NORTH-EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOC.

FINAL REPORT

ON

TOPSOIL STRIPPING OF AGRICULTURAL LAND IN THE DISTRICT OF SUDBURY

This picture shows a former crop producing farm field, in the District of Sudbury, from which the topsoil was stripped 10 to 15 years ago. No rehabilitation work has been undertaken except for the planting of a small test plot of conifers visible on the right side of the picture. Picture taken in 1995.

PREPARED FOR THE TOPSOIL SUBCOMMITTEE OF THE SUDBURY DISTRICT SOIL AND CROP IMPROVEMENT ASSOCIATION

February 17, 1997.

T.H.Peters

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SUMMARY

The loss of arable land due to real estate development acccompanied by the practice of stripping the topsoil off of agricultural land to be used in grounds beautification in local urban and suburban areas is of great concern to the agricultural community in the District of Sudbury.

This report outlines the adverse impact of the topsoil stripping of arable land through the removal of the surface soil layer which acts as the nutrient reservoir for growing plants, contains the microflora and fauna which decompose the organic matter and recycle the released nutrients for future plant growth. The physical structure of the topsoil which permits easy root and water penetration is destroyed and under natural conditions will take many centuries to redevelop.

The steps taken by the Sudbury District Soil and Crop Improvement Association through the Ontario Soil and Crop Improvement Association to request the Government of Ontario to increase the effectiveness of The Topsoil Conservation Act, 1977, are outlined.

Copies of this report will be forwarded to the local municipalities which have requested them.

TOPSOIL STRIPPING OF AGRICULTURAL LAND IN THE DISTRICT OF SUDBURY

Historical Background

Since the 1950's, the increasing industrial development and diversification, with its accompanying increase in population, in the geographic District of Sudbury has placed what appears to be an irreversible stress on agricultural land.

This results in the loss of land suitable for food production. The two causes of this stress are the demand for easily developed land for suburban residential development and the stripping of topsoil to meet the apparent insatiable demand for its use in urban development and beautification.

The Regional Municipality of Sudbury primarily and to a much lesser extent, the City of Elliot Lake are the principal destinations of topsoil stripped from agricultural land. In these two municipalities, their residents use it for the aesthetic improve ent of the grounds of their residences or it is used by the municipalities for parks and other local site improvements. A more recent development is its use by cottage owners to beautify the grounds of their summer homes or to establish vegetable gardens. This latter trend is becomming more widespread throughout the District.

The wording of the Ontario Legislature's " The Topsoil Preservation Act, 1977 " inhibits the drafting of a municipal by-law to control topsoil stripping in an enforceable form. As a result, the stripping continues, the stripped land is not revegetated and land suitable for food production is destroyed.

This rapidly increasing loss of productive agricultural land is of great concern to the District's agricultural community, as it should be to every facet of the overall community, and has led to the preparation of this report.

Introduction

The Topsoil sub-Committee of the Sudbury District Soil and Crop Improvement Association was appointed following the 1994 Annual Meeting of the Association. This Sub-Committee was to investigate and assess the impact of topsoil stripping of agricultural land in the geographical District of Sudbury.

The Sub-Committee consisted of the following members:-

Jim Found (President, S.D.S.C.I.A.)
Don Poulin
Mike Soenen
Neil Tarlton.

At their meeting on April 12, 1995, the Sub-Committee established the objective and the terms of reference to cover the scope of the project's program. The terms of reference were highlighted in the Interim Report (Appendix A) and are included in full in Appendix B.

On September 26, 1995, T. Peters met with Jim Found and Neil Tarlton and agreed to to carry out the project.

Following this meeting, a letter was prepared and mailed on October 17th to the 19 municipalities in the District of Sudbury. This letter was forwarded over the signature of the S.D.S.C.I.A. president and on S.D.S.C.I.A. letterhead. A questionnaire seeking information on local topsoil stripping related activities accompanied this letter. A copy of this letter and questionaire is included in Appendix B.

The municipalities contacted are listed below:-

Town of Capreol
Town of Rayside-Balfour
Town of Valley East
Town of Nickel Centre
Town of Onaping Falls
Town of Walden
Town of Massey,
Town of Webbwood
Town of Espanola

Regional Municipality of Sudbury
City of Sudbury

Township of Hagar
Township of Nairn
Township of Ratter & Dunnet
Township of Spanish River
Township of Baldwin
Township of Cosby, Maitland and Martland
Township of Casimir, Jennings and Appleby

Sudbury East Municipal Association (Noelville)

Replies were received from eleven of the municipalities including two (Capreol and the City of Sudbury) which stated that there was no agricultural land within their boundaries. Ten of these eleven municipalies indicated that they were not presently contemplating the passing of a by-law regarding topsoil preservation.

The Township of Spanish River started to enact a by-law on topsoil preservation in 1982, and although it passed the first

two readings in Council, a third and final reading never took place.

The Town of Valley East passed a by-law (92-21) in 1992. This by-law requires the owner of the property to apply for a license for the removal of topsoil from his/her property, places limits on the area to be stripped, requires a buffer zone to protect the adjacent property and requires an appropriate rehabilitation program to be undertaken after the topsoil has been removed.

