Growing Field Crops.

Varied Root Systems of Plants-

Grass and Delicate Feeders-Ni-

trogen-Gathering Crops-Import-

ance of Humus-Banking and

(Contributed by Ontario Department of Agriculture, Toronto.)

The effect which the various field

crops have on the physical and chem-

ical properties of the soil is very dif-

ferent. An undertsanding of the

peculiarities of the common farm

crops and soils is very necessary to

the man on the land in order that

he understand and realize the ad-

vantages in rotating the grain, grass

Crops Vary Greatly in Root System.

with regard to their growth, effect

on physical texture of the soils and

the following groups of crops:-(1)

ed crops; (3) Gross feeding crops;

(4) Delicate feeding crops; (5) Ni-

rooted crops are best illustrated by

wheat, barley or oats on a field will

develop a hard pan condition just be-

neath the furrow slice. Such will

prevent the absorption and storage

of moisture necessary for full crop

production. In contrast to the shal-

low-surface soil condition we can

place the effect on the soil of the

deep rooted plants, such as alfalfa,

the open porous moisture and air-

admitting condition of the subsoil

Gross and delicate feeding crops

tions than can the barley or oat

icate feeding grains do not do very

well. The gross feeding plants will

leave the soil in better physical con-

dition than the delicate feeding

types, and for that reason should

precede them in the rotation. Gross

tf root of the plant. There is as much

of the growing plant beneath the sur-

face of the soil as there is above, but

since it is more difficult to see that

part below the surface we do not

realize the extent of the humus mak-

ing vegetable matter that is out of

sight and plays such a big part in

keeping the soil in good physical con-

Nitrogen-gathering crops are gen-

soil nitrogen, and make possible the

accumulation of nitrogen salts. Ni-

is available to the legume bacteria

that have the ability to assimilate it.

The bacteria which are parasitic on

colonies assimilating nitrogen for

their own development, and at the

same time supplying this very essen-

tial element to the growing plant.

plow can be handled in soils contain-

ing a large amount of decayed vege-

tation in contrast with the hard soils

of hilltops where the organic matter

has been washed away. Humus is

very valuable because its presence

determines the moisture supply and

producers, but not to the same ex-

tent, the most valuable being the

legumes: Red clover, sweet clover,

humus producers in contrast to corn,

known as humus destroyers. Why

legumes-legumes that will improve

the physical conditions and increase

the plant food supply.-L. Steven-

son, Dept. of Extension, O.A. College,

Banking and Farming.

in a bank for a while and every bank-

er on a farm for a while. The farm-

er and the banker have never known

enough about the ins and outs of

each other's job It is going to be a

main task of the American Bankers'

Association to bridge this gap."-J.

H. Puelicher President American

It is necessary to have strong cows

of large capacity, because the effi-

ciency of a dar cow depends on the

amount that she will ear above her

maintenance requirements and turn

Bankers' Association.

into dairy products.

"I would like to put every farmer

Guelph

The Importance of Humus.

The Nitrogen-Gathering Crops.

red clover and sweet clover, and see

made by these tap rooted plants.

Gross vs. Delicate Feeding Plants.

In considering the common crops

and cultivated crops.

Farming.

TORONTO TO WINNIPEG

January 5, 1924, improved train ser-

Custom Sawing.

Ir. W. R. Morrison has charge of Robert Smith's mill in town and repared to do custom sawing. 12 27 tf

NOTICE

A CHANGE OF TIME will be made

SUNDAY, JANUARY 6, 1924 full particulars apply to any et Agent, Canadian National

Basswood Heading Bolts Cedar Fence Posts Cedar & Tamarck Track Ties Hardwood Track Ties

For Prices and information apply to

J. N. MURDOCK

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will pay you.

ot, barrel style \$20.00. On sale \$9.95

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black and tan 60. On sale, per ality goodyear an shoes. Reg. \$4.95 sizes from 1 sale \$3.49 nned leath. 5. Reg. \$4.00. sizes from 1 sale \$1.98 p rubbers, red s from 1 to 5. \$3.49

woollen socks. prs. for \$1.00

e flannelette heavy weight.

te flannelette heavy weight.

without any prices. Call purchasing on all mer-

d selection.

