance and should lead to the removal of the danger which it indicates. From this point of view smells are of great importance to health.

The fact that smells cannot in themselves be regarded as a direct menace to health does not mean that no steps should be taken to suppress them. They will still be regarded as a nuisance and people will not be any the more disposed to endure disagreeable smells. The most satisfactory way of doing away with a disagreeable smell is to remove the source of offence. If the smell from Mr. Y's garden is due to an overflowing cesspool, the simplest remedy is to do away with the cesspool and replace it by an adequate sewerage system. This may be an expensive business, however, and we must consider whether there is no simpler method of solving the problem. Various processes for getting rid of unpleasant smells, such as sedimentation, filtration of organic wastes, and oxidation, combustion or aeration of the gases have been devised by science and are in daily use. The existence of these processes should be known to everyone, so that the pressure of public opinion may be exerted in support of their use, when necessary, but their choice and application is generally the business of the sanitarian. The individual lesson to be learned regarding smells is that, just as there is "no smoke without fire," so there is no smell without its source, and that source and what proceeds from it may be a menace to health.

Britain's Imports of Butter and Cheese.

Of the 2,362,574 long hundredweights of cheese imported by Great Britain in the ten months ending October 31, 1923, Canada supplied 760,694 hundredweights, New Zealand 1,212,346 hundredweights, and the United States 39,039 hundredweights. Of 4,378,227 hundredweights of butter imported by Great Britain in the same period, Canada supplied 33,764 hundredweights, Denmark 1,555,785 hundredweights, New Zealand 955,612 hundredweights, Australia 450,279 hundredweights, the Argentine Republic 399,781 hundredweights and the United States 10,578 hundredweights. Of ten individual countries supplying butter to the motherland, Canada was ninth and the United States tenth; but there was the unusually large amount of 585,893 hundredweights supplied by Switzerland, not specified. Canada's contribution of butter was 110,000 hundredweights less in the ten months this year than in the same period last year.

Live Stock in Canada.

According to official figures, all species of live stock in Canada has decreased in numbers from last year, excepting swine and poultry. Horses are said to number 3,530,841 compared with 3,648,871 last year, mules 8,722 compared with 9,202, cattle 9,246,231 compared with 9,719,869, sheep 2,753,860 compared with 3,263,525, swine 4,405,316 compared with 3,915,684, and poultry 45,469,292 compared with 43,443,718. Horses have decreased in every province except British Columbia and cattle in every province excepting Ontario and British Columbia. Swine show a decrease in Nova Scotia and New Brunswick only.

The laying age of pullets varies with different breeds, according to size and weight. The Mediterranean fowls reach laying age in four or five months; the American breeds in from six to eight months; the Asiatics in from eight to ten months.

Lime in Agriculture.

Lime has two special functions when applied to the soil. It neutralizes acidity and improves the tilth or mechanical condition. An acid soil is unfavorable for the growth of many crops. The bacteria necessary for the growing of clovers especially cannot thrive in an acid soil. Low-lying and ill-drained soils are especially liable to be sour. Upland soils may also be slightly acid from the washing away of the original store of carbonate of lime or its withdrawal by many years of cropping.

The influence of lime and its compounds upon the tilth or texture of the soil is most marked in the case of clays. Applications of lime to such soils render them more friable and mellow, more especially when dry. Lime also has a beneficial influence on the texture of light soils as it has a tendency to cement the soil particles rendering the mass more compact and less liable to dry out.

Lime has another function, which is to hasten the decomposition of potash compounds in the soil. Too frequent or too abundant applications are to be avoided as its too generous use will soon deplete the soil of its fertility unless kept up by heavy manuring.

In agricultural practice lime is applied particularly in three forms, as quicklime, slaked lime and ground limestone. For even distribution quicklime is placed in small heaps, about a bushel in each, at regular intervals on the field to be treated. Water is then poured over each heap at the rate of about one-third the weight of lime. The heap is then covered with an inch or two of moist soil and allowed to remain for two or three weeks, when the lime will be thoroughly slaked and fall into a fine powder. A little soil should then be

mixed with the lime to facilitate spreading, which is preferably done on a moist day. Forty heaps of about fifty pounds each provides an application of approximately one ton per acre.

