

INOCULATION OF SEED

Legume Bacteria for Enrichment of the Soil.

Inoculation of Seed and Soil Described—Clover, Alfalfa, Peas, Etc., Precursors of Good Crops—Some Testimonials Offered.

(Contributed by Ontario Department of Agriculture, Toronto.)

It has been known for centuries that the soil of fields in which there has been grown a good clover, pea or other leguminous crop is richer after the crop than it was before. Hence the practice of having a clover or other leguminous crop in the crop rotation. Just why a good leguminous crop was beneficial to the soil was not known until a few years ago. It was then found that certain species of bacteria, which came to be known as the "legume bacteria," entered the roots of the legumes and produced on them little swellings or nodules. Wherever these nodules are present in large numbers on the roots of legumes a good crop is assured. The combination of the legume bacteria with the plant results in the plant tissues, root, stem and leaf, giving a larger and more vigorous plant than is the case where the bacteria are not present.

It has been found that different varieties of legume bacteria are necessary for most of the various legumes. The variety of bacteria good for red and white clover is no good for alfalfa or sweet clover; the variety good for field peas is no good for field beans, and the variety good for field beans is no good for soy beans, and so on with other legumes.

If any particular legume crop has not been growing satisfactorily in any particular field, it is questionable if the right kind of legume bacteria is present in the soil of that field. So, before a satisfactory crop can be grown the right bacteria have to be introduced. For instance, the cultivation of alfalfa is a new practice in many sections. If sweet clover is common in the district it is probable that the right bacteria are there for alfalfa, as the variety good for sweet clover is good for alfalfa. If it is not present, it is doubtful if a good crop will be grown; hence the difficulty often met with in getting alfalfa established in a new district unless the bacteria are first introduced. There are various ways of introducing the bacteria. One is to take a few loads of soil from a field in which the bacteria are present and scatter this over and work it into the field to be treated. This method was the first adopted. It is not practicable, however, in most cases.

Legume Seed Inoculation.—Another way is to inoculate the seed of the legume crop to be sown with a pure culture of the right variety of bacteria. When this is done, the bacteria are on the surface of the seed and so get into the young roots. These cultures of legume bacteria are prepared in bacteriological laboratories and sold so much per culture. They are known as nitro-cultures or legume bacteria cultures, and various other trade names have been given to them. The Bacteriological Laboratory of the Ontario Agricultural College was the first to produce these cultures satisfactorily for distribution on the American continent. They are sold from the laboratory for the nominal sum of 50 cents each, to cover cost of material, container and postage. Each culture is sufficient for one bushel of seed. Thousands are sent out annually to all parts of Canada on application for the same. Letters received from those who have used these cultures speak very highly of this method of inoculation as shown by the following excerpts:

Comox, B.C.: "In the spring of 1914 you sent me some alfalfa culture suitable for this district. After two years, I have to report that the inoculated patches have flourished exceedingly well and are making most luxuriant growth, entirely crowding out the weeds and showing a splendid color. The others which were not inoculated have in the most left were small and very pale. In fact, I have recently ploughed them up."

Edmonton, Alberta: "We made many tests in Ontario which proved to us that even alfalfa screenings would produce a greater growth the first and second year, after being treated with the bacterial culture, than the very best quality of alfalfa seed would without treatment. We have been using the bacteria here, and have had a very good result the first year."

Fort William: "Regarding the cultures which you supplied last spring, they were used on a field of peas of an early variety. The larger portion of the seed was inoculated, but part was planted in the ordinary way as a check plot. The seeding was all done about the 12th of May. In twelve weeks the whole field had reached maturity with the exception of the uninoculated strip which was still green. I was not aware that the use of cultures hastened maturity of this legume, but it appears from this experiment that the crop was not only improved in yield, but growth and maturity were hastened. The part of the crop grown from inoculated seed gave excellent results and in future cultures will be used on all legume crops on the home farm."

