

PROCEEDINGS OF  
THE THIRD ANNUAL MEETING  
of the  
NORTH EASTERN ONTARIO  
SOIL and CROP  
IMPROVEMENT ASSOCIATION

and  
The Regional Agricultural Convention

1969

New Liskeard, Ontario

# NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 4th, 1969

by B. E. BEELER, Director

Soils and Crops Branch  
Ontario Department of Agriculture and Food

## "THE IMPORTANCE OF SOIL AND CROP IMPROVEMENT ASSOCIATION PROJECTS"

It is a privilege to have the opportunity to speak to the North Eastern Ontario Soil and Crop Improvement Association at your annual meeting on the topic of projects.

Since I have only been active in the O.S.C.I.A. work a few months, the comments I make will be made from a quick review of the program across the Province.

### Why Carry Out Projects?

Before we get into any detail on projects themselves, I think it is important that we ask ourselves why we consider projects worthwhile. I would list the following points as reasons why I think projects are carried out:

- 1) To extend research information - e.g. variety performance, herbicide effectiveness, etc., so that we have tests in different climates and different soil types.
- 2) To test different cultural systems for the various crops in a particular area - to study which crop or crop system is best suited for that area.
- 3) To do "research" projects in a local area to solve a particular problem peculiar to that area.
- 4) Crop cost studies - relating highest yield with most economical production practices.

### How Should Projects be Carried Out?

I think we should ask ourselves what kind of project is best suited for our area and what size the project should be, as well as indicating how long the project should be carried on in terms of years.

### The Value of Record Keeping

Surely we must agree that if it is worthwhile to carry out a project, it is worthwhile to keep accurate records on such a project. Records can be kept on regular report forms and very often the records should be supplemented with good 35 m.m. slides.



## The Value of Reporting Project Results

Results on projects can be given in three ways:

- a) Through field days.
- b) Bus Tours.
- c) Annual Meeting.

As far as I am personally concerned, the value of seeing the project at a field day or on a bus tour cannot be over-emphasized.

### Reports at the Provincial O.S.C.I.A. Annual Meeting

At our Annual Meeting in Toronto, we had two days of discussion for our delegates centering on the topic "Projects to Help Farmers". Reports were given by farmers and by Extension and Research personnel. I thought I would give you some of the comments made by 2 or 3 of these men.

The following comments were made by GEORGE GARDHOUSE, of Mono Road Station:

"I think there are four ways of increasing our net income per acre, which to me is what being more efficient means. There is absolutely no point in increasing yields if it costs as much or more to get those extra bushels than they are worth. Those four ways are:

1. Optimum tillage.
2. Optimum use of fertilizer.
3. Use of the right variety.
4. Optimum weed control.

I think optimum tillage means getting the maximum economical yield with a minimum of work. I stress the word "economical" because achieving a \$2.00 increase in yield with a \$3.00 worth of machinery or man labor to me is very foolish. Better to leave the machine in the shed and go and have a snooze. I believe there are more of us guilty of overworking our soils for many crops than we realize. We need more demonstrations and more yield information on how much tillage is necessary to grow our various crops on different soil types.

Optimum fertilizer use to me means maximum return on the dollar spent on fertilizer. How do we get this?

First of all, we need to know what the crop we are growing requires. We do not feed a pig the same ration as a milk cow. So to me, it follows you do not feed alfalfa the same ration as you would corn. Maybe the same ingredients, only in a different proportion. If you intend to market a hog in 5 months, you feed him one ration. If you intend to market him in 7 months, you feed him a different ration and it follows that the same thing applies to crops. A 125 bushel crop of corn requires a different ration than a 100 bushel crop. The information regarding crop rations is not as readily available nor as easily understood as it is for hog rations. I think the local crop improvement association is one way of getting this information out to farmers before they order fertilizer. There is a good project our county needs.



Demonstrations showing differences between a balanced fertility program and where ingredients are out of balance can be of real value.

You can have the best of tillage, the best of a fertility program and still lose your shirt, if you plant the wrong variety. I most certainly believe variety trials cannot be stressed too highly, nor just in my county, but each and every county. It is a long way from Montreal to Windsor. It is a long way from Toronto to Rainy River and Cochrane. We have all kinds of variations of soil and climatic conditions and varieties react in different ways to these variables. I think each and every county must find and demonstrate the varieties which serve best in that area.

It has been proven time and time again we cannot grow high yielding crops of good quality without weed control. The method is really not too important as long as it is the most economical. Proper tillage may be the most economical and perhaps the best way in many of our crops. However, chemical control often may be more economical than extra tillage. I believe there is room for demonstrations of the different methods for controlling weeds in different crops. We, as farmers, can then evaluate and decide which method best suits our cropping program."

HENRY DAVIS, of Utopia, had the following comments to make:

"I am convinced it should be a demonstrational rather than an experimental type project. I don't feel we should concern ourselves too much with rod row tests in cereals or a few corn varieties in the corner of a field. This type of experimental work is highly necessary and invaluable in the assessment of new varieties. However, these plots should be laid out and supervised by the Crop Science Department from Guelph. This type of plot requires careful planning, proper replications and knowledgeable supervision so that true experimental data can result.

One of our oldest projects has been the high yield competition. Last year there were 52 high yield competitions in Ontario. It has been said that many of these are of no real value. Like so many other activities, the information gained is in direct proportion to the effort expended. When a high yield competition is carried out to include an accurate cost study analysis, then they can become extremely valuable. I think we should make a special effort to conduct cost of production studies on as many crops as possible that are adapted to our particular areas. This is one area that must be carefully studied by all farmers to ensure future survival.

Some of our annual meetings devote insufficient time to project reports. I will admit it can be difficult for a co-operator to remember all the details concerning a project that was carried out six months before. However, a few colored slides taken at appropriate times during the growing season can convey a wealth of information at an annual meeting. A collection of good slides can turn a project report into a real highlight at an annual meeting.



This winter our Association in North and South Simcoe, in co-operation with the Extension Branch, is offering a short course in livestock feeding. A basic course will be presented first, followed by special days for the different classes of livestock. This course will point out the opportunities in using home-grown feeds and how they are utilized in the digestive system of the animals. The purpose of the nutrients, their sources and the use of feed additives will be explained, leading up to the actual building of rations.

A number of samples of feed from the County have already been analyzed and these, along with average analyses, will be used in the actual formulations."

DR. FORD STINSON, Director of the Kemptville College of Agricultural Technology, had this to say:

"Regardless of how much formal training the beginning extension man has, he needs and benefits from experience. I think it is lack of experience, lack of demand for what he does know, and partly for the sake of doing something, that some young extension men undertake to do field plot demonstrations in farmers' fields. Sometimes administrators want their people to do such things. In my opinion, the value of such activities in today's farming is much over-rated and questionable.

Such series of plots almost invariably lack the replication, design and precision of those carried out on experimental stations by experienced research personnel. Hence they are not likely to provide a reliable measure of the advantage of growing such crops. Furthermore, by the time something is sufficiently proven, that it should be taken to the farm as a demonstration, there is normally no need to prove its worth further. Also, when one undertakes to demonstrate a variable response under a uniform environment, any evaluation of its magnitude is likely to be of little promotional value.

I have long been convinced that a broad understanding of farming is needed by those undertaking to provide effective advice to farmers. Conflicting and unrealistic advice by those knowledgeable only in depth but not breadth, rapidly undermines farmer confidence. We have already established that our extension specialists have enough common background and education to get information from each other. To gain experience, I suggest that each of them contract with several individual farmers to provide all the professional advice and arrange the computer and other services needed by each in their total farm business operation. Further, I suggest the extension specialist assume a measure of accountability for the results the farmer gets from having adopted the prescriptions. Obviously, it is impossible to guarantee an increase in profitability. But if the selection of technology is confined to that developed and reported by research scientists, the odds should be favorable. If the information is not reliable, the source of it should be held accountable. Also, where there are gaps in the available information, these should be brought to the attention of research people.



Having contracted for these services, the farmer has the prospect of increased profitability. It would probably be advisable to assess him \$500 per year for a two year period to cover the cost of such items as computer services, least cost analysis, accounting services, feed analysis, dairy herd analysis, etc. In addition to direct information on management, it is expected he will acquire valuable training from the extension man. The fee will also commit him to the program. The extension man, in turn, will be involved in the type of management experience that some people buy and operate a farm to obtain. He will have an opportunity to assess his progress as reflected by increased profitability per hour of work, per acre, per dollar invested, etc., on the farms he services. By requesting transfers, he may gain experience on a variety of Ontario farms and thereby become a very valuable person. I can think of few challenges that would be more fascinating to qualified young people who want to be involved and to communicate."

The foregoing remarks were taken from three of the talks presented at our annual meeting in Toronto. I could have used comments from all of the talks but I think these three give you the basic points being made about the value of projects.

I would like to summarize the points I think are important in the foregoing talks:

1. Projects must be planned carefully. We must ask ourselves why we are carrying out a project - in other words, what do we hope to accomplish?
2. Small plots such as rod-row tests can be meaningless unless carried out under ideal research conditions. Such conditions are usually only found at a research station or at a university. We must be careful not to put too much faith in small plots carried out under uncontrolled conditions. So we must ask ourselves what size the project should be in relation to what we want to accomplish.
3. High yield clubs have outlived their usefulness - unless high yields are related to the economics of production. In the past, a lot of emphasis has been placed on winning the high yield crop competition. I believe that these projects can only be worthwhile when accurate production costs are kept on the crop competition.

I believe we have been guilty of sampling small portions of the field, such as 40 feet of corn row, and estimating the yield for a large acreage. I am inclined to favor having the farmer harvest a large portion such as 5 acres and have his yield based on that size plot. This yield from a larger plot reduces the risk of human error in selecting "better than average" locations in the field when taking yields.

4. In relation to our Soils and Crops Branch, the points made by Dr. Stinson have direct bearing. I suppose that today I speak to you wearing two hats - one being Secretary of your Provincial O.S.C.I.A., and the other is as Director of the Soils and Crops Branch, of the Ontario Department of Agriculture and Food.