Field Inspections 1995 and 1996

During late October and early Novemmber, 1995, immediately prior to freeze up various sites from which the topsoil had been stripped in the past quarter century in the towns of Valley East and Rayside-Balfour were visited, inspected and in some cases soil samples were taken. In May and June, 1996, similar inspections and soil sampling took place in the Massey-Walford and St Charles areas.

Pictures and site descriptions of the 1995 program are shown on pages 5-9 of the Interim Report (Appendix A).

The spring 1996 sampling program took place in areas where relatively minor stripping had occurred. These were at two sites in the vicinity of St. Charles and one site in Salter Township near Massey.

Picture 1. Site # 1 St.Charles area. Topsoil stripped during past 1 to 3 years. Picture taken June, 1996.

Picture 2. Site # 2 St. Charles area. The stripping of topsoil at this site has just begun.

Soil Nutrient Levels of Stripped Soil Areas at 5 Sites

Soils amples for nutrient availability were taken at 5 sites. Several samples were taken at each site. These same site samples were then mixed and a representative sample of the composite mixture was taken and forwarded to the University of Guelph for analysis. For comparative purposes, the surface layer or subsoil of the stripped areas and the adjacent non stripped topsoil areas were sampled separately at three sites in the spring of 1996.

The analytical results and comparisons appear below.

Major Nutrient Analysis of Topsoil Stripped Areas at Six Sites

Location	*Phosphorus	*Potassium	pH	*Magnesium
6-1 Hanmer	4	27	5.8	34
5-3 "	8	13	5.4	29
4-3 "	7	14	5.4	10
Site 1. St. Charles	6	44.8	5.4	69
" 2. " "	3	22.4	5.7	14
Salter Twp. Massey Area	15	40.4	7.2	137

* expressed as mg./L soil.

Since observations of adjacent land at each site indicated that prior to stripping, each of these sites had been in pasture or abandoned to a stage that various native plants, shrubs and trees were beginning to establish themselves on the site, it was decided to use the nutrient requirements of long term pasture for comparison to indicate the additional nutrients required to maintain this similar crop.

Major Nutrient Additional Requirements for Long Term Pasture on Stripped Soil Areas.

	Phosphorus		Potassium	
Location	*Level	Additional	*Level	Additional
6-1 Hanmer	4	60 Kg/ha	27	50 Kg/ha
5-3 "	8	30 Kg/ha	13	70 Kg/ha
4-3 "	7	50 Kg/ha	14	70 Kg/ha
Site 1. St. Charles	6	50 Kg/ha	44.8	40 Kg/ha
" 2. " "	3	60+Kg/ha	22.4	50 Kg/ha
Salter Twp.	15	20 Kg/ha	40.4	40 Kg/ha

It is pointed out that the organic matter content of the subsoil is minimal. Thus unlike the topsoil with its higher organic matter content, the subsoil does not have the continuous release of nitrogen from decaying detritus needed to support vigorous plant growth. This means that relatively large applica-

tions of nitrogenous fertilizer would have to be made in addition to the phosphorus and potassium.

The nutrient level difference between the topsoil and the subsoil at 3 sites is shown in the table below.

Nutrient Level Difference at the Three 1996 Sampling Sites

Lotion	*Phosphorus		*Potassium		*Magnesium		pH	
	Top	Sub	Top	Sub	Top	Sub	Top	Sub
Site 1. St.Charles	9	6	84.2	44.8	136	66	5.4	5.4
" 2. " "	5	3	36.2	22.4	26	14	5.2	5.7
Salter Twp.	61	15	50.0	40.4	137	261	7.6	7.2

* Expressed as mg/L of soil.

foremention 3 sites were chosen for use in this comparison because of their identifiable recent, or, as in one case, (Site 2, St. Charles) current, stripping of the topsoil operations enabled the samples to be taken of clearly identifiable subsoil and at adjacent undisturbed topsoil sites. This ensured that the data would be more accurate for compparison purposes.

The difference in the physical structure between the topsoil and the subsoil at these three sampling sites was visually readily discernible (see Picture 2). The evidence of water runs on the bare subsoil surface from recent precipitation indicated the lack of porosity of this material. These water runs were not apparent on the adjacent cultivated topsoil. The crumb structure of the topsoil layer, partially attributable to its organic content plus the residual detritus present from previous growth in and on the topsoil, reduces soil compaction. This maintains the porosity essential for the infiltration and downward percolation of precipitation water.

The foregoing indicates how the practice of topsoil stripping reduces agricultural land areas to wasteland areas by removing the agents necessary for detritus decomposition which are essential for nutrient recycling, the available nutrients present and by destroying the physical properties of the surface layer essential for the optimum recycling of precipation moisture whether used for growth or renewing aquifers.

Need for Adequate and Enforceable Legislation.

It is evident that the uncontrolled removal of the topsoil, which has been developed by natural forces during the millenia since the last Ice Age, is not prudent. It is necessary for the present generation to preserve the agricultural heritage which we

have received from past generations to ensure that future generations will have adequate agricultural resources to meet their food requirements.