Cultures are distributed from the Bacteriological Laboratory, O. A. C., Guelph, for inoculating seed of alfalfa, red clover, sweet clover, crimson clover, alsike clover, vetches, peas, sweet peas, cow peas, field peas, beans and soy beans.—D. H. Jones, O. A. College, Guelph.

Horses which are well groomed will stand the farm work better than those which are neglected.

COUNTRY HUMOR

Stories Were Gathered in English Rural Districts.

The humor of the village worthy is often startling in its frankness. Take, for instance, the story of the mission worker who met a dilapidated individual who said he was a "pick-er." Pressed for further particulars the man responded: "In the summer I picks peas and fruit; when autumn comes I picks hops; in the winter I picks oakum. I'm kept nice and warm during the cold months, and when the fine days come round once more I starts pea-picking again."

Mr. Arthur N. Savory, who tells these stories in his country reminiscences, "Grain and Chaff from an English Manor," relates the following story concerning a doctor who was attending a case at a farm-house, and was invited to join the family at dinner.

He was rather surprised to see a fore-quarter of lamb on the table. His host gave him an ample helping, and he had just made a beginning with it and the mint sauce, when the farmer remarked:

"This 'un, you know, was a bit casualty, so we thought it better to make sure of 'un." The doctor's appetite immediately failed. He had no wish to eat the flesh of an animal that had died of some mysterious disease.

A story for which the author does not vouch concerns an occasion when Tennyson, accompanied by a woman and child, attended a county show. As the poet walked round he was followed by an ardent admirer anxious to catch any flights of poetic fancy that might fall from his lips.

Time passed, and the poet showed no sign of inspiration until the party approached a refreshment tent; then to the woman he said, to the astonishment and disappointment of the admiring follower: "Just look after this child a minute while I go and get a glass of beer!"

Mr. Savory employed a bailiff, William Bell. One day he passed the vicar. "Halloa, Bell!" exclaimed the latter, "hard at work as usual; nothing like hard work is there?"

"No, sir," said Bell, "I suppose that's why you chose a one-day-a-week job." Jarje was a prominent character among Mr. Savory's farm hands. "Going round the farm on his daughter's wedding day," he writes, "I was surprised to find him at work. I asked him why he was not at the ceremony. 'Well,' he replied, 'I don't think much of weddings—the fiddling (pictuals) ain't good enough; give me a jolly good fun-ner-all!'"

The daughter of the vicar of a Cumberland parish was calling on a woman whose husband had died a few days previously. Expressing her sympathy with the widow in her affliction, she spoke of the sadness of the circumstances. The widow thanked her visitor, and added: "You know, miss, we was to have killed a pig that week, but there, we couldn't 'ave 'em both about the same time!"

Referring to village cricket clubs, Mr. Savory tells a story of the late Dr. W. G. Grace. The great batsman, crossing Clifton Down, came upon three sticks representing the wickets, arranged so that without disturbing them. Ever ready to help, Dr. Grace pointed out the fault and readjusted the sticks. And as he turned away he heard, "What does he know about it, I wonder?"

An Oxford undergraduate united the hind wings of a butterfly to the body and forewings of one of a different species, and thinking to puzzle Prof. Westwood, then the entomological authority at Oxford, asked him if he could tell him "what kind of a bug" it was.

"Yes," was the immediate reply: "a humbug!"

The Violet Trail. The remarkable story of how the Empress Eugenie found the grave of her son, the Prince Imperial, who was killed in Zululand, is related by Dr. Ethel Smyth in Blackwood's Magazine.

"The spot where the prince fell," says the writer, "had been marked by a cairn of stones, but by the date of the visit the jungle had encroached so that even the most astute Zulu guides, who had been among the prince's assailants, could not find it. The prince had a passion for violent scent; it was the only toilet accessory of the kind he used. Suddenly the Empress became aware of a strong smell of violets. This is the way," she cried, and went off on a line of her own.

