Soil & Land Usage Report

December 11, 1998. Meaford, Ont.

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December 11, 1998.

After taking and studying the soil samples from your 50 acre farm I am able to give you some idea as to what might be best suited for this type of property.

Historical use of the property has been difficult to pinpoint. It likely has been several decades since it has been plowed and worked for conventional crops. Given that it has been in "roughland pasture" since most people can remember, already tells us that the property does have some limitations as to what would be practical and more importantly profitable to grow.

The property represents a variety of soil types (Vincent Clay Loam, Dunedin Clay & Kemble Silty Clay), drainage conditions, topograhpy, and bedrock type and degree of stoniness limits what may be grown. Because of these variables, it has not been a property in demand by larger scale cash crop and livestock farmers.

This does not mean that the farm is a barren wasteland. Based on the soil analysis these soils are capable of growing anything that our climate will permit. However certain portions will out perform others. Stone bedrock, marshy areas, shallow topsoil, heavy clay, and ravines that are not safe to work will be the reasons for the cropping limitations. Time and money can accomplish alot but neither will change soil type or do much to the landscape.

The most obvious choice would be to maintain it as a grazing farm. Most of it could be plowed, reseeded, and with some fertility give a better yielding pasture. Fencing could be upgraded to incorpoate electric wire and with suitable watering facilities enable a rotational grazing system to be established.

Reforestation is another option. By planting coniferous trees, and with some work you could potentially realize some marketable products such as Christmas trees, fence posts, hydro poles and even some lumber.

The area labeled as sample B could be used to establish a small acreage of apple trees. However, as you plant closer to the sideroad, tree growth will be slower because of heavier clay soils.

Areas A and C would be suitable only for grazing or reforestation. Area D is closer to the sideroad and has a heavy clay content; grazing or tree planting best suits this area as well as the Northern portion of area E, and the area sampled as F. Sample G is the wet area. Because it is lighter soil, it could

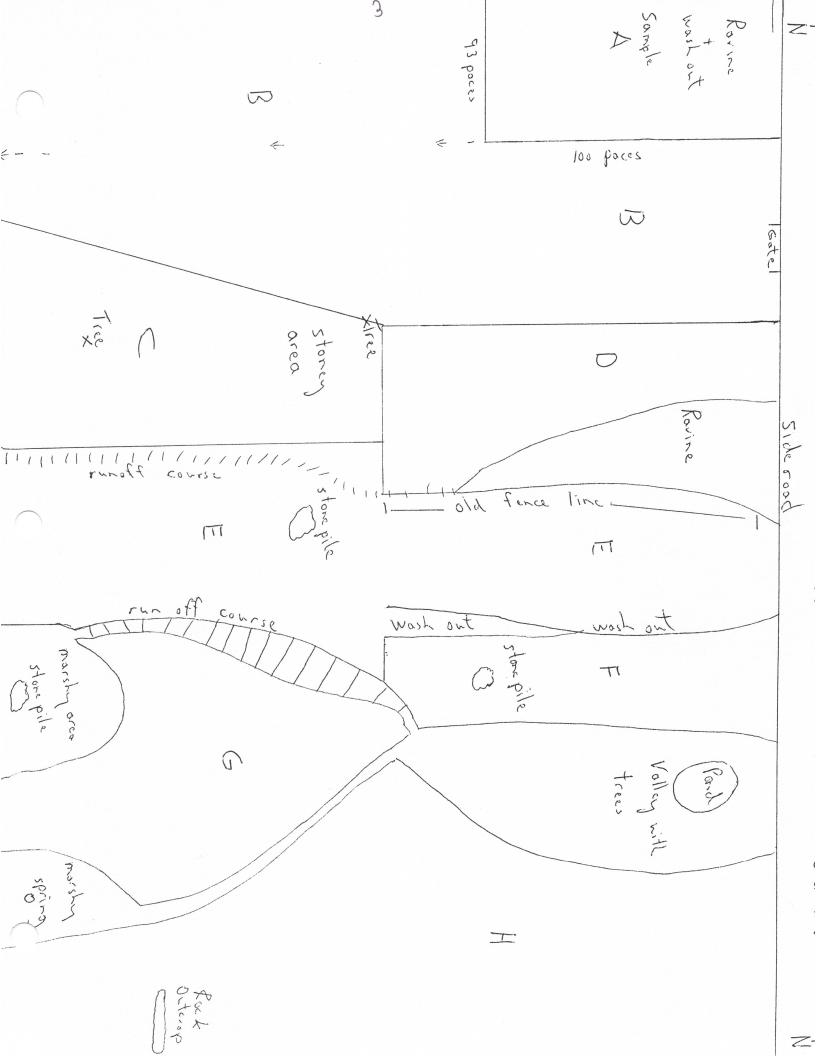
likely be drained and then be used to produce fruit trees. Although H is the nicest field to work with; the heavy clay soil is going to limit crop selection, particularily in dry years.