Although well intentioned, "The Topsoil Preservation Act, 19977" does not control the stripping of topsoil from agricultural land, nor does it provide the local municipal governments with the strength to enforce any anti-topsoil stripping by-law which they might enact.

As this Act is unenforceable, it also means that there is no requirement for the owner of the land or people who do the stripping of the topsoil to reclaim or rehabilitate the affected land. In this instance, the position taken by the Government of Ontario is exactly opposite to the one which it has taken with operators of pits and quarries as well as the mining industry who are required by statute to rehabilitate any area on which their operations have impacted.

A resolution regarding the strengthening of "The Topsoil Preservation Act, 1977 " was passed at the 1995 Annual Meeting of the Sudbury District Soil and Crop Improvement Association and forwarded to the Ontario soil and Crop Improvement Association to be included in their discussions with the representatives of the Ontario Government at their meeting. A copy of this resolution is included in Appendix B.

Observations

1. The agricultural community in the District of Sudbury is deeply concerned with the irreplaceable loss of land suited to food production by topsoil stripping for commercial purposes.

2. At present, there is little or no control of topsoil stripping due the ineffective and unenforcible nature of the present provincial statute "The Topsoil Preservation Act, 1977.

3. There is no requirement for the owners of the stripped land to rehabilitate this stripped land, resulting in unsightly acreages which adversely impact on the local environment of adjacent land and residents in the community.

4. The stripping of topsoil from a site reduces its level of fertility and the the physical structure of the surface soil of the area with the subsequent impact on ecosystems and water movement well beyond the boundaries of the land involved.

APPENDIX A

PRELIMINARY REPORT

ON

TOPSOIL STRIPPING OF AGRICULTURAL LAND IN THE SUDBURY DISTRICT

PREPARED FOR THE TOPSOIL SUB-COMMITTEE OF THE SUDBURY DISTRICT SOIL AND CROP IMPROVEMENT ASSOCIATION

December 28, 1995.

T.H.Peters

Preliminary Report

Topsoil Stripping of Agricultural Lands in the Sudbury District

Introduction

The Topsoil Sub-Committee of the Sudbury District Soil and Crop Improvement Association was appointed following the 1994 meeting of the Association to investigate and assess the impact of topsoil stripping practices in the geographic Distict of Sudbury.

The Sub-Committee consisted of the following:-

Jim Found (Pres. S.D.S.C.I.A.)
Don Poulin
Mike Soenen
Neil Tarlton

The Sub-Committee met on April 12, 1995 to establish the objectives of the study and to establish the terms of reference to cover the scope of the project program.

A copy of the complete terms of reference is included in the appendices. They may, however, be highlighted as follows:-

1. To document the extent of the area from which the topsoil has been stripped.

2. Measure the extent of the damage to the soil profile.

3. Investigate the impact on the crop production capability of the site from which the topsoil was stripped.

4. Determine the range of possible damage caused by different methods and depths of stripping.

5. Document the legislation and investigate how it is interpreted and applied across the District of Sudbury.

6. Assess if it is a financially rewarding operation for the strip operators.

7. Investigate whether the profitability of the land in agriculture is financially competitive with the removal of topsoil by stripping, to the owner.

8. Review possible methods of regeneration of stripped areas.

On September 26, T.Peters met with Jim Found and Neil

Tarlton in the Sudbury OMAFRA office to discuss the project. At this meeting T. Peters undertook to carry out this project.

A draft letter and an accompanying questionaire on the status of topsoil stripping (including the area stripped) within the municipal boundaries and any present or contemplated relevant regulations within the municipality was prepared. This was forwarded for review on September 28, amended and mailed to the 19 municipalities in the District on October 17 on the letterhead of the SDSCIA over the signature of the president.

Copies of the letter and the questionaire are included in the appendices.

Questionaire

The municipalities contacted are listed below along with an indication of those which have replied to the questionaire:-

Municipality	Reply Receeived
Town of Capreol	yes
Town Of Rayside-Balfour	no
Town of Valley East	yes
Town of Nickle Centre	yes
Town of Onaping Falls	yes
Town of Walden	yes
Town of Massey	no
Town of Webbwood	no
Town of Espanola	no
Regional Municipality of Sudbury	no
City of Sudbury	yes
Township of Hagar	no
Township of Nairn	no
Township of Ratter & Dunnet	no
Township of Spanish River	yes
Township of Baldwin	yes
Township of Cosby, Maitland & Martland	yes
Township of Casimir, Jennings & Appleby	yes
Sudbury East Municipal Association (Noelville)	yes

Information Derived from Survey Replies

To date, 11 of the 19 municipalities (57.9%) have completed and returned the questionaire.

The question and a summary of the replies are shown below:-

1. Has your Municipality passed any by-laws concerning topsoil preservation on the lands within your Municipal boundaries under "The Topsoil Preservation Act, 1977" of the Ontario Legilature?