"Sir Evelyn Wood, who accompanied the Empress, said she tore along like a hound on a trail, stumbling over dead wood and tussocks, her face beaten by the high grass that parted and closed behind her, until, with a loud cry, she fell upon her knees, crying, 'C'est lui!' And there, hidden in almost impenetrable brushwood, they found the cairn!"

"The Empress told me that the first whiff of perfume had been so unexpected, so overwhelming, that she thought she was going to faint. But it seemed to drag her along with it; she felt no fatigue and could have fought her way through the jungle for hours."

Dr. Johnson's Dictionary

Modelled Our Language Romance of Its Making

IT was in the year 1747 that the plan for a Dictionary of the English language was issued. Johnson was thirty-eight years of age, and had been ten years in London, and sitting in his lodgings in Holborn he did not flatter himself that he had traveled far on the road to fame or fortune.

Johnson's friends were few, and most of them were the booksellers from whom he earned his daily bread. It is remarkable that five substantial firms should have been ready to risk their money in publishing a great English Dictionary, dependent for its success on the capacity, learning and industry of the then unaccustomed hero, Samuel Johnson.

Johnson was not only to marshal the whole language and to reject all words that were for any reason unworthy, but the orthography, pronunciation, and accent were to be settled by Johnson's authority. Finally he was to quote passages from the best authors, showing the sense in which words were used by them.

The contract was dated, according to Sir John Hawkins, June 18, 1748, and the sum involved was considerable. Johnson was to receive £1,575. William Strahan's bill for printing is extant and amounts to £1,239 11s 9d. The time to be occupied in the work was ten years, and though the time actually occupied was seven years, these provident booksellers were necessarily paying out money continually without return until the date of publication.

We learn something from Johnson's contemporaries as to the manner in which the work was done. Johnson selected the words, and used to fortify his memory with the dictionaries of Bailey, Ainsworth, and Phillips. He read a vast number of approved works, pencil in hand, and underlined the passages he meant to quote in the dictionary and marked in the margin the initial letter of the word to be illustrated by the quotation. The books so marked were handed to the six assistants, who sat in a large upper room at 17 Gough Square, fitted up as a counting-house, and copied the words and the marked passages on to separate slips. Later Johnson dictated the etymology of the word and the definitions or interpretations.

You are to consider that £1,575, though a considerable sum, appears to dwindle when seven persons, the lexicographer and six assistants, have to live on it. When £1,575 is divided by seven the quotient is £225, and when the £225 is spread over seven years you find that the seven workers had on an average rather less than £32 per head per annum.

It would seem that at the date of this letter Johnson was content with nineteen shillings a week for himself. The money was necessarily advanced from time to time to keep Johnson and his team alive during the period of production, and William Strahan, the printer, was the paymaster.

There was the usual quarrel between Johnson and the printer caused by delay in delivery of copy, and relations were severely strained. It appears from a letter from Johnson to Strahan dated November 1, 1751, that the booksellers threatened to stop supplies, and that Johnson, unmoved by the threat of a blockade, threatened retaliation.

Johnson wrote to Strahan that if he would promise to print a sheet a day, he, Johnson, would promise to endeavor that Strahan would have every day a sheet to print. This was probably more than could be performed on either side. But Johnson did not complain. When Boswell once said to him, "I am sorry you did not get more for your dictionary," his answer was: "I am sorry, too. But it was very well. The booksellers were generous, liberal-minded men."

