

Two Things About Using Fertilizers

By Henry G. Bell

How To Raise Dollars.—Nature's mysterious cycle is in operation at all times. Plantfood is turned into crops, some to be sold as money makers, others to be fed to livestock, which in turn are sold on foot, or their products—milk, butter, cheese, wool, etc.—are turned into money.

Various operations on soils tend to increase their productive power. Such operations, for instance, as drainage, good tillage, the upbuilding of humus and such additions as manure and fertilizers are reflected in increased and improved crops, which are still further reflected in more and better livestock products. The ultimate expression is found in the farmer's bank account, if his business is managed efficiently.

Leaks occur in the cycle. If they are due to bad soil handling, the cure is obvious. If they are the result of unbalanced fertilization, the cure is to plant food, again in plain. By liberal additions of plant food in the shape of manure and fertilizer, common farm deficiencies can be overcome and paying returns assured. Various soils and various crops require somewhat different treatments from a plant food standpoint.

Does It Pay?—Crops can be increased by the liberal use of fertilizers. This fact has been established by Experiment Station tests and innumerable farm experiences. From the great host of both we quote a few suggestive and definite results to illustrate the point:

The Dominion Experimental Farms, Ottawa, after a test of fertilizers for several years, quote increases in potato yields of over 100 bushels per acre, directly attributable to the addition of high-grade fertilizers.

In tests carried on in 1920 by the Ontario Agricultural College, corn grown on clay soils showed an increase over check plots varying from 42 to 56 bushels where proper fertilizers were applied. On sandy loam the increase from complete fertilizers was 44 bushels per acre. Sugar beets in a similar test showed an increase of 2.3-10 tons per acre where complete fertilizers were applied.

At Ohio Experiment Station, Warren, in a twenty-five year experiment where corn, oats, wheat and hay were grown in rotation, there was an average increase from fertilizers of 14 bushels per acre of 149 bushels, 66 bushels and 11.3 bushels, on oats and clover and timothy 1,764 lbs. On these tests fertilizers were applied in the usual farm way in addition to the rotation of crops.

At Indiana Station, where fertilizer was applied in 1920 to corn, an increase of 42 bushels per acre was obtained, while on wheat under similar conditions the increase was 12.9 bushels per acre.

Actual farmers' experiences have paralleled and in many cases exceeded the results obtained at Experiment Stations.

In 1920 Stanley Merrill of Lambeth, Ont., applied high grade fertilizers on a one-fifth acre block of potatoes, obtaining as follows:

No fertilizer	137.5 bus.
400 lbs. per acre	187.5 bus.
750 lbs. per acre	216.6 bus.
1,000 lbs. per acre	300.0 bus.

J. V. Potvin of Carp, Ont., in the same year obtained 210 bushels of potatoes where no fertilizer was applied, against 293 bushels where 500 lbs. of good grade fertilizer was used.

Mr. Fred W. Warnica, Allandale, Ont., fertilized cowpeas in 1921. Where no fertilizer was applied he got a yield of 5.5 tons per acre; where 600 lbs. was applied his yield was 7.2 tons; where 750 lbs. was applied per acre his yield was 8.6 tons.

Mr. Walter Holmes of Eberts, Ont., gave a fair application of suitable fertilizer to his corn in 1921. He says: "I applied fertilizer (2-12-2) at the rate of 280 lbs. per acre and found the corn matured fully ten days earlier and produced 25 bushels per acre more grain than the unfertilized. The soil was a good clay loam. In 1919 the field grew clover and in 1920 it had a crop of wheat, while this year it grew corn."

Mr. Henry Hartley, Woodstock, added a 4-10 fertilizer to his corn, on part alone and on one piece in addition to manure. The report of this test reads: "The plot manured and fertilized is by all means the best. The corn was tall and nearly all of it ripe. The plot not fertilized shows the tops very uneven in height and small in size. The greatest difference of all between the plots was in the maturity of the corn and the yield of ears. On the unfertilized plots most of the ears were simply rubbings with very little corn on them, but with an occasional ear nearly matured."

Mr. John Schuell, Paquette, Ont., grew sugar beets on a clay loam following corn. He added fertilizer at the rate of 250 and 500 lbs. per acre, obtaining the following yields:

No fertilizer	27 tons
250 lbs. per acre	29 tons
500 lbs. per acre	31 tons

Mr. C. W. Thompson of Blenheim harvested 16½ tons of beets per acre on the fertilized part of his field against 12½ tons where no fertilizer was applied.