Yes	No
1	10

2. Does your Municipality in any way restrict the removal (stripping) of topsoil within its boundaries?

Yes	No
1	10

3. Are you aware of any topsoil stripping activities, past or present, within your Municipality?

Yes	No
2	9

4. If your Municipal Officials are aware of any topsoil stripping activities, currently or in the past, will you please forward a list of sites and their location?

Yes	N/A	No
2	5	4

5. Is your Municipality currently contemplating a by-law regarding topsoil preservation?

Yes	N/A	No
0	1*	10

* Currently has a by-law.

6. Do you have any suggestions or recommendations on this matter for inclusion in this report?

Yes	N/A	No
1	1	9

7. Would your organization like to receive a copy of this report when completed?

Yes	No
10	1

Summary of Information Presented in the Replies to the questionaire.

It would appear, from the fact that 10 of the 11 questionaire respondents indicated that their municipality is not presently contemplating passing a by-law regarding topsoil preservation, that this problem has a very low priority. In two cases, the Town of Capreol and the City of Sudbury, they stated that

was no agricultural land within their boundaries, they do not contemplate action in this regard.

The Township of Spanish River started to enact a by-law on topsoil presevation in 1982, and although it passed the first two readings in Council, a third and final reading never took place.

The Town of Valley East passed By-Law 92-21 " Being a By-Law to protect and conserve the Topsoil within the Town of Valley East" on the 12th of May, 1992. This by-law requires the owner of the land to apply for a license for the removal of topsoil from his/her property, places limits for the area to be stripped, requires a buffer zone to protect adjacent property and requires an appropiate rehabilitation program to be undertaken after the topsoil has been removed.

The lack of teeth in "The Topsoil Preservation Act, 1977" and the resultant enforcement difficulties was sighted by three of the people with whom discussions were held as the principal reason why few municipalities had bothered to take steps to enact a local by-law.

Rehabilitation Potential of Sites fom which the Topsoil has been Stripped

Because of the limited time available, primarily due to the earlier onset than usual of winter, a very limited investigation of this facet of the program was implemented. It is hoped that this portion of the program will be more fully investigated in the spring of 1996.

Three sites, in Hanmer Township (Valley East), which had had the topsoil stripped approximately 5, 15 and 25 years ago, along with one site which had not , were inspected and soil samples were taken at three of the sites. By November 6th, the surface of the ground was sufficiently frozen to prevent further sampling. Photographs, which follow, were taken at all four sites.

Eight to ten soil samples were taken at each of the three sites shown in pictures 2, 3 and 4. The soil samples at each site were mixed in a pail to make a composite sample from which a sample was taken and forwared to the University of Guelph for analysis.

Picture 1. Lot 1 Con. 2 Hanmer. The area on the left side of the ditch has not had the topsoil removed. The area at the back right side of the picture was stripped in the last 5 years. Picture taken November 8, 1995.

Picture 2. Lot 6 Con. 1 Hanmer. Topsoil was stripped about 5 years ago. There has been a thin regeneration of grass and weeds. Picture taken November 8, 1995.

Picture 3. Lot 5 Con. 3 Hanmer. The topsoil was stripped about 10 years ago. There is a thin sparse cover of grass and weeds. A few rows of conifers have been planted. Picture taken Nov. 8, 1995.

Picture 4. Lot 4 Con.3 Hanmer. The topsoil was stripped from this area 25 or more years ago.Aspen, birch, alders, jack and red pine have recolonized this site. Picture taken November 8, 1995

The analytical results appear in the following table.

Location	Phosphorus	Potassium	pH	Magnesium
6-1 Hanmer	4	27	5.8	34
5-3 "	8	13	5.4	29
4-3	7	14	5.4	10

If we compare the above levels of phosphorus and potassium with those required to provide sufficient nutrient levels to maintain unimproved pastures, the following amounts of phosphorus in kg/ha would have to be added.

Location	Phosphorus Level	Phosphorus additional	Potassium Level	Potassium Additional
6-1 Hanmer	4	60 kg/ha	27	50 kg/ha
5-3 "	8	30 " "	13	70 " "
4-3 "	7	50 " "	14	70 " "

It is interesting to note that the range of pH's of the three sites (5.5 - 5.8) is adequate for most grass, shrub and tree species used in reclamation programs.

The magnesium levels range from low to medium as can be seen in the table showing the analytical results. This can be corrected in three ways, an application of dolomitic limestone, including the magnesium as a trace element in a specially prepared fertilizer or by a liquid application of a magnesium in a solution.

Other Stripping Practices

There are two other stripping practices, although not common to the whole District, which are used in limited areas.

The first is common to subdivision development on agricultural land when the topsoil stripped from road areas, building areas or other related development areas is temporarily stockpiled until it can be used in establishing the final surface grade around the individual building.

The other stripping practice is removing black muck from usually deep faces in old swamps areas. The material is piled to facilitate drying and then passed through a grinder to break down the larger pieces of decaying organic matter prior to its sale. A pond of water is usually left in the excacavated area.

In some cases a soil seller will maintain a storage yard wherein different types of soil and sand are stockpiled and who will roughly mix the different soils, loam ,mucks, sand etc., to meet the client's request provided that the order is of sufficient quantity.