Slaked lime is very conveniently applied to the soil by a lime spreader or fertilizer drill. It can, however, be spread from a wagon box, but the application is disagreeable and not so satisfactory. Ground limestone is very commonly used in some parts of the Maritime Provinces. For prompt action limestone should be ground so fine that seventy-five per cent. of it will pass through a sieve with one hundred meshes to the linear inch. Coarser ground limestone requires a longer time to dissolve in the soil. Applications of from two to ten tons per acre are recommended according to the character and acidity of the soil. While quicklime or slaked lime are best applied in the autumn, ground limestone may be put on at any season of the year. Bulletin No. 80 of the Experimental Farms at Ottawa, "Lime in Agriculture," covers the whole subject of the purpose of lime and methods of application. It is available at the Publications Branch of the Department of Agriculture, Ottawa.

Every one knows that a cold-chisel and a hammer are the tools for cutting vitrified tile; but not every one knows how it simplifies the work to fill the pipe with sand.

Fasten a cow-bell to a cross-tie in the barn, with about six or eight inches of swing, then run a small wire from the bell to the house, and then your wife wants you from the barn, she can yank on the wire instead of yelling till all the neighbors think some one is hurt.

For Home and Country

Work, Study and Play in the Girls' Institutes.

BY ETHEL M. CHAPMAN.

Reports from the Girls' Institutes for the year show a fairly creditable line of work accomplished. Because the New Year is a good time to review the past twelve months and make resolutions to fill the coming year with even better things, we are giving here a summary of what has been going on in the Junior Institutes.

Landowne made two layettes, one for a baby at home, the other for Northern Ontario relief; gave twenty dollars toward improving two local cottages; assisted the Senior Institute in entertaining the district annual convention delegates; brought a traveling library to the town; took up a reading course at their regular meetings; had a course in Food Values and Cooking; arranged a picnic excursion, a sleigh ride and several social gatherings during the year; maintained a cot in a children's hospital; gave prizes at the Fall Fair; bought a shipment of fruit for canning at wholesale prices for the women fit of Institute members; and they are now planning to organize a Horticultural Society.

Freelton. This is a "Girls' Circle" within the Women's Institute; the girls meet regularly with the women but they have some special meetings of their own and they carry on certain special lines of work by themselves. They made a layette for Northern relief; held a "Shamrock Tea" realizing \$25; arranged a community picnic in July and a baseball tournament and corn roast in August—the girls have their own soft ball team; are studying the Government publication "Laws of Ontario Concerning Women and Children"; held a Hallowe'en party including an "apron contest" (explained in a former News Bulletin), the proceeds from which went to buy presents for the children in the County Sanitarium. The president says, "Our year's work together in the circle has certainly given us a better realization of our mutual need of each other."

Elgin. This is an organization of girls from all over Elgin County. They meet the first Saturday of every month in the office of the County Agricultural Representative. They cooperate closely with the Junior Farmers' organization in bringing all the young people of the county together in social and educational gatherings. Believing that the community dances might be improved, the girls framed a "petition" asking for chaperons, an earlier hour for closing, etc., and presented it to the boys' committee. The committee agreed to their requests, with distinct benefit to the prestige of the gatherings. At their December Literary meeting, including a debate, they had two hundred and fifty members present. At Christmas time the girls sent a box of homemade candy to each inmate of the County Children's Shelter and House of Refuge—also to a number of "shut-ins" in the various communities throughout the county. The Girls' Institute personal greeting card that went with these boxes was a thing of distinction in itself.

Brampton sent a bale of clothing to the Northern Ontario fire sufferers; held a sale of homemade baking, a garden party, and had a booth at the school fair to raise money for the County Memorial Hospital; with the Junior Farmers they had a skating party, a debate, and a corn roast; in June with the other girls' Institute of Peel County they visited Macdonald

The Sunday School Lesson

JANUARY 27

Israel Saved at the Red Sea. Exod. 12: 37 to 18: 27. Golden Text—The Lord is my strength and song, and he is become my salvation.—Exod. 15: 2.