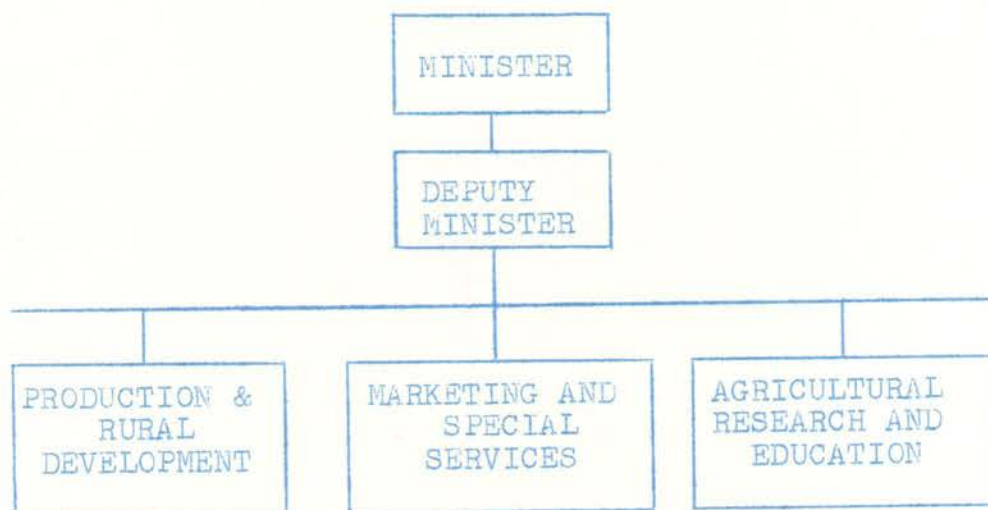
As Director of the Soils and Crops Branch, I am directly responsible for the extension program in field crop production in this Province. In the past this branch has been research-oriented. I believe that our field staff must be farm or "people" oriented. In other words, I want to see our staff on as many farms in this Province as possible. I want to see them involved in giving farmers the latest production information and they must be in a position to talk to a farmer about making decisions on his farm or advising him of which cropping program is most suitable for his operation.

Perhaps I should give you the organization of our Department of Agriculture and Food, and in particular, the organization of our Soils and Crops Branch, so that you will have a better idea of the points I am trying to make.

In order to give you the outlook of our Branch as it relates to the agriculture of this Province, I would first like to bring you up to date on recent changes in our Department.

About two years ago now, our Department was reorganized into three divisions. These divisions include the following:

1. Research and Education
2. Production and Rural Development
3. Marketing and Special Services



TO SHOW YOU EXACTLY WHICH BRANCH IS IN WHICH DIVISION,  
THE FOLLOWING IS THE ORGANIZATION OF EACH DIVISION.



AGRICULTURAL  
EDUCATION AND  
RESEARCH

DIRECTOR: Dr. D.N.Huntley

Guelph  
Research  
Station

Ontario  
Agricultural  
Research Sta.

Kemptville  
College of  
Agric. Techn.

Ridgetown  
College of  
Agric. Techn.

New Liskeard  
College of  
Agric. Techn.

Centralia  
College of  
Agric. Techn.

Provincial  
Pesticide  
Laboratory

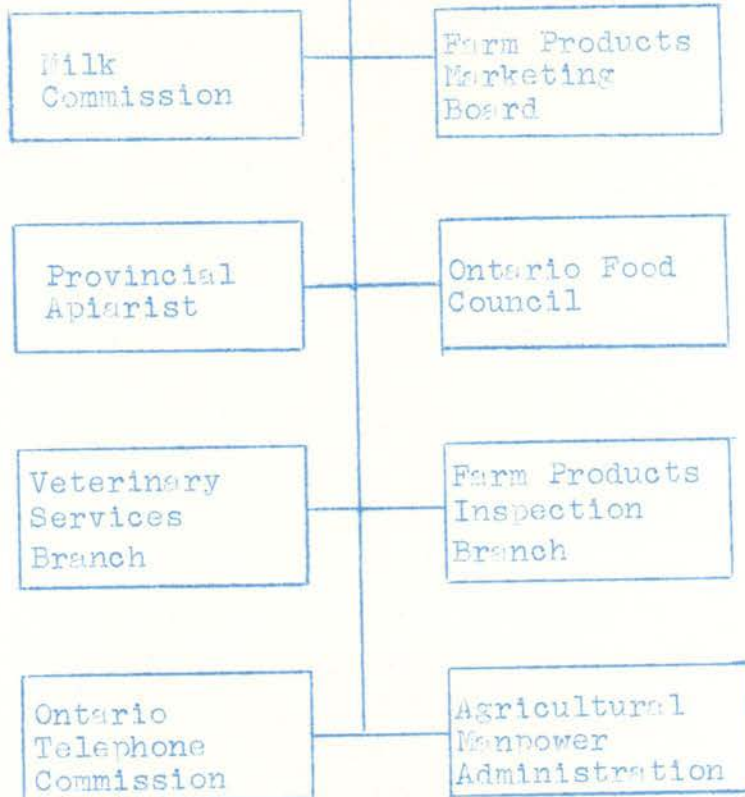
Horticultural  
Research  
Institute

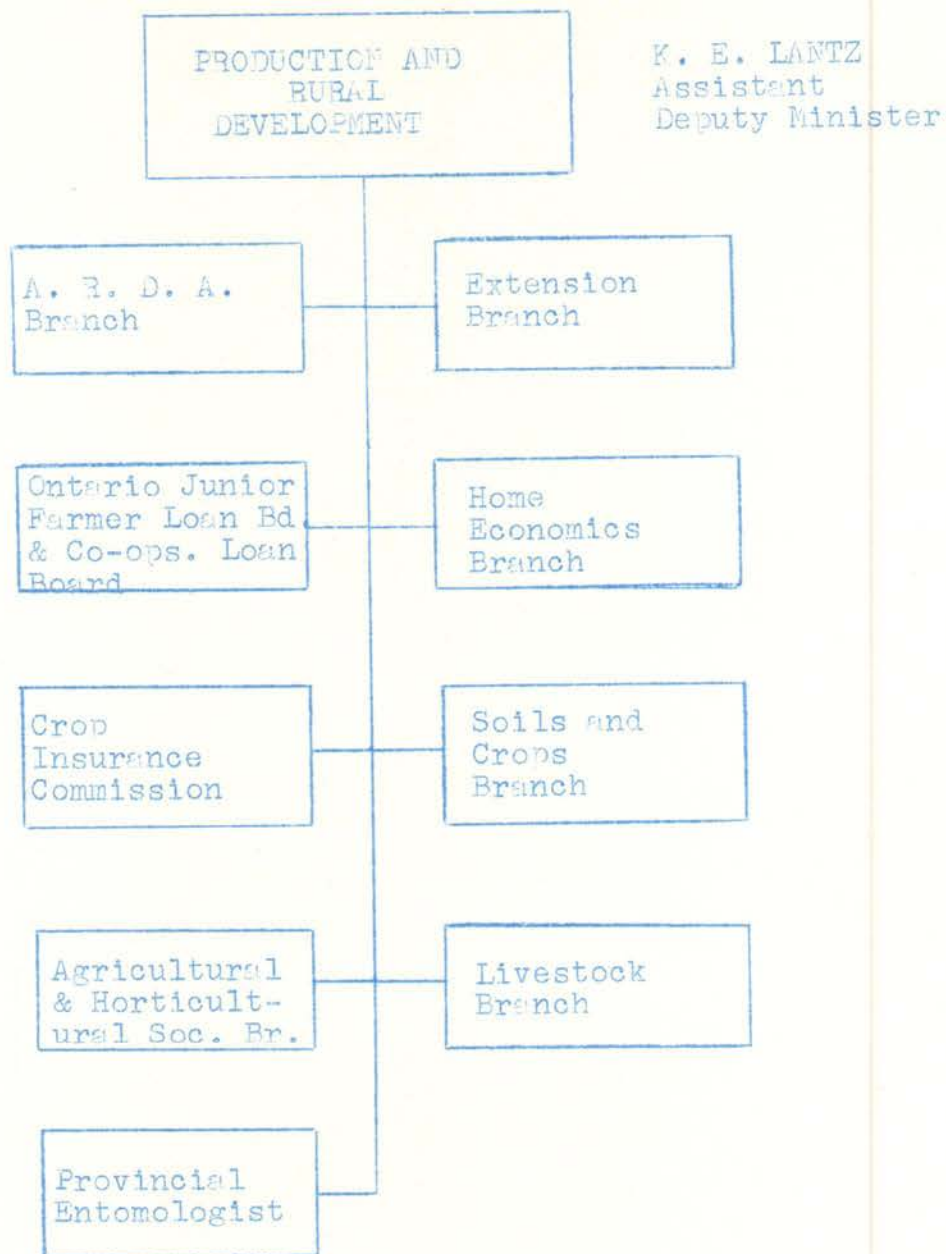
Farm Economics,  
Cooperatives &  
Statistics Br.



MARKETING AND  
SPECIAL SERVICES

R. G. BENNETT  
Assistant  
Deputy Minister





These three division, which are illustrated here, were set up two years ago. Therefore, depending on a Branch's function for the Department, it is relatively easy to see where that Branch should "fit" in this program.



Another change took place last August which made another step toward better alignment of services offered by this Department. The Fruit and Vegetable Extension Service was moved from the Extension Branch to the Soils and Crops Branch. This means that all "Crops Extension" programs are under one "roof".

The Soils and Crops Branch now is made up of three sections, as follows:

- a) Field Crop Extension
- b) Horticultural Crops Extension
- c) Seeds and Weeds (Regulatory).

As Director of the Branch, I am responsible for the over-all direction. However, each of the three sections mentioned above has a "section leader". I am the section leader for the Field Crop Extension group. Jim Rainforth is our Assistant Director in charge of the Fruit and Vegetable Extension group. Ken Fallis is our Assistant Director, our Chief Weed Inspector and responsible for the regulatory section under Seeds and Weeds.