Pictures of these other types of topsoil stripping follow.

Picture 5. Hanmer Twp. Subdivision development showing stripped and piled topsoil. Picture taken November 8, 1995.

Picture 6. Capreol Township. View of Black muck stripping operation. Picture taken November 8, 1995

Picture 7. Hanmer. Yard showing the piles of different types of soil available for blending. Picture taken November 8, 1995.

APPENDIX B

CHAPTER 49

The Topsoil Preservation Act, 1977

Interpretation

. In this Act,

(*a*) "lot" means a parcel of land, described in a deed or other document legally capable of conveying land, or shown as a lot or block on a registered plan of subdivision;

(*b*) "topsoil" means that horizon in a soil profile, known as the "A" horizon, containing organic material. 1977, c. 49, s. 1.

By-laws regulating or prohibiting removal of topsoil

:.—(1) Subject to subsections 2 and 3, by-laws may be sed by the councils of municipalities,

(*a*) regulating or prohibiting the removal of topsoil in the municipality or in any area or areas thereof defined in the by-law;

(*b*) providing for the issuing and renewing of permits for the removal of topsoil;

(*c*) providing for the refusal to issue, refusal to renew and revocation of permits on such grounds as are prescribed in the by-law;

(*d*) prohibiting any person from removing topsoil within the area or areas to which the by-law applies without a permit therefor;

(*e*) requiring the rehabilitation of lands from which the topsoil has been removed;

(*f*) prescribing standards of rehabilitation to be met for the purposes of clause *e*;

(*g*) prescribing rehabilitation procedures to be followed for the purposes of clause *e*; and

(*h*) exempting any land or any person or class of persons from any or all of the provisions of a by-law passed pursuant to this subsection.

Application

(2) A by-law passed under subsection 1 does not apply to,

(*a*) the removal of topsoil as an incidental part of a normal agricultural practice including such removal as an incidental part of sod-farming, greenhouse operations and nurseries for horticultural products;

1975, c. 79
1971, c. 37

(*b*) the removal of topsoil as an incidental part of drain construction under *The Drainage Act, 1975* or *The Tile Drainage Act, 1971*;

1971, c. 96

(*c*) the removal of topsoil as an incidental part of operations authorized under *The Pits and Quarries Control Act, 1971*;

R.S.O. 1970, c. 274

(*d*) the removal of topsoil as an incidental part of operations authorized under *The Mining Act*;

(*e*) the removal of topsoil by a Crown agency or Ontario Hydro;

(*f*) in the case of a by-law passed by a local municipality, the removal of topsoil by a county or regional municipality;

R.S.O. 1970, c. 312

(*g*) the removal of topsoil as an incidental part of any construction for which leave to construct has been granted pursuant to *The Ontario Energy Board Act*;

(*h*) the removal of topsoil as an incidental part of the construction of any form of underground services where the topsoil is removed and held for subsequent replacement;

(*i*) the removal of topsoil where the quantity of topsoil removed in any one lot does not, in any consecutive three-month period, exceed five cubic metres; and

(*j*) the removal of topsoil as an incidental part of the construction of a public highway.

Idem

(3) A by-law passed under subsection 1 does not apply to the extent that,

R.S.O. 1970, c. 349

(*a*) it is inconsistent with the terms of any approval or agreement under *The Planning Act*; or

(*b*) it would prevent the construction of any building, structure, driveway, loading or parking facilities permitted or required on a lot pursuant to,

Terms of reference for a summer project.
on Topsoil preservation.
Sudbury soil and crop improvement association.

The project ideas and terms of reference are as follows.

(1) To document the extent of the area that has undergone stripping of topsoil ie: Map the area that has undergone stripping.

(2) Measure the extent of the damage on the soil profile. Compare this to an untouched profile.

(3) With the limited funds available determine the negative effect the treatment would have on crop production. eg: Get some feed back on native plant growth comparisons.

(4) Determine the range of possible damage. ie: does there exist differing degrees or types of stripping? ie: How much is stripped? what type of material is stripped? what material is left?

(5) Document the legislation, how is it interpreted or applied across the district? First contact municipalities. Second survey municipalities re: legislation, application, problems they encounter and the general practices of building contractors and the preservation of topsoil when buildings are erected.

(6) Document the financial persuasion that strip operators are under to continue the process. Is the profitability of stripping increasing or decreasing?

(7) Does the profitability of agriculture have any hope of competing with the removal operation of stripping?

(8) Possible methods of regeneration are to be discussed. eg. Natural regrowth. Possibly add Phosphorus and Potash.

(9) Costs to include $200.00 for soil tests, $300.00 for travel expenses at 25c /Km and $1,000.00 for labour during research and preparation of the report. The labour segment is to be advanced ⅓ at the start ⅓ at the ½ way stage and ⅓ at the completion of the project.

Committee members:
Jim Found
Don Poulin
Mike Soenen
Neil Tarlton

Neil Tarlton, after a meeting with the topsoil subcommittee. Wednesday April 12, 1995.