IRHAM

Classified Advertisements

Advertisements under this heading, 1 cent a word each insertion CASH WITH ORDER; six consecutive insertions given for the price of four. Telephone calls treated as cash with order if paid for before Saturday night of week ordered. Minimum charge for first insertion, 25 cents. On all charge orders a straight charge of 11/2 cents a word will be made each insertion, minimum charge 35 cents.

Medical Directory.

Thursday, Janaury 3, 1924.

DRS. JAMIESON & JAMIESON Office and residence a short distance east of the Hahn House on Lambton Street, Lower Town, Durham. Office hours 2 to 5 p.m., 7 to 8 p.m. (except Sundays).

J. G. HUTTON, M. D., C. M. Office, over A. B. Currey's office, nearly opposite the Registry Office. Residence: Second house south of Registry Office on East side of Albert Street. Office hours: 9 to 11a.m., 2 to 4 p.m. and 7 to 9 p.m. Telephone communication between office and residence at all hours.

J. L. SMITH, M. B., M. C. P. S. O. Office and residence, corner of Countess and Lambton Streets, opposite old Post Office. Office hours 9 to 11 a.m., 1.30 to 4 p.m., 7 to 9 p.m. (Sundays and Thursday afternoons excepted).

DR. BURT. Late Assistant Royal London Opthalmic Hospital, England, and to Golden Square Throat and Nose Hospital. Specialist : Eye, Ear, Throat and Nose. Office: 13 Frost Street, Owen Sound.

C. G. AND BESSIE McGILLIVRAY Chiropractors, Durham, Ontario. The Science that adds life to years I HAVE RECEIVED THE APPOINTand years to life. Consultation free.

Dental Directory

DR. W. C. PICKERING, DENTIST Office, over J. & J. Hunter's store, Durham, Ontario.

J. F. GRANT, D. D. S., L. D. S. Honor Graduate University of Torento, Graduate Royal College Dental Surgeons of Ontario. Dentistry in all its branches. Office, over D. C. Town's Jewellery Store.

Legal Directory

MIDDLEBRO', SPEREMAN & MIDDLEBRO' Barristers, Solicitors, Etc.

Successors to A. B. Currey. located at Durham Office.

LUCAS & HENRY Barristers, Solicitors, etc. A member of the firm will be in Durham on Tuesday of each week. Appointments may be made with the Clerk in the

Licensed Auctioneer

DAN. McLEAN

Licensed Auctioneer for County of turning out the finest work on short appreciated by examining the entire Grev. Satisfaction guaranteed. Rea- order. sonable terms. Dates of sales made at The Chronicle Office or with him-

FARMS FOR SALE

LOT 7. CON. 21, EGREMONT, CON- 60c. for Barley, 75c. to 85c. for Buck- dition. taining 100 acres; 85 acres under wheat and \$1.25 to \$1.50 for Peas at cultivation, balance hardwood bush; our elevator.—Rob Roy Mills Limitconvenient to school; on the premises are a frame barn 42x65 ft. with also hay barn 30x50 with stone baseframe woodshed; drilled well close nee or at the office for prices.—Dur- trogen existing as a free gas in the members with a capital stock of broidery or braiding. to house, with windmill; concrete ham Furniture Co., Limited. 132 water tanks; 30 acres seeded to hay to acres to sweet clover; this farm is well fenced and in a good state of cultivation. For information apply to Watson's Dairy, R.R. 4, Durham. 10 25 23 tf

NORTH PART LOTS 7 AND 8, CON. 22. Egremont, containing 66 acres; 55 acres cleared, balance hardwood bush; in good state of cultivation; frame barn 44x50, stone basement, concrete stables; drilled well and eement tank at barn. Also Lots 6 and 7, Con. 4, S.D.R., Glenelg, containing 110 acres; 100 acres cleared and in good state of cultivation; on the premises are a brick house containing seven rooms, with good woodshed attached; drilled well at door; never failing springs on this farm, making a choice stock farm. This property will be sold right to quick purchaser. For particulars apply at Watson's Dairy. R.R. 4. Durham, Ont. 10 25 23 tf

LOT 66, CON. 2, W.G.R., BENTINCK, 21/2 miles from Durham, containing 86 acres: 70 acres under cultivation, balance hardwood and swamp; bank barn with extension shed and stone stables; 7-roomed house, brick, with extension kitchen and woodshed; well watered by never-failing spring at rear of farm; also spring feeding cement trough near buildings, and cement curbed well at house. For further particulars apply to Wm. Smith, R.R. 3, Durham, Ont. 10 25tf

PROPERTY FOR SALE

GOOD 2-STOREY FRAME DWELLing on Lambton St.; hard and soft water, bath, furnace, electric lights, etc. Apply on premises to Mrs. Geo. Young, Durham.