With regard to tomatoes, Messrs. Campbell Bros., Innes, Ont., in 1921 grew a crop on sandy loam following corn that was harvested in 1919. They

Poultry

I have been having the long and short worm in my flock of chickens, but seem to have it cured, but the treatment is expensive. I wondered if you could advise something to give that would be a preventative. Is there anything I could give young chicks to prevent the same trouble?—Mrs. J. W.

Worms can be removed from poultry by using tobacco stems at the rate of a pound of finely ground stems to each 100 hens. Steep the stems for a couple of hours after just covering them with water. Add the mixture to about four quarts of mash. Keep the birds hungry during the day and give the dose of tobacco mash about three o'clock in the afternoon. Two hours later give about a pound of epsom salts dissolved in water and mixed with mash. Soon the birds will go to roost and many of the worms will be expelled on the droppings where they can be destroyed rather than spread over the range.

Worms can largely be prevented by keeping the range free from over-crowding and feeding the birds a balanced ration so they will be vigorous and less subject to attacks from parasites. Stagnant ponds on the range seem to increase parasites. A well-drained range disinfected by sunshine is a help in preventing worms in poultry.

An Excellent Whitewash.

Slake one-half bushel fresh lime with boiling water, covering it to keep in the steam. Strain the liquid through a fine sieve and add seven pounds of fine salt, previously dissolved in warm water; three pounds ground rice, boiled to a thin paste and stirred into the mixture; one pound white glue, which first soak in cold water until swollen up; hen melt over a fire, avoiding burn; it. Add five gallons hot water to the mixture, stir well, and let stand a few days covered up. When ready to use the wash, make it boiling hot. A pint of this mixture will cover nearly a square yard.

A good teacher is worth more to a community than the price of the finest school building that can be put up.

The Dairy

I am becoming more firmly convinced every day that dairymen should grow more grain upon their farms and cut down feed bills. There is little profit in dairying nowadays if all the grain, or even a large portion, has to be purchased. During the pasture months I feed equal parts of ground oats, corn meal, wheat bran, with an allowance of one and a half pounds of cottonseed meal daily per animal. I do not have any fast and set rule as to amount of grain I feed daily, but I find that under average conditions a pound of grain to three pounds of milk is about right. I do not attempt heavy grain feeding, but maintain my herd under average farm conditions.

Why We Miss Uncle John.

When Uncle John Newing moved out of our neighborhood everybody was sorry. He was a handy man to have around. He could splice a hay rope, or mend anything made of wood or iron, or build a fence out of almost where to go when they needed a job of this kind done.

But the thing folks missed, when the old man went away, was not so much his skill in fixing things up, as it was his right royal way of responding to the calls which came. No matter how busy he was about his own affairs, he never failed to drop what he was doing and go over to see what was wrong at the neighbor's. In short, we missed Uncle John's good heart and thoughtfulness for others.

And do you think anything better can be said of a man than that when he is gone there is a big hole in the life of the neighborhood? It is great to grow the finest crops of anybody in ten counties; there is something worth while in being rightly called the thriftiest farmer in the neighborhood; but the world can get along with a few bushels less of potatoes, if it has the good heart left. Some folks move away and nobody cares much, just because these folks never did anything to show they had a heart in them. They could mend ropes and fix fences and all that, but you would rather have an icicle dropped down your back than to have them smile at you.—F. V.

The Sunday School Lesson

MAY 21

Hilkiah's Great Discovery, 2 Chron. 34: 14-16, 29-32. Golden Text—Thy word is a lamp unto my feet, and light unto my path, Ps. 119: 105. (Rev. Ver.)

Time and Place.—B.C. 623; Jerusalem. **Lesson.** Foreword—Josiah, like Hezekiah, was a reforming ruler. Under him the religion of Israel was once again cleansed of many of its heathen elements. His reforms were due to the impression made upon him by the discovery of the book of the Law in the temple. 2 Kings 22: 3 to 23: 25 should be carefully read in connection with this lesson.

I. The Book of the Law Discovered, 14-16. V. 14. Josiah had undertaken the repair of the temple, which had fallen into decay, and had sent Shaphan, his secretary, to help Hilkiah, the priest, to count the repair money collected in the temple. 2 Kings 22: 3-7. And as was pointed out in the money box with a hole bored in it, was placed near the altar and into the worshippers dropped the offerings for the temple upkeep. Previous to this the priests had shown a great laxity in the handling of the temple funds. So it was arranged that the king's secretary should act with the priest in counting the money and paying the workmen. Shaphan was acting in that capacity when Hilkiah the priest found a book. How the book came to be in this particular place we are not told. We may be speculating the priest had been inspecting the repairs or making ready inventory of the book; that he had been taking an inventory of the store chambers; that he had been cleansing the Holy Place (Smith). A book of the law. Most scholars are agreed that this was the Book of Deuteronomy and not the Five Books of Moses. At least three reasons are usually given for considering this law book to be Deuteronomy: (1) It was read through twice on the day it was discovered. (2) The great impression it made on Josiah could be explained by the woes pronounced by Deuteronomy if the law were not observed (see 2 Kings 22: 18 and Deut., ch. 28). (3) The consequent reforms of Josiah are those advocated in Deuteronomy.