When our staff members are involved in planning projects and carrying out projects in any country or district, these projects must be farmer-oriented as far as I am concerned. Projects of a research nature are better carried out at a research station - unless it is set up to solve a specific local problem. Before setting up any project, the committee should make sure that the project is important. Let's not do projects just for the sake of doing projects or just to have more projects on the go than the neighbouring district.

I think that this North Eastern Ontario Soil and Crop Improvement Association has an excellent opportunity of leading the way in the kind of projects that are meaningful and in the kind of projects that give us reliable information.

I would suggest that this Association consider as one of its main functions the co-ordination of all Soil and Crop Projects in Northern Ontario. This Association could discuss the various problems and decide on which problems should be given priority. When this priority is decided, then meaningful projects can be arranged. If the projects are carried out in more than one of the districts, the projects should be planned after the same model. This would allow for an interchange of information and should give the farmers of this area a good deal of useful information about crops and cropping practices. If this Association takes the lead in planning projects, useful information will result.

The personnel of this Branch are here to work for farmers. We will do our best for our agricultural industry - however, if anyone, at any time, has an idea or ideas that can improve the job we are trying to do - we want to hear from you! This is a responsibility that is yours - to give us the benefit of your knowledge which may improve the job we are doing.

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NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 4th, 1969

by HOWARD GODDARD, New Liskeard, Ontario

"OUR IMPRESSIONS ABOUT THE FARM INCOME COMMITTEE REPORTS"

Let me say how much I appreciate the invitation to bring my impressions of the Farm Income Committee Report to you and the delegates at this meeting. I was fortunate to be one of the delegates from the Ontario Cream Producers Marketing Board to the Farm Income Committee Conference which was held at the Seaway Towers Hotel in Toronto on January 15th to 17th, 1969.

I was quite disturbed the first time I read the report, particularly with regard to some of the bold and forward recommendations of the Committee. However, as I studied the report it became clear to me that here, for the first time, was a plan of reference for the future of Agriculture in Ontario.

One of the first recommendations that Ontario farmers must do is to organize and finance a sound organization, and to this end, I endorse the Committees' plan for such an organization, as is shown in Chapter 10 of the Report.

As a farmer, I agree with the Committee on its stand that the input costs in agriculture are too high, and that the farm machinery and fertilizer companies must become more efficient in distribution of their products. However I don't agree with their recommendation to rectify the situation.

I believe that the processing side of the industry must also look at the efficiency of their operations.

The Committee reports on marketing boards and commodity groups - should be reduced from the present twenty-two to seven. When this has been accomplished, then these seven boards could set up a food supply agency to coordinate the marketing of all products.

The Committee put a lot of emphasis on supply management and in my opinion, this is very important in today's agriculture. With the exception of a few products, today most products are in excess of demand.

I think the day of the quota system of marketing has arrived and I don't think that farmers can go on producing what they like or as much as they like if there is no market for the product.



I have to agree with the Committee that there are too many farmers in Ontario and I also agree with most of the recommendations, such as retraining programs for some and an early retirement for others who have the resources to carry on a viable unit.

The Committee recommendation on land rental is a sound recommendation for young farmers and those with limited capital.

At the start of my presentation, I stated I was disturbed when I first read the report. When I read the report on Northern Ontario - I was not only disturbed, I was downright mad!

However, after reading the report and talking to some of the Committee members and thinking back to last summer when some of us met the Committee when they were in the district, I think now that some blame must rest on us for the pessimistic report we gave them.

The Committee made a number of recommendations for Northern Ontario which if carried out will help agriculture in the north. Some of these are:

- 1) More government assistance.
- 2) Establish feeder cattle marketing board.
- 3) Encourage producers to move to economic units.
- 4) Extension methods should be adapted to local needs.

I would hope that leaders in Agriculture in the North will follow some of these recommendations in a progressive and optimistic

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Now I would like to make a recommendation of my own which is in regard to the subsidies now being received from the Ontario Department of Agriculture and Food. I recommend that all input subsidies be stopped and replaced by subsidy payments on each unit of product sold.

We now have the Agricultural College operating and offering the two-year diploma course in agriculture. I would hope that all farm groups such as we have meeting here today, will make use of the school and have them doing the research needed for crops and livestock suitable to Northern Ontario.

In closing I hope I have given the delegates some food for thought and hope that we can get on with the job of making agriculture a sound industry in the North.

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NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 4th, 1969

by FRED TAYLOR, Earlton, Ontario

Our Impression Of The Farm Income Report:

In attempting to give our impression of the farm income report, one fully realizes that to do this in the few minutes at our disposal would be to attempt the virtually impossible, should we endeavour to enter into detail of the contents. The report itself covers a very wide scope, and is the result of a very comprehensive study into conditions prevailing both inside and outside the farm gate.

As you are all probably aware, the members of the farm income committee were appointed and commissioned by our Minister of Agriculture, the Hon. W. A. Stewart, to make an extensive study of the farm income problem and all things pertaining to it in Ontario and to submit their findings to him.

After almost two years of investigation by various methods such as solicitation of briefs from various farm organizations and obtaining statistics available and the visitation of various areas and individual farms, both inside and outside of the Province, the Committee concluded their task, and submitted their report along with their recommendations. This is now "History" and we await the results and outcome of this report not without a good deal of apprehension as in our opinion, the future of Agriculture in this Province, may very well be determined to a great extent on just how much or how little of this report is adopted.

As you know, in January 1969, a three day conference was held in Toronto, to consider this report entitled "The Challenge of Abundance". Some of us here today were present at that conference and participated in the discussions to a greater or lesser degree. This convention was quite large, being attended by over three hundred and fifty delegates representing all segments of Agriculture with representatives from Federation of Agriculture, Farmers Union, Fertilizer and Machinery Companies, various councils and organizations, along with many Government personnel of both Federal and Provincial status and many other interested persons.

As previously stated, the conference was quite large. Those responsible for the arrangements certainly should be congratulated, and I believe I am speaking for the majority who were present, when I say that the greatest disappointment of the conference at that time, was in the change of agenda due to inclement weather, which resulted in the last session of the conference being cancelled.



Our impression of the conference as a whole, was that it was most interesting and informative. With this I think all would agree. We also agree that it was time well spent and that come what may, as the result of this, I am firmly convinced that the conference could not help but be profitable to all by virtue of the vast amount of information and food for thought that was made available, both in the plenary sessions and in the discussion groups.

In the intervening time since the conclusion of the conference, I have heard the report both criticized and condemned by some and upheld as a good thing by others, which in turn justly reflects the differences of opinion that prevail between farmers on almost every major topic. May I take the liberty before I make my comments on the report to suggest, that in all fairness, before we become too critical of it, or perhaps on the other hand too much in harmony with the report, that we take both time and the necessary effort to acquaint ourselves with and to become much better informed on the subject, so that we do not need to become embarrassed so to speak by having to trade horses in mid stream. So, with this thought in mind, let us look at the general aspect of the report itself. Personally I feel the report has much to commend it, in so far that it at least seems to have recognized many of the problems that confront the farming industry of today. But at the same time my own observation as we study the suggestive remedies to the present day evils, would be that it leans too much in favour and support of Government control and ownership whether intentionally or otherwise I cannot say.

However I would say this, that it seems to me, we farmers need to become aware of the fact, that we are very much in danger of losing our heritage of individual freedom in our profession if this report were to become accepted in its entirety. In fact, my own estimation of the fact would be, that we, the farmers of Ontario who produce the essence of the peoples' greatest need in various forms, would be relegated to the unbearable position of those who are not considered capable of making the necessary decisions vital to our own business. In short, we would be told what to grow, how much to produce, where and how to sell, where and what to buy, how much it would cost us to market our products, how much tax we will pay, who can farm, and who cannot, etc. all in the name of Democracy. Ladies and gentlemen I suggest to you today that this is not the kind of individual freedom that those who were very dear to us fought and died for a few years ago.

Referring now to the general recommendations in the report, it has always been my view and contention, that criticism is only justified when it is constructive and supported by an alternative, so at this point I am going to suggest something that



perhaps should have been said earlier, simply this, that in view of the intensive study made by the members of the committee in preparing a volume such as this and with due regard for their own natural ability and knowledge, it makes one feel entirely inadequate to comment on their findings. However this does not mean that by refraining to speak on many of the topics contained in the book that we are in full accord or agreement with them, one must also realize that a very large area is involved so that consequently some recommendations could not be expected to work in all instances. To refer to just a few of the recommendations of the committee it would appear that equality seems to be the theme of the whole structure, this has never been true in the past, and I have no reason to believe that it will be true of agriculture in the future. I have previously mentioned the large amount of work involved in the concensus of this report and I trust that you will not think it absurd when I say that I believe there are many reasons for things being as they are represented to be some of which have not been explored. Almost any one of us can think of, or are familiar with, some one who a few years ago decided to take a seasonable job or perhaps even a steady job for as they then said, a year or so. Most of such cases never did return to full time farming and consequently they are not producing to their potential today but surely these are not the basis of our information when we speak of low farm income groups and equality.

Much is said in the report of the so called viable farms and the concept of viability, during the last two weeks I have spent considerable time reading this portion of the report and still find myself at variance with the greater part of it, as I feel, that due to the great difference of various factors involved, for instance, the age of operator and personal financial status, could well be the determining factor as to whether it is considered a viable farm or not and again I think this should be a personal matter or choice, certainly we agree that an accounting system is both necessary and beneficial in determining the so called viable line, but I do suggest that in the case of many elderly farmers it may well be more confusing then enlightning.

As regards to the two methods of income return, namely, return to resources approach and income deficiency payments. I believe the latter to be the only logical method. In support of this contention let us take for example, two farms of equal size, one is equipped with a complete set of modern equipment but is limited as to the use he can make of it for various reasons, while number two farmer has used his capital in a different way, and while only having perhaps 50% in resources as far as related to number one farmer is concerned, produces an equal or perhaps a greater amount than number one, how can the resources approach operate and justify itself under these conditions?