HOUSE FOR SALE-A SNAP. SOLID brick house, 8 rooms, with modern conveniences; on Garafraxa street. Good reasons for selling, as I intend Teacher. to leave town. Apply J. Levine. 132

COMING EVENTS

NOTICE.-THE ANNUAL MEETING in the past which it hopes to mainof the Durham Horticultural Society | tain in the future. will be held in the Durham Public thy town and good accommodation Library at 8 p.m., January 14. All can be obtained at reasonable rates members requested to be present for 132 election of 1924 officers.

NOTICE TO FARMERS

The Durham U.F.O. Live Stock Association will ship stock from Durham on Tuesdays. Shippers are requested to give three days' netice. Clifford Howell, Manager. Phone 92 r 11. Durham, R.R. 1

SHIPPING EVERY SATURDAY Arnold D. Noble will ship Hogs from Durham every Saturday forenoon. Highest prices paid. 11 23 tf

FOR SALE

THE BUNESSAN U.F.O. CLUB HAVE a quantity of salt left over and are offering it for sale to the general public at 75c. per cwt. Salt is stored at John Schutz's. Call and get what the supply of available plant food you want.

HATS AT HALF PRICE AT THE Misses Truax.

MISCELLANEOUS

LUCAS & HENRY'S LAW OFFICE .-Open every day for business. A member of the firm will be in the office ments may be made at the office. 53t tion of the soil than does the alfalfa

In Durham Tuesdays, Thursdays and | ment as Issuer of Motor Car Markers 61423 tf for Durham and District. Markers will be available February 1 .- D. M. Saunders, Durham.

> PROF. E. KATZ, THE NOTED AND one of the most skilled opticians in Ontario will test eves at the Hahn House, Durham, Friday, January 11. Will relieve eyesight trouble, eyestrain, headache, even when others fail. Don't miss it, a high-class frame and lenses for nearly half price.—E. Katz, Listowel.

NOTICE.—TAKE NOTICE THAT ALL accounts contracted at J. Levine's can thrive under more severe condistore, Durham, must be settled not later than the 15th of this month. Mr. C. C. Middlebro' is permanently After that date the book accounts will be handed into other hands for food to a greater extent than the collection and costs will be added .-J. Levine.

ARTICLES WANTED

WHEAT WANTED. ANY QUANTITY Highest price. People's Mills. 3 15 23 WORK WANTED .- THE CHRON- feeding means a big, strong, vigoricle Job Plant is well equipped for ous root system, which can only be

GRAIN WANTED.—BARLEY, BUCKwheat, Peas, Oats and Mixed Grain wanted. Highest prices paid.-Rob Roy Mills Limited, Durham. 112th ROB ROY GRAIN PRICES.-We are paying 35c, to 40c, for Oats, 55c, to

ed, Durham, Ont. stone foundation; concrete stables; THE DURHAM FURNITURE CO. IS ment; hog pen 20x40; twelve-room prepared to buy any quantity of logs brick house, furnace heated, also this season. Inquire of Mr. D. Kin-

LOST OR FOUND

SHEEP ESTRAY.—FOUR SHEEP strayed to the premises of the undersigned about three weeks ago. Owner may have same on proving The legume or nitrogen-gathering property and paying expenses .- Otto Bauer, Bentinck Township, R. R. 3,

FOR SALE OR RENT

FOR SALE OR RENT .- A COMFORTable brick house with modern conveniences; eight rooms; about quarter acre of land. Apply to J. J. Atkinson, Durham, Ont.

All Our Graduates

have been placed to date and still there are calls for more. Get your course NOW. If you do not get it you pay for it anyway in smaller earnings and lost opportunities.

Enter any day. Write, call or phone for information.

CENTRAL BUSINESS COLLEGE Stratford and Mount Forest

Durham High School

The School is thoroughly equipped to take up the following courses: (1) Junior Matriculation.