V. 15. Hilkiah delivered the book to Shaphan. This was natural. The high priest could not by himself have carried out the prescriptions of the new law book without the consent and support of the king. If the book were given to Shaphan it would be sure to reach the king and his support would be gained.

V. 16. Shaphan carried the book to the king. Shaphan immediately read the royal edict which stood king of the progress of the repairs on the work on the temple and then he delivered the book of the law to the king. Josiah it created a profound impression on him. He observed of the law and yet he recognized that it had not been kept. He decided to investigate whether the book discovered

was genuine or not. A deputation was sent to Huldah, the prophetess. The prophets were now recognized as the new piece of God, and Huldah could answer the perplexing question. Huldah's reply was that the book of the law genuinely expressed the will of God.

II. The Book of the Law Read, 29-30. V. 29. Josiah convened a national assembly for the purpose of accepting the new law as the law of the land. The elders of the heads of families or leading men of each town or village. They administered justice and acted as representatives of the community.

V. 30. The national assembly was held in the precincts of the temple. To it there came not only the elders but a great concourse of people from parts of the country. The Levites, originally they were the priests at the altar and the sanctuary throughout the land. When later the only legitimate place of worship was the temple in Jerusalem, the Levites were taken into the Jerusalem temple. He read in their ears, etc. The fact that the whole book at one gathering strengthened the argument that the book was Deuteronomy and not the whole Pentateuch.

SMOKE OLD CHUM

The Tobacco of Quality
1/2 LB. TINS
and in packages

Trees.
I think that I shall never see
A poem lovely as a tree.
A tree whose hungry mouth is prest
Against the earth's sweet flowing breast;
A tree that looks at God all day,
And lifts her leafy arms to pray;
A tree that may in summer wear
A nest of robins in her hair;
Upon whose bosom snow has lain;
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.
—Joyce Kilmer, killed in the Great War.

Apple Blossoms.
Dainty little blossoms,
With your coloring faint,
Sending forth a fragrance rare,
That no brush can paint;
Springtime's fairy children,
Nodding in the breeze,
Are you sent to cheer the world?
Tell me, blossoms, please.

Exit the Thistle.
At last farmers have a very satisfactory recipe for the thistle patch. At least, this is true of those who have soil suited to the production of alfalfa and this crop can be grown upon a wide variety of land. Where one has patches of thistles in a field, he can get rid of them by devoting three or more years. If the land is sour it will be necessary to add lime in order to make certain of a good catch of alfalfa. The extensive root system of this plant, together with the frequent cuttings will wipe out the thistles in a brief period of time.

Protecting Leather Goods.
It is important to keep leather from mildewing. The mold will not do serious damage, however, unless it remains too long. The simplest plan to follow is to store the leather in a well-ventilated, dry, well-lighted place, preferably one with an exposure to sunlight. Mold makes little growth where there is plenty of sunshine. Where mildew has developed on leather, it should be wiped off with a damp cloth or washed off with soap and water. The leather can then be oiled lightly with castor oil or neat's foot oil and well dried afterwards.

For Home and Country

How Brockville Got a Rest Room.
In 1919 the members of Algonquin Institute were discussing the possibility of establishing a Rest Room in Brockville, the centre to which many of them went three times a week, to do their marketing and shopping, for women with children, as many of them were. The hotel war-time prices had become prohibitive, and there was not other place where they could rest, leave parcels, or take children. Therefore, a committee of two was appointed to see about securing accommodation suitable for a public rest room. This was found, but was going to be difficult for a single Institute to finance. Eight other branches were united to meet the original movers in Brockville in May, 1920, and Delta, Malborough, South Augusta, Morton and Algonquin responded by sending delegates to both over ways and means. It was decided to ask the town to help, and with the encouragement of the Mayor and a few of the merchants a canvass of the business men was begun. The Board of Trade helped by giving us three fine rooms with light, heat and water, we assumed the management and provided a Matron," reports the Secretary. "A Committee was formed consisting of a President, Secretary, Treasurer and Directors. 500 yearly membership tickets were sold \$1.00 each and a Matron secured who was very capable, very business like, and in every way a lady. Our sitting-room is furnished with easy chairs, couch window seat and writing desk, donated chiefly by the merchants. There is a kitchenette, a lavatory with wash-bowls, clean towels, and a mirror. We have everything we need in short, except a phone, which we hope to have very soon. The rooms are kept spotless and very home-like, and are open from 9 a.m. until 10 p.m. every day except Sundays, and in July and August, Wednesday afternoons. Many tourists passing through make use of our rooms and to those who make a small charge. Our Matron receives \$400 annually, our total expenses for last year being about \$500. We had a good year in every respect and closed with a little balance to our credit in the bank."