With reference to the model economic units pictured in the report, one has to think that to say the least they are slightly contradictory and not too realistic when total cost is considered, also I might say in passing, that I am very glad to have had the chance to read this document and to find out after all these wasted years, that I am about to be replaced by a much more efficient man, as in other words, I have only been working at about fifty per cent capacity. Oh well, it's just a little late to try to make up now,



so I will just hope to make a few more dollars one way or another out of those beef calves they talk of selling at 500 lbs and buying them at 400 lbs all at the fantastic price of 30¢ a lb. I have not yet come to a decision who wins in this kind of deal.

Speaking of Economical Units the report states and I quote, (The Challenge to farmers who wish to remain in farming is that they must expand their operations and adjust to changing conditions if they are to receive adequate rewards for their efforts. Those who do not will eventually have to seek a living elsewhere) end of quote. Again an ultimatum. I can not agree that this is necessarily true. Many farmers are farming in excess of their ability. Today we can see it all around us and as a result we see land being only half worked and producing accordingly, and in some cases, the whole family working long hours to no conceivable advantage, and as a result, sometimes contributing to the farm accident statistics and scarcity of hospital beds. I do not think that efficiency and cost of unit can be related to size of farm alone. As to vertical integration we are of the opinion that the report does not express itself strongly enough as to the control of this undesirable medium. Personally speaking, I am strongly opposed to this method of production.

This brings us to the matter of labour and resource in Agriculture which in turn is closely associated with farm management, which now is all important, management in agriculture is difficult to define as to where it begins and where it ends, the conclusion of the farm income committee on this matter is, that a serious lack of management capability on the part of the majority of farmers is evident. With this statement I heartily agree and would be in full accord with their recommendation of the canfarm system of accounting being introduced if and we cannot over emphasize this, the word mandatory were deleted.

With regard to the training of rural youth we are pleased to note that the report endorses the continuation of the Agricultural College of Technology courses for students who at least to some extent, will be the farmers of tomorrow. I feel this is most important and should be continued. In this respect there was a majority group disagreement in the discussion at the conference on the idea of establishment of formal entrance requirements for farming. Some answered with a straight no, others recognized the desirability of training for a farming career but did not like the mandatory aspects of the suggestion, stating that we do not think that the recommendations as contained in the report should be a criteria for entrance into farming, but we do recommend that a high degree of Business Management Training would be both desirable and beneficial.

Subsidies, the source of all evil, come in for their fair share of criticism by the committee, especially on the input end and with this I believe I am in accord, if assistance is to be given in any form and candidly speaking, I think it will need to be continued, personally I much prefer it to be in the form of deficiency payments. In support of my contention I would suggest that in the



past, many subsidies have been paid that in no way contributed to their intended purpose. As to the recommendations on the availability of credit, I shall purposely by-pass these, as I feel with my limited knowledge and experience, it is far too risky and complicated a subject for me to become involved in.

As to the land question, ownership versus renting, the committee seem to come out strongly in favour of the ARDA Plan as to land ownership and recommend that ARDA increase their purchasing of land thus cutting down on the number of farmers owning their own farms. I do not think this is good and am very much opposed to this line of thinking. As we believe, that despite all one is told to the contrary, that there is a measure of security in owning ones' own farm and certainly a great measure of personal satisfaction that in a small way at least compensates for some of the other disadvantages pertinent to farming. Also we feel that land is one commodity that is a sound investment from a financial point of view.

The tax problem is so variable across the province, and even in our own area up till the present time, so many different methods of assessment have, and indeed still are being practised, that I don't feel competent to get involved in this field; suffice to say, that we note that the committee seem to have given it a first place priority and as far as I can determine, are endorsing the Carter Report along with a negative income tax structure with which I do not agree. The proposal that all real property be assessed at market value, with working farms at 40% of this assessment, met with considerable opposition in the discussion groups at the conference, only eight of the twenty groups being in favour.

Food production, marketing and farm supply industries were all under investigation by the committee and rather drastic proposals were recommended, such as cutting down on the number of dealers and the setting up of a central warehouse for the distribution of parts and machinery replacements. If this is not done immediately by the companies themselves, the committee recommends that a government controlled crown corporation be established to handle and distribute all necessary parts. This recommendation was strongly opposed at the conference by representatives of the machinery companies who very forcibly presented their case and stated that the system suggested was just not feasible and certainly would not work, and after hearing them so ably state their case, I am inclined to agree with them. The matter of imported tractors being purchased at discount prices was referred to and again one company spokesman stated that these tractors were sold without any service or guarantee, and suggested that if farmers wished to purchase on these same terms, they might be surprised just how far their dollars would go here in Ontario.

Much space is donated in the report to marketing and a great deal of discussion took place at the conference on the subject, and if nothing more comes out of the whole thing, there did appear to be a clear cut consensus of agreement on the recommendation that farmers should form a G. F. O. In fact, one group stated that we think this is the best part of the whole report.



Last, but not least, a few words concerning Northern Ontario. I note that the committee recommends that the Government of Ontario, give serious consideration to the problems of Northern Ontario. This is not good enough, we need action and assistance now. I note that they recommend a subsidy on beef calves, but by the same token, I note the number of cows and other stipulations involved, and am far from agreement to these proposals. To me a calf is a calf irregardless of the program that is used to produce it. I feel that we in Northern Ontario did not get a fair deal in this report. There are many avenues that were not explored such as the small forage seeds crop, and the roughage or by-products from same, that could well be utilized along with a cow calf operation, and in my opinion could well add to the revenue of the beef farmer rather than to recommend more cows with the consequent extra investment in equipment etc. Further to this I do not agree that the future of the beef farmer is doomed but I do believe that in all fairness, some form of assistance is necessary, to make it truly a successful and profitable enterprise.

In summary, I would again refer to the title of my epistle "My Impression of the Farm Income Report". The conclusion is this, a fairly intensive document prepared at considerable expense to prove to us what we already knew, that we, the farmers of Ontario, have not been getting our just share of dollars in the past and are not likely to do so in the future, unless drastic changes take place. So in answer to the inevitable question, what can we expect as a result, perhaps the best answer is found in the words of the once famous British statesman the late Hon. Lord Asquith "Wait and See".

In conclusion if I may digress for a moment, I would like to acknowledge the opportunity given to me to share these few thoughts with each of you. I appreciate the privilege and trust I have not abused it.



NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 4th, 1969

by D. H. MILES, P. Ag.

"SUCCESSFUL MANAGING OF THE FARM BUSINESS"

I have been asked this afternoon to comment on the successful managing of the farm business. In the last few years, we have heard so much about management that people should be sick and tired of hearing about it. Management is no different to industry than it is to Agriculture. In Agriculture every farm owner, farm operator is a manager of his own business or about 100% of our farmers are managers - there are a few hired people so this could be a little less than the 100%. If we were to look at the City of Toronto or the town of New Liskeard, I wonder what percentage of the total people would be classified as managers? 20%, 30%? or what percentage? In industry only our skilled or trained or those showing an aptitude for good decision making are promoted to management levels. Here, we in Agriculture have almost all our total working force as managers, some, I am afraid to admit, haven't much practice or have not been trained in the skills of management.

What is Management? I like to think of management (farm management) specifically as a manipulation of the resources that one has at his disposal to the best advantage. Another approach to farm management (or farm planning if it suits us better) is deciding how to run the farm business in order to make the most effective use of the resources - land, labour, management and capital available to that business at any given time. There is nothing magic about being a manager or carrying on the duties of a manager. In most cases it is common sense farming, with the aid of a few tools that are being brought to our attention, that will aid us in the manipulation of our resources for maximum net profits to the business. We often do not use these tools as the designs are different or we are afraid of them. If we do not use them often enough, they get rusty and do not work well and we toss them into the corner.

Let us pause for a few moments and see if we can reason out why we have been talking about farm management in the last few years and why everyone here assembled should be interested in its implications. With income levels as high as they are in Canada and the United States, total food consumption per person has remained practically constant in both countries since 1950, while per capita income was rising rapidly. The consumer incomes are now so high that further increases in income add to demand for some products but decrease the demand for others. Basically most of us consume 1500 pounds of food per year; when we are full we do not want any more, no matter what it costs nor how much money we have available to spend on food. If our incomes go up, we may eat more prime rib roasts than hamburg or more meat products than cereal products. We are generally full on our 1500 pounds of food per year. Total food consumption per capita hardly increases at all.



If we use this reasoning then we can only deduct that increase in population is the only way that more food will be consumed.

I think you will agree with me in another fact that technology in Agriculture is increasing faster than the increase in population and thus the demand.

In this technology change, we have seen new varieties develop, new demands for fertilizers to increase production, new machines that replace labour and with the above new varieties, drainage, fertilizers, machinery etc. we can produce much more per acre than we ever produced before.

Now let us see if we can follow this reasoning further and agree! "While the total of the inputs (land, labour, capital, management) in Agriculture has been increasing only slightly over the past 20 years, the composition of the inputs has been changing rapidly.

It is apparent that the input of labour, which used to be the biggest item, has been declining rapidly, the input of land has been declining moderately, the input of capital has risen, offsetting these declines in land and labour. Today, land is the least important input in Agriculture and capital is rapidly being substituted for labour in Agriculture, until now the input of capital is greater than the input of both land and labour combined.

Based on the information and the reasoning above, I wonder if we can come to any agreement on the symptoms of Low Prices and Incomes. Could we possibly agree that we might have an overproduction of farm products and, or, an oversupply of farmers?

We haven't time to go into any detail but let's look at Overproduction of farm products. We agreed earlier I believe that we would have a tough time trying to get people to eat more than the capacity of their stomach so that the demand for farm products would only increase as population increases. We also agreed I believe, that technology was increasing faster than was demand. In what perspective should we look at farm management in the light of what has been tried in the U.S.A. to remedy the increase in supply over the demand for food products, relative to farm income.

Let's look at these briefly without discussing the pros and cons of the programmes or their effectiveness or otherwise.

- 1) Open or free markets on some products.
- 2) Voluntary controls.
- 3) Mandatory controls.
- 4) Quotas and Agreements.
- 5) Multiple prices.
- 6) Direct payments.
- 7) Increasing foreign demand.
- 8) Increasing domestic demand.
- 9) Land retirement (short term, Soil Bank).