Cash cropping, even if done on a shared basis will not be practical for this property. Commodity prices fluctuate wildly and there are too many physical obstacles to allow economical use of large equipment. Some areas could support fruit production, but this type of farming is very labour intensive.

In summary, the most obvious usage is going to be either a continuation of the farm in grass which could be pastured (some hay production would be practical as well) or to plant out the property in trees. I hope that you will find these suggestions helpful and useful as you plan for the future.

Respectfully,

P. Robert Greenfield



G R O W E R S FERTILIZER SOLUTIONS MILAN, OHIO

Funtions Deficiency Symptions of Nutrients Needed By Plants:

NITROGEN - Gives green color and makes leaves and stems. It builds protein in the plant and combines with carbohydrates (sugar) to form plant cells. Nitrogen must be balanced by sugars made from sunshine, water, and gas in the leaves. Too much nitrogen can reduce yields of grain. Black soils are high in nitrogen. Need: indicated by general yellowing of foliage and burning off of lower leaves.

PHOSPHORUS - Absolutely necessary for the complete functioning of plants. Encourages development of seeds. Hastens maturity. Helps in the development of timey roots of crops such as winter wheat, lessens the chance of winter killing. Reduces the tendency for grains to lodge. Increases plumpness of kernels and improves the tone, vigor, and yield of crops. Need: indicated by stunted dark green color with purpling of stems.

POTASSIUM - Proper balance of potassium with the other elements aids in producing vigorour, healthy growth. Increases resistance of crops to diseases. Needed for the production of chlorophyll, the green coloring matter in leaves, and for the manufacture of starch. Need: indicated by marginal yellowing of older leaves. Firing.

CALCIUM - Plays a manifold role in plant metabolism. Structural component of plant cell walls. Effects the premeability of the cytoplasmic membrances of plant cells. Soils must be saturated up to 87% to promote big yields. Need: indicated by general yellowing of foliage and dieing of growing tips.

MAGNESIUM — Is the mineral consitituent of the green color in the leaf. Increases the absorption of phosphorus. May be related to oil formation and synthesis of nucleo-proteins. Need: indicated by yellowing of old leaves between the veins, Yellow streaking on corn and the others grass leaves.

SULPHUR - Consitituent of the emino acid, cystine, one of the compounds from which plant proteins are made. Required in the synthesis of essential oils. Very important for legumes. Need: indicated by weakened and grayish green color of plant.

IRON - Essential in the synthesis of chlorophyll. Acts as a catalyst of oxygen-carrier on oxidation - reduction processes occuring in living cells. Need: indicated by yellowing of young growing leaves.

MANGANESE - Regulates the role of iron in the mynthesis of chlorophyll. Needed for the activation of oxidases, important enzyme of plants, and for the reduction of nitrates. Need: indicated by yellow green spotting of young leaves.

BORON - Enables the plant to absorb or utilize calcium and possibly all other mineral nutrients. Need: indicated by lack of seed setting. Similar to calcium.