What Father Ontario Will Do For the Home-Makers.
COMMUNITY HALLS.—A booklet giving full particulars as to the basis given in establishing Community Halls will be furnished upon application. The government is prepared to give a grant on the basis of one quarter of the total outlay, up to \$10,000. Write to the Institute Branch for a copy of the booklet. A representative of the Department will be sent to advise with representative committees regarding plans for Community Halls.

Sacrifices to a Fault

We all know the extent to which many mothers sacrifice their own comfort and pleasure in order to give their children advantages. There is nothing more to be admired in the history of the race than the fine type of unselfish devotion which mothers have shown in this respect. The tragic part of it is that too frequently the children are unappreciative of mother's service and even take advantage of her willingness to give up for them.

We often wonder if the purpose for which mothers make these sacrifices is not frequently missed entirely. Instead of allowing children to have all the fun and mother do all the work, would not children be more benefited if mother insisted that they perform their part of the daily tasks about the home? Indeed, experience and observation leads us to believe that the children themselves would gain a larger proportion of pleasure from their play hours after they had rendered the services which it is within their power to give, than where they were free to do as they please. Nothing is finer than to enter a home where every person has been trained to feel a responsibility for certain tasks. Such homes are the very highest contribution which a family can make to our national welfare and they also bring to the parents the greatest possible degree of satisfaction.

A Worth-while Life.

A month ago the writer attended the funeral of his best friend, a farmer or boy who grew up with him in the same community and with whom he had been closely associated all his life. As a boy he was industrious and thrifty and earned the money necessary for a start in farming. He married a fitting helpmate and settled down to the business of his life, first on a rented farm, later on a farm of his own, where his industry and thrift and good management contributed to the earning of a competence, in addition to bringing up a fine family of three children. But the choicest among his achievements was the place he won in the community in which he lived, a place which was attested by the host of friends and acquaintances who attended his funeral when he was stricken down in the prime of his manhood, and the tributes they one and all paid him.

He lived a worth-while life. His greatest success was his wholesome influence on the community in which he lived. His life was worthy of emulation by all of us. It measured up to the critical standard by which all of us must one day be judged. There is no greater reward to a well-spent life than to have all those with whom we come in contact speak well of us.

The Coming of May.

When flushed the east at the first touch of day,
And the ascending sun his arrows sent
Down the long aisles of elms whose branches bend
In graceful arches o'er the winding way,
The crooning wind among the boughs astray
Paused, and there stood amid the fields intent
Upon their beauty, one divinely sent—
The lovely laughing spirit of the May.
In robes of shaded green and shimmering gold,
Her hair a shining halo round her head,
Hands dropping fragrant flowers which sprang to birth
Beneath her lithesome feet, she saw unfold
Spring's miracles; like May, with silent tread
Shall come the True Awakener of earth.

—Elizabeth Scollard.

Control of the Corn Borer.

The Entomological Branch of the Dominion Department of Agriculture is appealing to farmers in affected districts for co-operation in the control of the European corn borer. It is only the co-operation of the farmer and the entomologist that the control of the pest can be brought about. It is investigations the Branch has arrived at a point where it feels justified in making three concrete recommendations to this end. The first is that, in south-western Ontario, all corn be planted as late as is considered safe for the average year. Last year Dent was sown late in May and suffered experienced greater damage. It is proposed that neither Flint nor Dent be sown earlier than May 28. The second suggestion is that the corn be cut as low as possible as soon as it is ready, and the stubble plowed down in the early fall, or by the last of September at the latest. The third suggestion is that all parts of the corn feeding be destroyed by burning before the first of June. Mr. H. G. Crawford, entomologist of the Division of Field Crop and Garden Insects of the Entomological Branch, is carrying out special experiments in control in the region of St. Thomas, Elgin County.

"No legacy is so rich as honesty." Shakespeare.