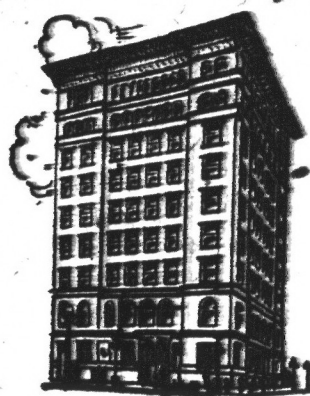
The Mistletoe Bough. The mistletoe is a parasitic plant. All attempts to raise mistletoe from the earth have failed. It was originally found growing wild in England, and the reason it is called "the mistletoe bough" is because it always grows on trees. The roots insinuate their fibres into the woody substance of the trees, and live entirely at the expense of their sap. The stems and leaves of the mistletoe, it is curious to observe, are incapable of absorbing moisture.

Mistletoe is of little, if any, use to man, but has great popular interest as having been held in high veneration by the Druids, and connected with many of their superstitions. The mistletoe of the Druids, however, was exclusively found on the oak tree, and it possibly first acquired their esteem from its great rarity, for its appearance on that tree is so uncommon that many people are inclined to think that the mistletoe of the Druids must have been another plant altogether.

The custom of hanging mistletoe as Christmas decorations seems to have arisen from a practice of the Druid youth, who went round the houses bearing branches of mistletoe to announce the entrance of the New Year. Hence the habit of hanging up mistletoe, which has not died out through all the years gone by. So that really, although we always regard it as a Christmas decoration, the mistletoe is hung to herald the New Year.

In connection with mistletoe, it is interesting to note that this plant also flourishes in the Gulf of Mexico and the West Indies.

To pay the present British gold debt would take 47,171 tons of the precious metal.



49th ANNUAL STATEMENT

28th February, 1921

Bank of Hamilton

BOARD OF DIRECTORS

SIR JOHN HENDRIE, K.C.M.G., C.V.O., President
CYRUS A. BIRGE, Vice-President
C. C. DALTON
J. P. HELL, General Manager
F. E. KILVERT, Western Superintendent

PROFIT AND LOSS ACCOUNT

| | |
|--|-----------------|
| Balance at credit of Profit and Loss Account, 28th February, 1920 | \$ 85,249.74 |
| Profits for twelve months ended 28th February, 1921, after deducting charges of management, interest accrued on deposits, rebate on current discounts, and making provision for bad and doubtful debts | 888,018.27 |
| Premium on New Stock | 499,110.00 |
| | \$ 1,472,378.01 |

DISPOSED OF AS FOLLOWS:

| | |
|---|-----------------|
| Quarterly Dividends at rate of 12 per cent. per annum | \$ 551,158.29 |
| Two bonuses of 1/2 of 1 per cent. each | 47,432.45 |
| Total distribution to shareholders of 12 per cent. for the year | 598,590.74 |
| To Pension Fund, Annual Assessment | 20,434.32 |
| For Dominion Government Taxes | 65,000.00 |
| Transferred to Reserve Fund—From Current Profits | \$ 150,000.00 |
| From Premium on New Stock | 499,110.00 |
| | \$ 1,472,378.01 |

Balance of Profits carried forward

| | |
|-----------------------------|-----------------|
| Balance 28th February, 1920 | \$ 4,200,000.00 |
| Premium on New Stock | 499,110.00 |
| Transferred from Profits | 150,000.00 |
| | \$ 4,849,110.00 |