To the best of my knowledge all of the above have been tried on some products or others over quite a few years. Oversupply or overproduction is still a general problem in the U.S. True, some of the above have worked on some products but usually in the short run. (exceptions being some specialized and regionalized crops.) Supports have kept many marginal farmers in the industry who might otherwise have succumbed; the same as some businessmen in any town in Ontario.

If trying to cure overproduction by the methods above has not been a qualified success then we might have to deduct that we have too many farmers producing an oversupply of food and farmers as a whole not receiving sufficient income for a standard of living comparable to other facets of our society.

I believe we could draw from the above information if we agreed with the foregoing: We must have an oversupply of farmers!

What we would have to do with these farmers is another study and we will leave the settlement in mid-air for further thought by you or somebody else.

I mentioned a couple of paragraphs ago that farmers as a whole are not receiving sufficient income for a standard of living comparable to other facets of our society. Let us stop here for a moment and look around us. I believe that you would have to agree with me that there are some farmers that are doing better than others and even some farmers that are making a good living for themselves and having a fairly high return on their investment. What are the characteristics about this group that sets them apart and allows them to have this larger farm income? Is there something in their ability to make the right decisions more often than they make the wrong decision? Is there something in their ability to manipulate their inputs of labour, land and capital to generate higher gross income by using the money they spend in places where it will bring the most income?

Maybe there is something to this farm management after all and we should investigate it and see if it could be of any value in aiding in decision making on our own farm.

The management of a farm now is very different from only a few years ago. The big problem in the early years was to see that the farm provided a sufficient quantity of the essential commodities required by the farm family. Little was purchased. Clothing and furniture were frequently made on the farm. The bread, jams, jellies, vegetables were home produced products. Local unpaid entertainment was provided by the community within the community. Statute Labour was in lieu of taxes. Much work, skill and dexterity were required but only a small amount of cash was needed to farm and live.

Today we have a new set of conditions to operate under. New, improved machinery requires cash, the farmer pays high taxes for services; hires other people to do things. Family living standards have changed with the advent of the motor car, television, radio and telephone; this requires cash. The farmer today buys the greater proportion of food and clothing. These may be highly desirable but



cash or credit in greater and greater quantities are required. New methods of securing this cash and repaying it have to be found.

Every farmer operates his business on the basis of a plan of one kind or another. During recent years, farming has been gradually changing from a self-sufficing to a commercial agriculture which requires the introduction of farm operators, the old mental plan should be superseded by one more carefully thought out and written. The required revenue does not come automatically; carefully prepared plans need to be made whereby it may be secured.

A farm budget or a financial plan of what business is to be, in the coming year, is being used by more and more farmers. A financial plan of the business may be made by preparing a list of all items of farm expenses including overhead expenses, with estimated amounts of each. The total of the estimated farm expenses is calculated. This total could also include farm living and even interest on investment. The problem now is figured on estimated revenue sufficient to equal or exceed the estimated expenses. Farm Accounts are particularly helpful in preparing these estimates or budget.

What makes a successful farmer? What are the requirements that farming as an occupation imposes on an individual? Must the farmer be a good mechanic? No doubt this helps, but we all know successful farmers who are not mechanically inclined. Must the farmer have great knowledge of crops and soils? Such knowledge will be of value, but if the knowledge is available (Field Crop Recommendations issued each year) the farmer need not be a skilled agronomist. Successful farming, if we measure success in terms of profitability, is determined by the farmer's managerial ability. Used in this sense, farm management is concerned with the decisions that affect the profitability of the farm business.

Some decisions that from time to time may have to be made are:

- 1) What farming enterprises should be engaged in?
- 2) How large should the farm be? How much should be produced? How many acres of land, dollars of capital and hours of labour, should be used?
- 3) How should the factors of production - land, labour, capital and management be acquired? Should the capital be borrowed? Should the land be owned or rented? Should the labour be hired or supplied by the farm family?
- 4) What practices should be followed? How much fertilizer should be applied? How much protein in relation to carbohydrate should be fed?
- 5) How should certain functions be performed on the farm? Should a diesel or gasoline powered tractor be used? Should new or used machinery be purchased?

The above list of decisions that must be made on the typical farm gives some idea of the scope in the field of management. Other technical fields of livestock and crop husbandry as well as engineering are much involved and must be learned, but farm management is specifically concerned with those aspects of these fields that affect profitability.



Now where do we go from here? A farmer and his family usually has some ambitions or goals in his mind. Goals may be to have more leisure time, wish to have more security, want more income to put his children through school, want a much needed holiday or even a higher standard of living with coloured television, etc. All this required more or an increased income; it has to come from some place. A farmer and his family's tastes, resources, their environment, their skills, likes and dislikes, will help to enhance or restrict this move for increased income.

A farmer is a labourer, administration, manager; these are the skills of any businessman. A farmer is paid for three things, and we should take a close look at this. A farmer is not paid for the milk he produces on the farm, nor the beef or grain; the farmer is paid for his labour, his risk, and his management.

Successful farm management requires the ability not only to make decisions, but to make the right decisions; they must "pay off over the long pull".

Here are six steps that might be of help in decision making:

- 1) Identify the problem.
- 2) Observe alternatives.
- 3) Analyze alternatives.
- 4) Decide best alternative.
- 5) Act.
- 6) Bear responsibilities.

The first 4 are the learning process about the problem and the last two are the action process. No use going through the first four unless you do the last two; many people unfortunately stop at Number 4.

A problem arises and in the above steps you know what the situation is and you know what you would like it to be. The big question is "How do I get from "what is" to "what ought to be"? - Why of course the Tools of Management. Your farm accounts give you "what is" and the principles of farm management, budgeting and the information required for budgeting are the tools or vehicles that will take you to "what ought to be or what you want".

We can't begin to discuss all the interesting aspects of farm management in the allotted time. I hope I might have given you a new perspective and a new interest. Why not visit the Agricultural Representative, take some of his courses he is offering. The Extension Branch, the specialists in management are becoming more skilled as they gain experience and take more courses themselves. If farming is your occupation and you want to be in the above average profitability class, may I suggest you "ACT", and with the help of your Ag. Rep., and your College, you may together go ahead.

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# NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - - MARCH 4th, 1969

by J. I. QUINN, Manager

CANADIAN IMPERIAL BANK OF COMMERCE, NEW LISKEARD

## "CREDIT AND ITS USES IN MODERN FARMING"

The topic of our discussion today is "Credit and Its Uses in Modern Farming". The use of credit in modern farming falls into three main categories.

- 1) Capital for starting a farming business and for re-organization of financing.
- 2) Capital for expansion, the basic livestock herd, purchase of machinery, etc.
- 3) Current financing.

We will deal with each of these in turn.

### Capital for Starting a Farming Business and For Re-Organization of Financing.

Probably the most important supplier of this type of capital in the past has been the family, with the farm passing down as a going concern from father to son, with or without a cash settlement. With the size of individual farm operations increasing as it has done and will likely continue to do, the role of the family insofar as providing initial financing is concerned, has been gradually taken over by government agencies.

This is borne out by the following figures of estimated long term farm credit extended as at December 31st, 1967.

#### OWING BY FARMERS TO

Farm Credit Corporation	\$ 251,200,000
Veteran's Land Act	31,300,000
Provincial Government Agencies	63,600,000
Private Individuals	16,000,000
Insurance Trust & Loan Companies	13,000,000

You will note that the chartered banks have not been suppliers of long-term (10 years or more) credit. This will likely change with the recent legislation permitting farmers to borrow up to \$ 15,000 over 15 years under the Farm Improvement Loans Act, for the purchase of land.

The most important supplier of long-term funds is Farm Credit Corporation and while I am sure most of you are familiar with this organization, I would like to mention very briefly the objectives of the Corporation.



" To assist competent Canadian farmers in the voluntary re-organization of their industry into economic family units each of which will be of sufficient size to produce, under the operation of its owner, the farm income necessary to meet all operating and maintenance costs, provide an adequate livelihood for the owner and his dependents and to retire any required credit, with interest, within an appropriate term."

Loans May be Made for the Following Purposes:

" Loans made by the Corporation may be used for the following purposes:

- 1) to acquire land.
- 2) to purchase fertilizer, seed, basic-herd livestock, tools, machinery and any implements and equipment necessary for the efficient operation of the mortgaged farm.
- 3) to erect farm buildings or to clear, drain, irrigate, fence or make any other permanent improvement to the mortgaged farm or to other land used by the borrower as part of his farming enterprise.
- 4) to discharge liabilities, to pay operating costs and the costs of maintaining the farmer and his family for such period as in the judgement of the Corporation is necessary for the establishment of the farming enterprise in respect of which the loan is made.
- 5) to assist in the development on the mortgaged land of a secondary, non-agricultural enterprise provided this is the most profitable use of the land.
- 6) for any purpose that in the judgment of the Corporation is necessary for the efficient operation of the mortgaged farm or that will increase the value of the farming enterprise in respect of which the loan is made."

The farmer may borrow up to \$ 40,000 for a 30 year period, and if he is between the ages of 21 and 45 years, he may borrow up to \$ 55,000. This latter type of loan is usually made to young farmers starting business with a limited supply of capital. The interest rate on these loans is 5% up to \$ 20,000 for the normal loan, and 5% up to \$ 27,500 on the supervised loan which is mentioned above as the \$ 55,000 maximum type. Interest rates for that portion of the loan over the amount quoted are set by the Corporation, and are generally below interest rates charged by mortgage companies and other lenders. The Farm Credit Corporation is well managed and its local representatives can not only arrange for loans suited to your needs and ability to repay, but also they can provide you with sound advice, and guidance in setting up your business, including the matter of a good book-keeping system.

The Province of Ontario will grant loans to farmers between the ages of 21 and 35 years to assist in the establishment, development and operation of farms. The maximum loan is \$ 40,000 and the interest rate is 5%. The maximum term is 30 years.

The Veteran's Land Act is phasing out and while this was a most important source of capital for about 20 years following World War II, it is not considered necessary to discuss this with you at this time.