Sudbury District, Soil & Crop Improvement Association.

Topsoil preservation project.

October 16, 1995

The Town of Rayside Balfour
Box 639, 108 Hwy. 144
Chelmsford, Ontario.
P0M 1L0

There is a concern amongst many people in the district of Sudbury over the depletion of the agricultural base by the stripping of topsoil from agricultural lands used cin crop and food production.

This concern has been brought to the attention of the Sudbury District Soil and Crop Improvement Association. It is also a great concern of the members of the Association who are actively engaged in food production as farmers. This slow but continuous reduction by topsoil stripping of the limited amount of agricultural land in the district adversely impacts on the acreage available in the future for crop production.

As a result of this concern, the association has decided to undertake a survey on topsoil stripping in the district. This is the initial step in preparing a report and developing recommendations on a policy for the future on this matter.

The attached questionnaire is being sent to all municipalities in the district to obtain background information for inclusion in this report.

As the target date for the completion of this report is mid-November, your prompt reply to the questions will be appreciated.

The report is being prepared by Mr. T.H. Peters of Sudbury. He can be reached by phone at 682-1185 or by Fax at 682-1551.

Yours truly,

Jim Found, President Sudbury District S&C Association, Box 413 Hanmer, Ontario. P3P 1T2.
(705) 969 4597

RESOLUTION

The motion, that the following resolution be forwarded to the Ontario Soil and Crop Improvrment Association from the Sudbury District Soil and Crop improvement Association, was proposed, seconded and unaminously passed at the S.D.S.C.I.A. Annual Meeting on January 12, 1996.

Whereas, many municipalities are reluctant to pass by-laws to control the stripping of topsoil from farm land under the current unenforceable regulations in the Topsoil Preservation Act, 1977; and,

Whereas, the area of land suitable for agricultural food production in Ontario is limited; and,

Whereas, the continuing expansion of urban and industrial development is decreasing the area of land suitable for food production; and,

Whereas, in addition the land area being lost directly to urban development, there are additional acres from which the topsoil is being stripped to provide material for the aesthetic improvement of the areas being developed; and,

Whereas, the present provincial Pits and Quarries Act and the present Mining Act require all sites disturbed by operating pits, quarries, mines and mine related operations to be reclaimed at the time the operation is shut down;

THEREFORE, BE IT RESOLVED THAT,

The Ontario Soil and Crop Improvement Association request that the Topsoil Conservation Act, 1977 be revised to require the following:-

(i) all Municipalities which have agricultural land within their boundaries pass a by-law controlling the stripping of topsoil.

(ii) a record of the area from which the topsoil has been stripped on any agricultural land be registered against the title of the property in the local Land Registry Office.

(iii) that only land which is classified as Class 4 or of a lower quality as determined by the local Planning Board and O.M.A.F.R.A. be eligible for stripping.

(iv) a permit to strip topsoil for removal from the site must be obtained from the local municipal office.

(v) all land from which the topsoil has been stripped must be reclaimed within one year from the date of stripping to the standards required by the local municipality.

At the 1996 Annual Meeting of the Ontario soil and Crop Improvement Association, clause (iii) of the resolution was amended to read as follows:-

"(iii) that only land determined by the local planning board and OMAFRA be eligible for stripping."

The resolution, as amended, was then passed and forwarded as Resolution #7 to the government for consideration.

The following two replies to this resolution were received from the government by the Ontario Soil and Crop Improvement Association :-

" REPLY BY BRIAN HILL, DIRECTOR, PLANNING POLICY BRANCH, MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING.

..... of April 1, 1996 to the Minister of Municipal Affairs and Housing regarding the resolutions tabled at the annual general meeting of the Ontario Soil and Crop Improvement Association have been forwarded to me for reply. I have noted that you have circulated this report to other Ministries. Therefore I will confine my remarks to those items which pertain directly to the Ministry of Municipal Affairs and Housing. (No reply to Resolution #7)

REPLY BY THE HONOURABLE NOBLE VILLENEUVE, MINISTER, ONTARIO MINISTRY OF AGRICULTURE, FOOD AND RURAL AFFAIRS.

Through the Topsoil Preservation Act, this ministry supports the passage of topsoil regulation by-laws by municipalities. OMAFRA provides guidelines and consultation to municipalities to help ensure that by-law regulations are effective and responsive to local needs. By-laws which ensure a fair and effective issuing of permits and which provide for effective and adequate site rehabilitation are desirable. The ministry also recognizes the desire and the regulatory right of municipalities to prohibit topsoil removal entirely in their jurisdictions. To address problems that municipalities encounter, the Resources and Regulations Branch has compiled a document entitled " Guidelines and Sample By-laws for Municipalities Drafting Under the Topsoil Preservation Act " "

THE CORPORATION OF THE TOWN OF VALLEY EAST

BY-LAW 92-21

BEING A BY-LAW TO PROTECT
AND CONSERVE TOPSOIL WITHIN
THE TOWN OF VALLEY EAST

WHEREAS the Topsoil Preservation Act, R.S.O. 1980, provides that Councils of Municipalities may pass by-laws to regulate or prohibit the removal of topsoil;

AND WHEREAS it is desirable to preserve the topsoil on lands valuable for agriculture and forestry as well as provide for the rehabilitation of lands where topsoil removal is permissible;

NOW THEREFORE the Council of the Corporation of the Town of Valley East enacts as follows:

1. For the purpose of this By-Law, the definitions and interpretations shall govern:

   1.1 "Lot" means a parcel of land, described in a deed or other document legally capable of conveying land, or shown as a lot or block on a registered plan of subdivision;

   1.2 "Topsoil" means that horizon in a soil profile known as the "A" horizon, containing organic material.