COPPER - Acts as an oxidizing agent and possibly play a role in the synthesis of chloropyll. Difficult to pick out in field. Usually occurs on muck soils.

ZINC - Appears to be necessary for normal chlorophyll production and growth of plants. Need: indicated by symptoms similar to sulphur.

Note: Insuffient lime in the soil may cause any of the above symptoms to show. Poor drainage, lack of air, may cause many of above symptoms plus stunting and premature maturity of ripening. Low yields may be associated with any of the above symptoms.

519)327-8060 Fev. 198 Pariman/John Menghimi insceptorappies on to the sample(s) tested. Samples are retained a maximum of thirty days % B 0000 冰水冰 0 0 <u>်</u> 0.77 17. M % eg 0.2.2 0.4 0 TON ON N 7 7. 0 0 4 grand grand grand EXCHANGE CAPACITY C.E.C. S. 13611 "B" Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121 BUFFER SOIL ANALYSIS REPORT SOLUBLE SALTS 1:1 mmhos/ cm RATE a soil's religion of the contraction religion in the contraction of th Hd 0 9.7 ed. SS 표 :: Laboratories, Inc. (SEE EXPLANATION ON BACK) RATE SODIUM Na BORON B WATER SOLUBLE ppm RATE 7.0 0.0 NEUTRAL AMMONIUM ACÈTATE (EXCHANGEABL SSIUM MAGNESIUM CALCIUM SC mdd RATE 公司292十 2268H 2101H 281VH 1793H est 2.4VH 2.6×T RATE COPPER 0.8 古中 DOB GRAHAM 3 mdd MEAFORD ONT mdd RATE 343VH 41871 NUMEZ ZINC MANGA- IRON IN NESE FE ppm RATE ZNZ TOH TO NN MIG AH 4 mdd RATE ppm RATE 247VH S 146M 1491 To In 一切で mdd RATE RATE GROWER 76.0 6.0 BICARBONATE 5 5 0 mdd mdd TLC ANIMAL HUSBANDRY NOG-120 PHOSPHORUS RATE SULFUR RATE 121 (WEAK BRAY) (STRONG BRAY) E C 20M RATE ppm EZO ZOLOTUKEL 45 Total Ibs/A 70000 ACCOUNT NO. CANADA DN BOX B37 mdd Z lbs/A BLACK PERCENT RATE ちかが 124°D 6.1VI ORGANIC ラカ・ロ MATTER FIA) mod NITRATE - N IDENTIFICATION lbs/A SAMPLE 8-294-0866 mdd 10/21/98 REPORT NUMBER 4 Q # Z REPORT DATE COMMENTS: 41214 01210 41216 41214 NUMBER mdd

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REPORT DATE

GROWER

13611 "B" Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121

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SOIL ANALYSIS REPORT (SEE EXPLANATION ON BACK)

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COMMENTS:

(519) 327-8060 REV. 1/96



REPORT NUMBER: 8-294-0866

TLC ANIMAL HUSBANDRY INC 13056 DEALER #: BOX 837

WATER SOLUBLE BOB GRAHAM RR 4 GROWER: TITLE:

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10/21/98

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The above analytical results apply only to the sample(s) submitted.



REPORT NUMBER: 8-294-0866

TLC ANIMAL HUSBANDRY INC 13056 DEALER #: BOX 837

WATER SOLUBLE TITLE:

DATE: 10/21/98

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Managing Director

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REPORT NUMBER: 8-294-0867

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WATER SOLUBLE TITLE:

DATE: 10/21/98

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RESPECTEMLLY SUBMITTED,

Managing Director Kennard

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TLC ANIMAL HUSBANDRY INC BOX 837 NOG-120 13056 HARRISTON ONT CANADA, ON DEALER #:

WATER SOLUBLE TITLE:

BOB GRAHAM

DATE: 10/21/98

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SUBMITTED RESPECTIVELY

Pohlman Managing Director Kennard

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