GENERAL STATEMENT

| LIABILITIES | ASSETS |
|--|--|
| TO THE PUBLIC: | Gold and Current Coin |
| Notes of the Bank in circulation | \$ 924,581.40 |
| Deposits not bearing interest | Dominion Government Notes |
| Deposits bearing interest | \$ 1,198,111.00 |
| Including interest accrued to date of statement | Deposit in Central Gold Reserves |
| 50,528,661.00 | \$ 500,000.00 |
| | Notes of Other Banks |
| Deposits due to other Banks in Canada | \$ 445,058.00 |
| Deposits due to Banks and Banking Correspondents in the United Kingdom | Cheques on other Banks |
| 240,726.00 | \$ 2,701,896.77 |
| Deposits due to Banks and Banking Correspondents elsewhere | Deposits due by other Banks in Canada |
| \$ 423,240.94 | \$ 168,185.04 |
| Acceptances under Letters of Credit | Deposits due by Banks and Banking Correspondents in the United Kingdom |
| \$ 456,802.07 | \$ 12,018.85 |
| | Deposits due by Banks and Banking Correspondents elsewhere |
| \$ 76,186,986.65 | \$ 878,045.94 |
| | |
| | LIABILITIES |
| | Dominion and Provincial Government Securities, not exceeding market value |
| | \$ 2,452,798.28 |
| | Canada Municipal and British, Foreign, and Colonial Public Securities |
| | \$ 6,018,117.82 |
| | Railway and other Bonds, Debentures and Stocks, not exceeding market value |
| | \$ 416,134.85 |
| | Call and Short Loans (not exceeding thirty days) in Canada, on Bonds, Stocks, etc. |
| | \$ 6,686,445.94 |
| | Other Current Loans and Discounts in Canada (less rebate of interest) |
| | \$ 50,416,647.20 |
| | Real Estate other than Bank Premises |
| | \$ 691,077.99 |
| | Overdue Debts, estimated loss provided for |
| | \$ 205,563.01 |
| | Bank Premises, at not more than cost, less amounts written off |
| | \$ 3,104,785.78 |
| | Other Assets not included in the foregoing |
| | \$ 616,453.56 |
| | Deposit with the Minister of Finance for the purposes of the Circulation Fund |
| | \$ 225,000.00 |
| | Liabilities of Customers under Letters of Credit as per contra |
| | \$ 456,802.07 |
| | \$ 85,348,503.50 |

JOHN S. HENDRIE, President.

J. P. HELL, General Manager.

AUDITORS' REPORT

In accordance with the provisions of sub-sections 19 and 20 of section 56 of the Bank Act, 1913, we report to the shareholders as follows: We have examined the above Balance Sheet and compared it with the books and vouchers at Head Office and with the certified returns of the branches. We have obtained all the information and explanations that we have required, and are of the opinion that the transactions set out in the Balance Sheet are correct and that the assets representing the investments of the Bank, at its Chief Office and principal branches, are in the books of the Bank relating thereto. In our opinion the Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Bank according to the best of our information and the explanations given to us, and as shown by the books of the Bank.

C. S. SCOTT, F.C.A., of C. S. Scott & Co.
E. S. READ, C.A., of George A. Tomlin & Co. AUDITORS.

LEGAL

ARNELL & ARNELL
Barristers, Etc.
HAMILTON CALEDONIA
Sun Life Building. Roper's Block
Money to Loan at Lowest Rates.
Harrison Arnell, S. Cameron Arnell
County Crown Attorney.

KELLY, PORTER & KELLY
Barristers, Solicitors, Notaries, Etc.
W. E. KELLY, K.C. J. PORTER
Crown Attorney. County Treasurer
DAVID E. KELLY
Solicitors for Norfolk County Council
SIMCOE ONTARIO
MONEY TO LOAN AT LOWEST RATES.

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I. J. LEATHERDALE, M.D.
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7 to 9 p.m.
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SOCIETIES

I. O. O. F.
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N. G. J. Dellar, F. S. N. R. Pond.
R. S. J. S. Burwash, Treas., Jas. Haslett.
Visiting Brethren Welcome.

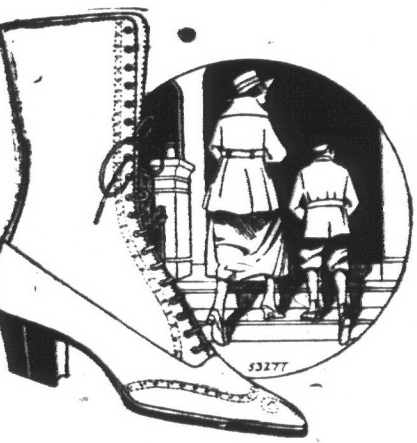
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