   1.3 "Topsoil Inspector" means the Commissioner of Public Works or any other person(s) appointed by the Council of the municipality as deemed necessary.

   1.4 "Black Loam" - material with no "A" horizon and relatively rich in organics falls under the definition of peat "vegetable" matter decomposes in water and partly carbonized and therefore is not subject to the Topsoil Preservation Act and this By-Law.

   1.5 "Buffer" - the area to be reserved for non extraction of topsoil as indicated on the plot plan required on the application for permit.

2. No owner of any lot, or his agents, servants and employees shall remove or permit the removal of any topsoil from any lands within the Town of Valley East, unless:

   2.1 the exemptions contained in Section 2, Subsections 2 and 3 of the Topsoil Preservation Act, R.S.O. 1980, Chapter 504, apply to the removal;

   or

   2.2. the owner has applied for and obtained a permit for such purposes under this By-Law and only in accordance with the application and permit.

3. All applications for topsoil removal permits shall be made by the owner of the lot or his authorized agent in writing to the Clerk of the Town during normal business hours. There is no fee for a topsoil removal permit.

4. All applications for topsoil removal permits shall be in the form set out in Schedule "A" attached hereto and forming a part hereof and shall contain all the information required therein together with the covenant to rehabilitate as set out therein.

.../2

5. Notwithstanding the owner's compliance with the provisions set out in the application for permit, no permits shall be issued for the removal of topsoil, if:

   5.1 The site for the removal of topsoil is greater than five (5) hectares;

   5.2 The removal of topsoil from the site applied for will adversely affect:

      a) the entire lot for normal farming purposes using acceptable farming practices;

      b) the amenities of neighbouring lots; (the proximity of the removal site shall be a minimum of 50' (feet) from any residence).

      c) the natural drainage system thus affecting neighbouring lots.

   5.3 The removal of topsoil on any one lot, in any consecutive three month period, exceeds five cubic metres.

6. Topsoil stockpiled prior to the passing of this By-Law are grandfathered and are considered exempt of this By-Law.

   6.1 Stockpiles shall be placed so as prevailing winds do not cause neighbouring properties a nuisance.

   6.2 If stockpiles are completely removed, the area beneath shall be rehabilitated in accordance with this By-Law.

   6.3 No permit to stockpile topsoil outside the removal area is required.

7. Any person who contravenes Section 2 of this By-Law or provides misleading or false information to an application under Section 4, or fails to rehabilitate as provided in the application, shall be guilty of an offence and liable on summary conviction to a maximum fine of Five Thousand ($5,000.00) Dollars, exclusive of cost for each offence.

8. Where it is revealed or discovered that an applicant for a permit in accordance with Section 4 of this By-Law has provided misleading or false information on his application, his permit issued under this By-Law shall become null and void and the Town Clerk may by order direct that any person removing topsoil pursuant to a permit which was issued based on this misleading or false information, forthwith cease and desist all operations.

9. Any person who contravenes Section 2 of this By-Law may by order of the Clerk, be directed to forthwith cease and desist all operations.

10. Notwithstanding Paragraph 7, any person who contravenes or disregards an order issued under Paragraphs 8 and 9, or where any person contravenes any provision of this By-Law, such contravention may be restrained by action at the instance of any ratepayer or of the Corporation pursuant to the provisions of the Municipal Act, in that behalf.

11. Any proposed amendments to this By-Law is subject to two (2) weeks public notice.

.../3

READ A FIRST AND SECOND TIME AND PROVISIONALLY ADOPTED IN OPEN COUNCIL THIS 14TH DAY OF APRIL, 1992.

Mayor

SEAL

Clerk

READ A THIRD TIME AND FINALLY PASSED IN OPEN COUNCIL THIS 12TH DAY OF MAY, 1992.

Mayor

SEAL

Clerk

THIS IS SCHEDULE "A" TO BY-LAW NO. 92-21

OF THE CORPORATION OF THE TOWN OF VALLEY EAST

APPLICATION FOR A PERMIT TO REMOVE TOPSOIL

(1) Name of registered Owner of Property from which topsoil is to be removed _____

(2) Mailing Address of Owner _____

(3) Permanent Address of Owner _____

(4) Telephone Number of Owner _____

(5) Area of site from which the topsoil is being removed _____ hectares.

(6) Total area of lot on which the site is located _____ hectares.