THE STORY CONTINUED.—When, after hard pressure, Moses had won the reluctant consent of the Egyptian Pharaoh to the outgoing of the Israelites, he led them (or rather "God led them," 13: 17, 18) not by the direct road, "by the way of the land of the Philistines," but by a less frequented road, "the way of the wilderness of the Red Sea." This road seems to have crossed a shallow arm of the sea, passable at low tide, the exact location of which cannot now be determined. It is possible that in those days the gulf extended farther north than it does now and that great changes have taken place since. At any rate the story makes it clear that the waters were driven back by a strong wind during the night, and that the Israelites were able to cross probably at low tide, but the Egyptian army following them was overwhelmed by the waters when "the sea returned to its strength."

From the crossing of the Red Sea the book of Exodus carried the story of the wilderness journey as far as Sinai, and the encampment there, then tells of the first giving of the law and the building of the tent sanctuary. The earlier chapters of our lesson tell also of the first passage on the night of the departure, and give the law of the passover as it was observed in the following centuries. The entire book is made up of both narratives and laws, descriptions of the tent temple of the wilderness drawn from the night of the departure, and the law of the passover as it was observed in the following centuries. The entire book is made up of both narratives and laws, descriptions of the tent temple of the wilderness drawn from the night of the departure, and the law of the passover as it was observed in the following centuries.

Ch. 14: 21. The Lord caused the sea to go back. The Hebrew word used here means simply to "go" or to "go along." We may understand the story to mean that a northeast wind, driving the waters southward, accompanied an ebb-tide, so as to cause unusually low water at the ford, or, more probably, bare sands upon which the Israelites were able to cross. The deeper water on either side made an effectual wall of defence against any flank attack by the enemy, while a rear guard of Israel's fighting men prevented too close a pursuit. For the figure used in v. 22, compare Nahum 3: 8, where the seas are said to have been a rampart and a wall to the city of Thebes, and Exod. 15: 1 and best for us. The pillar by day and the fire by night, manifest signs of that destiny that shapes our ends, never fall the pilgrim who waits, seeks and decides, with conscience void of offence towards God and man. "They that wait upon the Lord shall walk" (no matter how long, dusty, weary, or difficult the journey) "and not faint."

V. 24. In the morning watch. That was from two o'clock to six in the morning. The Lord looked unto. In Ps. 77 the poet writes of a night, having taken place, with pouring rain, thunder and lightning. "The waters saw thee, O God, the waters saw thee; they were afraid: They depths also trembled: The clouds poured out water; The skies sent out a sound; Thine arrows also went abroad. The voice of thy thunder was in the heaven: The lightnings lightened the world: The earth trembled and shook. Thy way is in the sea, and thy path in the great waters." V. 25. Took of their chariot wheels. The Hebrew probably means "bound." We should, therefore, translate, "He bound, or clogged, their chariot wheels," that is, by making them sink in the wet sand or mud of the bottom, and so made them drive heavily.

V. 27. Returned his strength, or rather "as in might." Its "overflowed" It is probable that the inflowing tide was accompanied by a change of wind (see ch. 15: 10). The Lord overthrew (literally "shook off") the Egyptians in the midst of the sea.

French Canadian Cattle Records.

In order to be eligible for admission in the Record of Performance conducted by the Dominion Live Stock Branch, French Canadian two-year-old cows must produce 4,400 lbs. of milk and 198 lbs. of butter fat. A two-year-old at the Dominion Experimental Station at Cap Rouge, Quebec, has produced in 365 days 8,595 lbs. of milk and 899 lbs. butter fat with an average of 4.64 per cent. This is a world's record in milk for the two-year-old class of the breeds. The former record, also made by a heifer at the Dominion Experimental Station, Cap Rouge, was 8,544 lbs. of milk, 403 lbs. fat and 4.71 per cent. The latter, it will be noticed, is still the record in fat and percentage.

Elusive Vitamins.