We will now discuss intermediate term financing (18 months to 10 years), which is usually obtained for purchase of machinery, breeding cattle, renovation or erection of farm buildings, etc. The most important source of this type of financing is the chartered banks, under the Farm Improvement Loan Act. Outstanding loans at December 31st, 1967 are estimated at:

Banks	\$ 203,700,000
Private Individuals	134,000,000
Supply Company Finance	43,000,000
Credit Unions	90,000,000
Finance Companies (re cars and trucks)	16,000,000

I will outline briefly the purpose for which Farm Improvement Loans can be made under the Act and the security generally given:

Purchase of agricultural implements of all types, including farm trucks and vehicles of the station-wagon type. Security is generally taken on the implement or implements being purchased.

Purchase of portable sprinkler irrigation systems upon the security of the system and quite often supported by a mortgage on the farm. This type of system would generally be used in the fruit farming areas.

Loans for purchase of a basic herd of livestock. Short-term feeder steers cannot be financed by way of Farm Improvement Loan, but a normal bank loan could generally be arranged for this purpose. Security would be taken on the livestock.

Purchase, installation or improvement of agricultural equipment or a farm electric system. Security would be on the equipment, quite often supported by a mortgage on the farm or be section 88 security on other farm implements.

Fencing and drainage loans - secured by implements or mortgage.

Construction, repairs, alterations or additions to farm buildings - secured by agricultural implements, mortgage, or both.

Beekeeping stock and equipment.

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The new Farm Improvement Loan Act also permits Banks to lend for purchase of farms. The regulations are not yet available, but this is a forward step. The maximum loan is \$ 15,000 and the maximum term is 15 years. It is assumed that security would be by way of mortgage on the property. The interest rate is set at 7 3/4% which is about 2% per annum below the going rate for first mortgages in towns and cities. This should be a real benefit both to young farmers and also to those who are expanding their holdings.

The new act limits total loans to a farmer to \$ 25,000 - up from \$ 15,000 previously. It also limits loans for purchase of farms to \$ 15,000 and for other purposes to \$ 15,000. Thus you could borrow \$ 15,000 for purchase of a farm and \$ 10,000 for other purposes, at any one time.



The current rate for Farm Improvement Loans of all types except for purchase of land is  $7\frac{1}{2}\%$  per annum.

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### Short-Term Financing - (Generally up to 18 Months)

Again the chartered banks provide a major portion of this type of loan: Figures as at December 31st, 1967 are as follows:

#### Owing by Farmers to:

Chartered Banks	\$ 733,000,000
Supply Company Finance	348,000,000
Credit Unions	69,000,000
Private Individuals	110,000,000
Others	43,100,000

### Short-Term Loans of the Type Made by Chartered Banks

This type of loan is usually granted to assist in financing seasonal expenses. For instance, the farmer may borrow in the spring to buy fertilizer, with repayment to come in the fall from sale of grain, vegetables, hay or seed. The farmer might borrow to buy feeder cattle in the fall, for sale in the spring or fall of the next year. Or the farmer might borrow for a month or two to meet a mortgage payment because he has livestock or other farm products for sale that will not bring the best price until about the time the loan matures.

The above instances by no means describe all the reasons why loans might be required and I would like to emphasize that the granting of loans to farmers is quite flexible, both as to the reason the loan is required and as to the term. You, as farmers, should not hesitate to approach your banker for a loan for any sound reason. The worst he can do is say "no", and I am sure that if he does he will explain his reasons in language you can understand and generally agree with.

In conclusion I would like to make a few personal observations:

- 1) There are very few successful businesses that can operate without credit.
- 2) My advice to young farmers in particular is to not be overly concerned with the size of your debt. Your main concern should be income; is it sufficient to do the following:
  - a) Pay your debts as they fall due.
  - b) Provide you with a reasonable standard of living.
  - c) After providing for your debt payments and living expenses, is there a reserve to fall back on in the lean years?
- 3) Look after your book-keeping; know where you stand from month to month and where you are heading financially.
- 4) Use the credit facilities available.
- 5) Take advantage of the assistance given by both Provincial and Dominion Governments (as you are doing here today) in keeping you up to date on farming methods and all other aspects of sound farm management.

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NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 5th, 1969

by MAURICE TESSIER

Agricultural Representative - Nipissing District

"PROFITABLE FEED (CROP) PRODUCTION"

When we talk about profitable feed production, we could cover a wide area. I would like to limit myself to the production of hay and grains -

HAY

There have been enough books and articles written on hay to make another speaker very repetitious but maybe I could try a different slant to this subject -

What is important in hay production? I say three things.

- 1) Quality
- 2) Quantity
- 3) Cost of Production.

- 1) Quality - what does quality mean in dollars and cents on a tonnage basis?

1 ton - excellent quality = 63% T.D.N. 1260 lbs. T.D.N.

1 ton - poor quality = 44% T.D.N. 880 lbs. T.D.N.

If we have to buy the 400 lbs. T.D.N. @ 5.5¢

difference in purchased feed would cost - \$ 20.00

If we multiply by 3 for each cow and multiply again by 40 for a herd, we get

$$\$20.00 \times 3 \times 40 = \$2400.$$

What is quality hay? I say money; but to describe it, I would say - the right type of mixture cut at the right time.



In this table we define Quality.

The effect of date of cutting on T.D.N. and level of forage intake/  
1200 pound cow (Taken from Crop Notes)

Approximate Stage of Maturity		DATE CUT	%	INTAKE	
LEGUMES	GRASSES			1 lb. hay equiv.	Ton Lbs.
Late Bud	Early Head	June 1	63	36	22
Early Bloom	Emerged Head	June 15	57	30	17
Late Bloom	Flower	July 1	50	24	12
Seed Stage	Seed Stage	July 15	44	18	8
Second-Third Cut			55	30	16

i.e. Cow - 50 pounds of 4% milk requires 26 lbs. T.D.N. Excellent  
quality forage will supply 22 lbs. T.D.N. or 85% of  
cattle requirements - the lowest one will supply but 31%.

FACTOR NO. 2 is Quantity.

We as farmers are quite familiar with tonnage and we will  
often hear that we cannot cut hay early because there is not enough -  
If one acre yields one ton of hay - compared to an acre yielding 2  
tons, this means we have doubled carrying capacity on our farm.

Let us look at a few tables that might illustrate this  
point.

Reduce Waste in Pasture

Acres Required to Feed Cow (Taken from Crop Notes)

	Acres/Cow	Prod/Acre of Forage
Rotation Grazing	1.14	2411
Green Feeding	0.69	5190
Stored Feeding	0.49	6056

Effect of cutting and Fertility Level - Alfalfa - 1 Acre  
(Taken from Crop Notes)

Date Cut	Cutting at Full Flower		Cut Bed Stage High Fert.
	Low Fert.	High Fert.	
June 10	-	-	6023 lbs D.M.
July 1	4405	7735	-
July 15	-	-	3011
August 26	2513	3650	2234
October 14	1233	1981	1669
TOTAL	8151	13,366	12,937

Low Fert - 40 lbs P205 + 40 lbs K20 (Actual)  
High Fert - 240 lbs P205 + 320 lbs K20 (Actual)  
Only 13 to 15% production after September 1st.



Factor No. 3 Cost of Production - In the T.V. programs "This Business of Farming", it was said that machinery cost about 20% of their purchase price per year as fixed cost.

For making hay we could count (Make your own if you feel this is not representative)

	COST	20% OF COST	% USED FOR HAY	ANNUAL COST
Mower	600	120	80%	96
Rake	600	120	100%	120
Baler	1800	360	90%	324
2 wagons	600	120	40%	48
2 tractors	8000	1600	30%	480
1 elevator	400	80	80%	64

\$1,132.

For 80 acres of hay, this implies \$14.15 per acre. If we add the cost of operation of the tractors, the seed and a few other incidentals, we can easily say that some \$18 to \$20 - not counting labour is the cost of producing hay on an average 80 acre forage program. At \$20 in cost per acre, how many acres of 1 ton/acre of poor quality do I need to make a \$100 profit?

If we can now tie in these three factors together, then we can establish the value of our hay production.

I say that hay is one of our best crops in the north but let us not louse it up with poor management.

#### GRAIN CROPS

We have been fairly successful in growing oats and barley at least in some areas, but here again I often wonder how much it costs us to grow our own grains.

If we use the same principle as before -

	COST	20% OF COST	% FOR GRAIN	TOTAL COST GRAIN
Seeder	800	160	80	128
Discs	800	160	80	128
Harrows	200	40	50	20
Plow	800	160	80	128
Combine	5000	1000	100	1000
Wagons	400	80	10	8
Tractor	3500	700	10	70
Elevator	400	80	10	8

\$ 1,490



If you have 60 acres of grain, it will cost you \$24.80 in machinery cost alone. If we add the cost of seed and the cost of operating tractors and combine and a few incidentals, we will easily find ourselves with a cost of \$35.00 per acre.

How many acres will it take at 50 bus/acre selling at 80¢ to make \$100.00?

Are these the kinds of yields we can maintain for profitable feed production?

I say in conclusion, that if we as farmers, want to produce feed that will be profitable to us, we have to aim for at least 2½ tons of high quality hay per acre and at least 75 bushels of grain. This, after paying our expenses will leave us with enough profit to live on the farm.

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NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 5th, 1969

by J. B. STONE

Department of Animal Science  
University of Guelph

"PROFITABLE LIVESTOCK, FEEDING YOUR OWN RATION"

Feed represents approximately 50% of the cost of milk production. Therefore, it is the largest single item which you have some control over in your effort to increase your livestock profits.

Another basic principle is the fact that if the livestock enterprise is going to be profitable, fairly high levels of production are essential. I'm not saying that you have to have a 20,000 pound herd average but I am saying that with a Holstein herd (for example) levels above 10,000 pounds per 305 day lactation are minimum and that you should be aiming to sell 12 to 15 thousand pounds per cow. In achieving this reasonable production level with the lowest feed cost, nothing is as important as producing QUALITY roughages. Table 1 shows the amount of grain required to meet the requirements for various levels of production depending on roughage quality.