(2) Entrance to Normal School. Each member of the Staff is a University Graduate and experienced Intending pupils should prepare to

enter at beginning of term. Information as to Courses may be obtained from the Principal. The School has a creditable record

Durham is an attractive and heal-J. A. M. ROBB, B. A., Principal.

C. L. GRANT, Chairman.

Problems of Effect on Soil Properties of the Farm

Contributed by Grey County Department of Agriculture

Foot and Mouth Disease in Britain. During the past three and a half months, owing to the outbreak of the foot and mouth disease, there has doubtless you hear tales of its lack been no fewer than 32,000 cattle, 15, 000 sheep and 17,500 hogs slaughtered and burnt. This has seriously at fected the sale of Canadian cattle in Great Britain for the time being. No cure seems to have been discovered but there is a movement started now which has as its object the prevention of needless slaughter. As to the results which will be accomplished by this organization time alone will answer. It will be inter-11 1 tf in the soil, we must give attention to esting to watch proceedings.

Short Courses.

Deep rooted crops; (2) Shallow root-Beginning on January 7 and continuing until February 29, two short trogen-gathering crops; (6) Humus producing crops; (7) Humus decourses in Agriculture, domestic scistroying crops. Shallow and deep ence and home nursing will be held at Rocklyn and Meaford. This wil comparing the root systems of wheat necessitate absence from the office. and alfalra. Wheat as a shallow but all correspondence and requests rooted plant exerts an entirely differevery Tuesday. Special appoint- ent influence on the physical condi- will receive attention. Farmers are urged to make use of their local plant with its heavy deep reaching partment of agriculture, Markdale. roots. Continuous cropping with

A Million Union Hens.

Under this heading an article appeared in the Country Gentleman under date of August, 1923. It is a summary of results of the Washingon Co-operative Egg and Poultry Association, Seattle. Here are the points briefly given in that article:

 The Association started in 1917. 2. Every member signed a fiveyear contract to supply all his eggs to the Association.

can be illustrated by comparing corn with barley or oats. The corn plant 3. At the end of the fifth year by means of its strong root system when all the contracts expired-that was, in 1922-they all signed again for another five years, with many being placed in the Bank. plants with their slender root systems. The strong root system of the more new members. No canvassing corn plant can prepare its own plant was done. The members renewed their contract on their own initiaweaker types of crop plants, hence we see corn, potatoes and similar plants flourishing where shallow, del-

4. Members now number 2,300. They have over 1,000,000 hens.

5. When the five-year contract expired in December, 1922, it was decided that eggs would not be accept- Lawrence, J. McDonald. ed unless a second agreement was! signed for five years. The first week | M. Dunsmoor, L. Robins, after, 487 cases more than the week before were handled.

6. Last year the Association paid \$2,229,319.58 for 7,988,517 dozen eggs, returning an average of 27.9 cents per dozen for all grades of eggs.

7. There are eight grades of eggs which ranged from 32 cents for extras down to 18 cents for small cracked eggs. This is the average for the whole year. erally best known as the clovers, peas and beans. All such are very valu-

8. This Association has grown dresses and three-piece suits. Usuable since they add to the stock of from 153 members with a capital ally there is a lining of bright color, stock of \$2,000.00 to one of 2,300 or some relief in the way of ematmosphere over each acre of land \$500,000.00, owned entirely by the

9. This business has grown out of the legume plant roots live in great | the results obtained in 1917-the first year in pooling 7,000 cases of eggs.

Here are a few statements made ov the manager:

crops have a double value as soil im-"There is no way to determine the provers in that they supply humus amount our organization betters and are also nitrogen-gatherers. For prices to the producers. We handled these two very good reasons the farm 80 per cent, of the earlot shipments rotation should favor legume crops. of eggs out of Washington last year, or about 55 to 60 percent of the total Organic matter during its process of decay in the soil is called humus. production. All these went forward Every farm boy that has handled a graded, of course." plow knows the ease with which the

"Grading is the prop on which rest organizations like this. The more eggs graded for sale, the more will be consumed. There is nothing that holds down consumption like getting a 'store' taste when ordering up for breakfast two in the water the ease with which the soil may be cultivated. All plants are humus three minutes. After getting the stale ones you and I and the other eat an extra buckwheat cake or two the next morning. We are 'off' eggs alfalfa, vetches, pease and soy beans. These legume crops are known as for a time. Grading may drive the careless producer out of business, wheat, oats, potatoes, which are but the real fellows will go on all the grow humus destroying crops to the extent that we do when Providence "Our biggest market is New York. has given us so abundantly the