There is no accurate method for determining the presence and amount of vitamins in any food. This is partly because no one knows exactly what a vitamin is and partly because the vitamins in various foodstuffs seem to be unstable and may be destroyed when unduly heated, exposed to the atmosphere under certain conditions, or subjected to the action of chemical processes. Practically the only known methods for vitamin determination consist of feeding experiments with animals. These methods are long, costly, and give only relative value, but the only knowledge of vitamins has been gained in this way. At least eighty common foods contain vitamins and apparently cod liver oil and lettuce contain them in greatest quantity.

An egg is never as fresh as it was. As monotony robs you of zest it robs the soil. Diversify your crops!

WAYS TO BEAUTIFY THE HOME GROUNDS

The garden is, generally speaking, a sure index to the home. If that is not always true, there is no doubt but that uncareful grounds detract from the home, be it ever so handsome. Even the unpretentious cottage may be made a delight to the eye with appropriate vines and flowers, not forgetting a flourishing vegetable patch in the back yard. We spend so much of our time in the open that the garden should be part of our home. Therefore, to enjoy fully the "outdoor room," it should be made as attractive as circumstances permit.

The lawn is of great importance; if well kept it adds much to the general planting scheme and is a pleasing foil to the colors we may impart to the flower borders and shrubs. The surface should be made as even as possible, leveling any rough parts, and when renewing or renewing use only the very best seed. It may be had either with or without white clover; a very small proportion of white clover is all that is necessary. Its presence tends to make a thicker and softer sod. When making a new lawn the seed should be sown as early in spring as possible to give the grasses a fair chance of becoming deeply rooted before the hot summer days arrive. A new lawn should be regularly watered the first summer.

CHARMING FOUNDATION PLANTINGS. Shrubs, vines and hardy herbaceous flowering plants should be well represented if the grounds are of a size to admit of their free use. A foundation planting of low-growing shrubs is most effective along the front of the house with taller specimens towards either end, where they will not obscure the light from windows, nor yet the view of the porch.

Presuming the grounds are not quite small, flowering shrubs should be planted freely in masses or in a large border which may continue around all sides. The border must not, however, be in a straight line in front, or the beauty and natural effects will be entirely lost.

Flowering shrubs should be used freely; by selecting various species we can have flowers in the shrubbery from spring until fall. There are a host to choose from—golden bells, double-flowering almond, Judas tree, white fringe, red-flowering dogwood, Japanese quince, deutzia, hydrangea, mock orange, lilac, spirea and weigela.

The Japanese barberry can be used with telling effect in many positions, and is so hardy and adaptable it will grow where many other shrubs would fail. Vines must not be overlooked. Verandahs, fences, pergolas, outsheds and even the house itself all embowered and covered with flowering and other vines may not appeal to everyone, but the writer delights in such a picture.

Contrary to the opinion of many that ivy keeps the walls of the house damp, the very opposite is true; for when densely covered with leaves, rains have a poor chance of getting near the wall itself, the water being shed by the leaves.

Nothing quite takes the place of vines in giving a home a homelike appearance. Vines about the verandah are both useful and ornamental. Hardy climbing roses are often used for this purpose with good effect. Dorothy Perkins with its gay pink flowers is a fine subject for such a position. The wistarina is magnificent when in bloom, as is Clematis paniculata, which when in flower is literally smothered with the fragrant, white, starlike blossoms. If handsome foliage be the only consideration there is no better vine than the Dutchman's pipe. The handsome green leaves are large and naturally drop over each other, thus forming a dense screen.

Grapes are excellent subjects to clothe the back porch or to cover a trellis or pergola leading from the back porch to a nearby outsheds. These are only suggestions; I have seen the grape so used and with much effect. There is no excuse for bare fences along the boundary line; they should all be covered with roses or other climbing things of beauty. The scrub pit, compost heap, chicken house or other building should be screened off with shrubs or by erecting a rough trellis on which quick-growing vines are grown.



An Omission. Mrs. Longwed—"What's the matter with the Nineteenth Amendment? Doesn't it guarantee women equal rights with men?" Miss Neverwed—"There's not a word in it about marriage rites."

A full-grown eagle can consume two young lambs at a meal. In talking of obstacles to success many men magnify the external ones, in order to minimize the greater ones within.