Table 1 - Pounds of grain required for various production levels depending on roughage.

Production of 3.5% milk	Ex. Forage 3.0 lbs/cwt	Good Forage 2.5 lbs/cwt	Av. Forage 2.0 lbs/cwt	Fair Forage 1.5 lbs/cwt
10,000	1,200	2,200	3,500	4,900
12,000	2,400	3,300	4,500	5,800
14,000	3,800	4,700	5,800	7,000
16,000	5,500	6,400	7,400	8,500

The basic objective in formulating a ration is to be able to supply on a daily basis an amount of feed which the animal will consume and which will provide the nutrients required for the desired level of performance. In addition to water, four broad categories of nutrients are required:

1. Energy
2. Protein
3. Minerals
4. Vitamins

Of course, energy and protein are the nutrients required in the greatest quantities and as such, are the basis of consideration in a home grown ration. The minerals and vitamins, while absolutely essential, represent a relatively small fraction of the total cost of the ration, and in all cases, some purchased supplementation will be required.

The energy requirements for maintenance and milk production are reasonably well defined and are shown in Figure 1, by the line which goes diagonally up across the graph. As forage for the herd, let us look at high quality alfalfa. The energy which will be supplied then by the forages, is an amount shown under the line which goes essentially horizontal across Figure 1. The point where these two lines intersect shows that the forages will supply adequate energy to meet maintenance and produce approximately 35 pounds of milk. The area at the right hand side of the page under the requirement line and over the forage line is the amount which must be supplied by the grain mix. If we convert these figures to pounds of grain of 75% T.D.N., the following amounts are required:

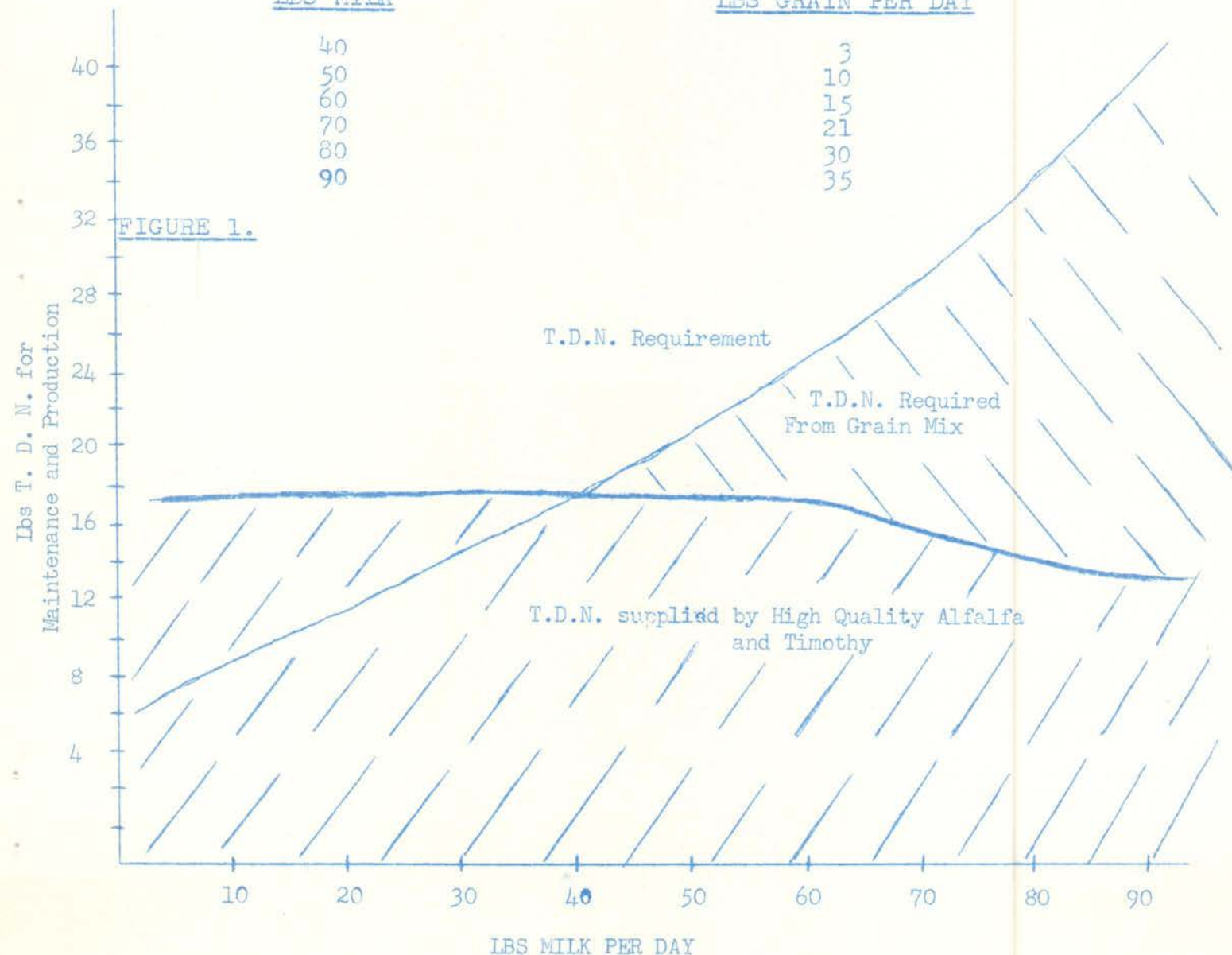
LBS MILK

LBS GRAIN PER DAY

40  
50  
60  
70  
80  
90

3  
10  
15  
21  
30  
35

FIGURE 1.

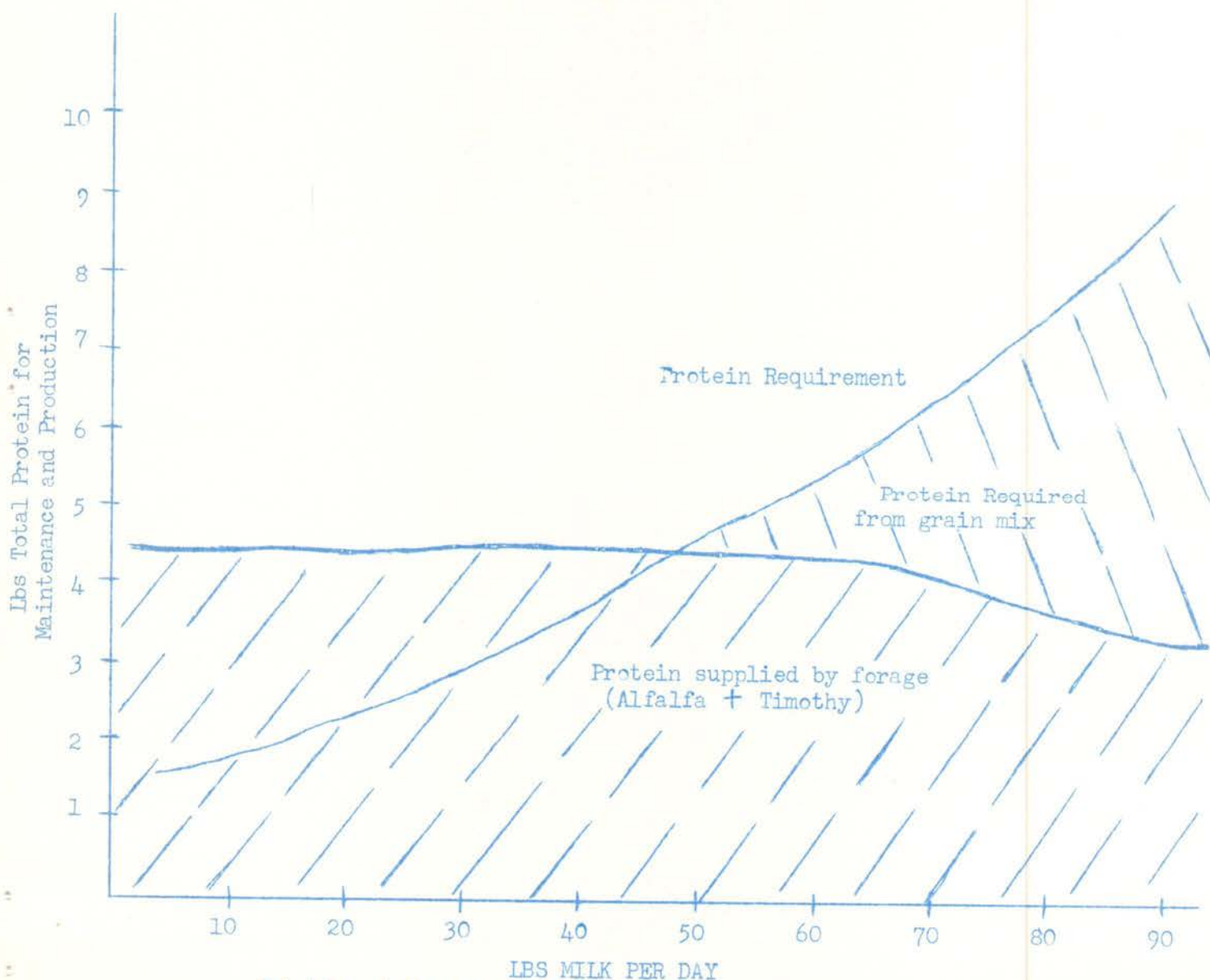




A mixture of  $\frac{1}{2}$  shelled corn and  $\frac{1}{2}$  oats would equal 75% T.D.N. and thus would be adequate from an energy standpoint. Similarly a mixture of  $\frac{1}{2}$  ear corn and  $\frac{1}{2}$  barley would be equally satisfactory.

That's energy, but what about protein. In Figure 2, we see the protein story. The same lines as were shown on Figure 1 are shown here. The two lines intersect at approximately 45 pounds of milk which means that alfalfa plus timothy (excellent quality) will provide sufficient protein for maintenance and 45 pounds of milk per day. If we feed the amount of grain shown above in order to meet the energy requirements, then 16% protein in the grain mix is indicated in order to meet the protein requirements. This level of protein cannot be achieved by corn and the cereal grains and would require mixing in some protein supplement.