(7) Year which topsoil is to be removed _____

(8) If the period referred to above is greater than one year, specify the maximum area from which topsoil is to be removed within any one year period: _____ hectares.

(9) Current use of the site _____

(10) Current use of the lot on which the site is located _____

(11) Attached to this Application, is a plot plan showing the boundary of the lot, the location and site of all structures on the lot and the specific site for the removal of topsoil.

(12) The said plot plan shall also indicate a minimum of 188' (feet) Buffer from existing centre line of public roads and shall also further indicate a 20' (feet) entrance roadway from the public road to the removal site.

(13) If a new entrance is required, it will be necessary for the applicant to obtain a municipal entrance permit.

OFFICE USE ONLY

Official Plan designation of lot _____

In compliance with Official Plan? YES NO

Zoning By-Law designation of lot _____

In compliance with Zoning By-Law? YES NO

Ownership of property has been verified YES NO

A copy of the Topsoil Preservation Act R.S.O., 1980, Chapter 504, Section 3, is given to the applicant upon approval of the permit.

I, the registered Owner, of the above referred to lot hereby agree that:

(a) Forthwith during the first next growing season after the removal of the said topsoil to rehabilitate the site to the following standards and in the following manner:

(i) - The site will be graded smoothly;

(ii) - It shall then be cultivated and harrowed to establish a proper seed bed;

(iii) (a) The site will be planted, with a mixture of perennial seeds and fertilized so that the whole site is covered with vegetation other than noxious weed so as to prevent wind and water erosion during the summer season at a time not later than 18 months after the removal of the said topsoil, to the satisfaction of the Municipality.

or

(b) The site will be planted with trees and fertilized so that the whole site is covered so as to prevent wind and water erosion during the summer season at a time not later than 18 months after the removal of the said topsoil, to the satisfaction of the Municipality.

(iv) - Proper drainage will be provided for the site, to the satisfaction of the Municipality.

(b) The Municipality or their appointed agents may enter on the lot and site any time to inspect the removal of the topsoil and/or the rehabilitation of the site or for the purposes of rehabilitating the said site.

I, _____ the registered owner of the above referred to lands hereby declare the facts set out above are true and agree to the contents therein and do state that the site of land for the removal of topsoil will not prejudicially affect the lot being used for normal farming purposes using acceptable farming practices due to the nature of and/or the topography of and/or the geographical location of the site and/or the lot.

_____

Signature of Registered Owner.

I, _____ the duly authorized Topsoil Inspector for the Town of Valley East hereby certify that I have inspected the lot in question and that the site applied for will not adversely affect good agricultural practices being conducted on the lot in question in regard to the criteria set out above.

_____
Signature of Topsoil Inspector.

I, _____ the duly authorized Topsoil Inspector for the Town of Valley East hereby certify that I have inspected the lot in question and that it is my opinion that this application should be refused for the following reason(s):

_____

_____

_____

_____
Signature of Topsoil Inspector.

I, _____ the Clerk of the Town of Valley East hereby grant this permit for the removal of topsoil from the site as requested above on the terms and conditions hereinbefore set forth.

_____
Signature of the Town of Valley East Clerk.

I, _____ the Clerk of the Town of Valley East hereby refuse this permit for the removal of topsoil from the site as requested above for the following reason(s):

_____

_____

_____

_____
Signature of the Town of Valley East Clerk.

Suggested Rehabilitation Considerations

Rehabilitation procedures will and should be specific to the requirements of the particular municipality which originated and passed the relevant by-law. The prescribed procedures will reflect the desires of the local residents in the future development of the natural resources of their municipality. Whether or not, the stripped land is to be returned to agriculture, used to develop a forest, a park or for any other end use will be dictated by many other factors, such as climate, the quality of the remaining soil, etc. which will have to be kept in mind by the local municipal officials.

In addition to the above, the rehabilitation program developed for a particular site will and should be specific for that site. Factors related to location (remote or adjacent to dwellings), drainage, desires of the owner, potential future development are a few of the factors to be considered.

The By-law passed by the Town of Valley East sets out specifications for rehabilitation of the stripped land required to meet local standards.

In general, although each rehabilitation program should be site specific, there are some general basic needs which are common to all sites and follow below:-

- the need to ensure that adequate drainage is put in place. This should be sufficient to prevent the ponding of water to eliminate insect breeding sites, to ensure the safety of children and to ensure the water table is at a level that does not inhibit surface plant growth

- an adequate supply of nutrents based on the requiremnts indicated by a soil test of the top 15 cm of the existing soil at the site to be rehabilitated should be applied to the site. The desired potash and phosphate levels can be applied initially with minimal loss once they are worked into the surface. Due to the lack of organic matter present along with the potential normal occuring losses of nitrogen, repeated applications of nitrogen may be required.

- it is essential that in initiating the rehabilitation program, the need to use plant species which will provide the most possible organic matter for incorporation into the developing soil be used. This includes decidous perennials, shrubs and trees along with the species which develop a large root mass. The use of legumes, plants, trees and shrubs, should be part of any program becausee of their ability to fix atmospheric nitrogen.