Jersey City, Detroit, Scranton and New Haven are other markets we reach, and in the West, also, the Washington Co-operative Brand is well distributed. A man reported seeing our trade mark at many points in Alaska. An important local market is the steamships. This was a dumping ground for the egg trade and, finally tiring of this condition, the company buyers started taking our graded stuff. Now we have half of the boat business out of Seattle. We have three city salesmen developing the local market in Seattle and one in Tacoma, but we are not pushing this heavily, as we get a half to three quarters of a cent more from our Eastern shipments as a rule."

The results are clearly shown. The

producers are winning, the consumers receive the quality of eggs they buy at a fair uniform price. Therefore, the control of the egg business is in the hands of the producers and

manager also states: "The Wash- put in operation. ington Poultrymen's Co-operative, like so many others, received its share of villification from the first, they informed me. Even now, well into the sixth year of co-operation, of function. Why there should be dissatisfaction is more than should riving Sudbury at 8.55 a.m. and at be answered. A lack of vision largely responsible. Co-operative marketing is the only solution."

Sleeping Car Toronto and Winnipeg, Unless the Ontario producers start work of this nature, the poultry industry will languish.

NOTABLE RECORD OF ROYAL BANK (Financial Times.)

The great strides made by The

Royal Bank of Canada during its past fiscal year are sure to attract special attention, not only across the Dominion, but more particularly in all the important banking centres of the world. With its chain of close to seven hundred branches, and probably due in great measure to the important connections it has gardually established throughout the world, the Royal has drawn to itself a degree of confidence which must have contributed to a very large extent to the notable progress made under the conditions which have prevailed. This is especially reflected in a gain of as much as fifty millions in deposits.

Just as this has been advantageous to the Bank, so it will be of benefit to the country as a whole. The past year has witnessed a number of unexpected developments in the banking world and it is well for the Dominion that one of its leading Banking institutions can report marked progress, as well as a position of such unusual strength.

To the management it should be a source of great satisfaction to realize the confidence that is everywhere

No. 9, Glenelg. IV .- M. Hargrave, A. Arnett, McFadden, J. Dunsmoor. Sr. III .- L. Jacques, M. Hopkins,

R. Hargrave, D. Arnett, O. Hopkins, K. Dunsmoor. Jr. III.-G. Hopkins, B. McNally. Sr. II.-V. Robins, E. Robins,

Jr. II.-R. Dunsmoor, C. Hargrave.

Sr. Pr.-F. Arnett, S. Greenwood, C. Jacques, D. Lawrence and O. Ball Jr. Pr.-D. Aljoe, O. Dunsmoor, G.

Greenwood, C. McNally, E. Duns-Pr. A.-R. Lawrence, A. McGirr

and M. Harrison (equal). -Florence Kerr, Teacher.

Poplin Popular. Poplin is a favored material for

IMPROVED TRAIN SERVICE The Canadian National Railways announce that effective Saturday,

In spite of all this success the vice via New Longlac Route will be "The National," the Toronto, Winnipeg and Western Canada train, will hereafter run by this route and via Allandale, Barrie, Orillia and Washago instead of via Beaverton, leaving Toronto 10.45 p.m. daily, ar-Winnipeg 4 p.m. following day.

> Standard Sleeping Car Toronto and Edmonton, Compartment Observation Library Car Toronto and Winnipeg, Standard Sleeping Car Toronto and Sudbury: Dining Car serving all meals.

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For tickets, reservations and full information apply to any Canadian National Agent.

Advertise in The Chronicle.

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Mr. Jack Frost and a run-down Battery don't agree, and the Battery always comes off second

Start the Cold Weather with a fully-charged Battery and be safe from all possible injury from Frost.

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C. L. GRANT

HAVE YOU A COLD?

Try One of These Remedies

Wampole's Extract of Cod Liver Oil

Maltese Coughs Drops

Formolid Throat Ease

Strongly Antiseptic-

Absolutely Harmless

Put one in the mouth

on retiring.

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