FIGURE 2.



If the objective were to not purchase any protein, then a shift would have to be made towards more alfalfa and less timothy. Feeding all alfalfa would supply 5.2 pounds of protein which would then allow you to feed only farm grains and adequately meet both energy and protein requirements.

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NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 5th, 1969

by J. E. BRUBAKER

Program Supervisor, School of Agricultural Engineering  
University of Guelph

"WHAT'S NEW IN FARM MACHINERY"

TILLAGE

Wider bottom plows (14" & 16") have replaced the narrow (10") bottoms. With improved artificial drainage in many places, heavier secondary tillage equipment and more power, it is not as necessary to set the furrows on edge. The wider plows have more clearance and bury trash better, but are limited to soils where deeper plowing can be done.

For secondary tillage, Vibratory systems are appearing on the market.

Energy is delivered to the cutting edge of the cultivation tool through the P.T.O. This reduces draft. Part of the available power is used for pulling the implement and part for the mechanical oscillator which vibrates the tool.

Research varies on how much reduction in power actually occurs. Indeed studies by one major company indicated that the total power may be increased.

SEEDING

The no-plate corn planter manufactured by Deere & Company is a new concept in seeding. Spring loaded fingers can grip individual kernels from ungraded seed, and release them to an adjacent seed wheel.

It is reported that 100 units were put in the field in 1968 but a widespread sales effort has been launched for 1969.

HARVESTING

Hay - - There are few changes apparent. Several companies have devised systems to eliminate much of the hand labor from bales. Equipment includes: bale throwers, self unloading wagons, elevators and distributors at the barn.

Where hay can be baled before it is dry enough to store safely, several different stooking attachments can be obtained, and the stooks can be loaded mechanically. This equipment is not particularly new.



The handling of bales still requires considerable labor and it is of interest to note that baler sales in Canada are forecast to drop about 5% for 1969, continuing a downward trend of these machines.

By contrast, forage harvester sales are forecast to increase 5 to 8%.

This is probably indicative of the slow but persistent change to haylage or high dry matter ensilage. Bales have many advantages but require a lot of labor. The change may be costly, but necessary because of rising labor costs.

### GRAIN

The trend is toward larger combines with wider heads and greater capacity.

Of particular interest, however, is the new grain loss monitor for combines invented by the University of Saskatchewan. This unit attaches beneath the rear of the straw walkers. Kernels that pass over the walkers fall against the monitor. The vibrations set up an electrical current which is recorded on an instrument located beside the operator. Adjustments can be made to the machine or the speed according to the losses.

This monitor can be effective in controlling losses, as well as showing the effects of adjustments and speed. In addition it should help the operator run the combine at its rated capacity.

### TRACTORS

These are larger, more powerful and there's more models to choose from. Implement and Tractor magazine recently catalogued 85 different basic models from 20 to 135 H.P. manufactured by 10 companies. It also noted that of all tractors sold in the U.S.A. in 1968, nearly  $\frac{1}{4}$  of them (24.3%) were in the 90 to 100 H.P. range. Sales for 100 plus H.P. tractors are increasing faster than for any other group.

Besides size, there are 2 significant changes.

- A - SAFETY - Anti roll frames are available to greatly reduce the possibility of rolling a tractor. These, plus a safety belt provide good protection for an operator.
- B - WARRANTY - Deere & Company has recently announced a new warranty policy directly from the Company to the Customer.

There is broadened coverage for the customer and increased compensation to the dealer. Some points are:

- Basic warranty runs for 12 months
- Extended engine warranty runs for 24 months or 1500 hours
- Extended warranty covers most power train-parts for 24 months
- Customer can obtain warranty service at any John Deere dealership.

I expect other major companies will adopt similar warranty policies to the benefit of the customer.

## COSTS

Unfortunately tractor and machinery costs are high. The good farm manager will evaluate all costs before buying. Certainly one should buy to the best advantage possible.

And this does not always mean forcing the dealer down to the last dollar before dealing. I suggest that you will be able to make more money shopping for credit.

As an example, we contacted 4 dealers in Guelph regarding their finance plans.

Company A charge 13.9% interest  
Company B charged approximately 14.5% interest  
Company C gave an example:

A \$10,000.00 purchase could be financed over 4 years with monthly or annual repayment schedules.

Total interest costs repaying monthly - \$ 3,213.44  
Total interest costs repaying annually - \$ 3,840.92

Company D had a similar plan.

By contract, F.I.L. loans are now readily available @ 7½%. For the same loan for 4 years, costs are:

Total interest costs repaying monthly - \$ 1,592.00  
Total interest costs repaying annually - \$ 1,875.00

The savings are over \$ 1,600 with monthly payments and over \$1,900.00 with annual payments. Admittedly the company policy is insured -- but far cheaper insurance can be obtained elsewhere!

Shopping for the best credit can make you more money than shopping for the cheapest buy.

## SUMMARY

Rapid changes and improvements are occurring in the farm machinery industry. Not all may be particularly applicable to your farm.

Sound evaluation is necessary.

Prices are high. The good farm manager will consider all costs consistent with good management and good husbandry before effecting change.

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NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 5th, 1969

by R. E. MACARTNEY, Livestock Specialist

New Liskeard College of Agricultural Technology

"REPORT OF POULTRY, SHEEP & SWINE PROJECTS"

POULTRY

In the last few years researchers have encouraged farmers to grow more barley because of its increased feeding value. (increased protein and T.D.N. as compared to oats) Barley can be grown successfully on soils in Northern Ontario which have the proper pH and drainage. If these conditions are met, a good crop may be realized, and we may receive more energy per acre than is possible with oats.

Since poultry rations have been based on corn, a study was conducted at the New Liskeard College of Agricultural Technology to determine the nutritional and economic aspects of a laying flock ration where barley is substituted for corn as the main cereal grain constituent.

The following are the two rations which were compared.

<u>RATION A</u>		<u>RATION B</u>	
Barley	1300	Corn	600
Oats	300	Wheat	800
Wheat	300	Barley	200
Poultry Premix	300	Poultry Premix	300
Soybean Oil Meal	<u>100</u>	Soybean Oil Meal	<u>100</u>
	2300		2000
Protein Content -	17.4%	Protein Content -	17.9%
T. D. N.	- 77.5	T. D. N.	- 79.0

The farm maintains a flock of approximately 1000 birds and these were divided into two groups, one group being fed Ration A and the second group being fed Ration B.

The following results were obtained in the 1967-68 laying season from November until September.

	LAYING %	%LARGE	%MEDIUM	MORTALITY	LBS FEED/ DOZ. EGGS
GROUP A (Barley)	72.8 (101,385)	59.3	34.2	16 $\frac{1}{2}$ %	5.2
GROUP B (Corn)	76.4 (104,391)	58.8	35.0	20 %	4.8

.. Cost/dozen Eggs = 20¢ for barley

Cost/dozen Eggs = 21¢ for corn

In the fall of 1968 the flock was sold and a group of Babcock 300 Hybrids were placed in the poultry house. The birds began laying in December and we do not have enough statistics to report at this time. This Babcock 300 strain was selected as they received a high rating under the British Columbia Random Sample Egg Laying Test.

We expect a lower laying percent and an increased mortality this year because this flock has been seriously affected by leukosis which is a very serious virus disease affecting the liver and kidneys of the birds. There is no treatment for this disease and prevention is the only defence. Resistant chicks may be obtained as they have been selected for resistance and are therefore immune. Mortality may be decreased by 50% if a resistant strain of birds is selected.

### SHEEP

Presently the sheep flock numbers 100 ewes. A cross-breeding program is being practiced as it has been shown in the past years that cross-bred ewes will have a higher lambing percentage and will wean more lambs per ewe. Cross-bred ewes will also produce more wool than most pure-breeds.

In reference to Table Number 1 in the 1967-68 winter, the following results were observed.

TABLE 1 CROSS BREEDING TRIAL - 1967-68

	NO. EWES	LAMBING %	% LAMBS WEANED	BIRTH WEIGHT (POUNDS)
North Country Cheviot	12	140%	133%	12
North Country Cheviot x Leicester	31	152%	145%	12 $\frac{1}{2}$



During the past year the flock has been totally confined except for a three week period in the fall when the ewes were placed on pasture immediately before the breeding period.

In November the ewes were confined and placed on a complete haylage ration. They have been consuming approximately 6-7 pounds of haylage per head per day. The haylage was stored in a tower silo and also in a horizontal silo which has not been utilized as yet. The haylage was stored when the dry matter content was approximately 45% and on analysis the protein on a dry matter basis is approximately 14%.

This ration will provide a 130 pound pregnant ewe with enough nutrients, however six weeks before lambing the ration should be increased to approximately 8 pounds of haylage per day. Thus the ewe can receive about 4 pounds of dry matter per day as well as free choice salt and minerals.

It is of utmost importance that the forage be harvested early in order that it will contain maximum amount of nutrients. If the forage is low in protein and energy because of late harvesting or losses on harvesting, the ewes will not consume enough of this material partly because it's undigestible and unpalatable and therefore the ration is lacking in energy.

At lambing time pregnancy toxemia or ketosis may become prevalent if a ewe does not consume sufficient feed of high quality. This condition will result in weak lambs at birth and if serious enough the ewe will become sick also.

To date we do not have enough data collected to show any significant results and we will require more time to determine if ewes can be totally confined under a complete haylage program.

One recommendation we can make, and that is make sure that the haylage is harvested early in the season, field losses are kept to a minimum and it is stored properly in order that the ewes will consume a ration high in energy and protein. This is most important if the haylage is the only feed being fed.

## SWINE

In the past two or three years a feeding trial has been conducted with various levels of protein. Today corn and barley production has greatly increased and thus rations which are high in energy are being used. Therefore a feeding trial has been organized to evaluate the use of a high energy barley ration. Table 1 shows the content of the ration.

TABLE 1

Barley	800	Protein -	14.5%
Hog Concentrate	100		
Wheat Shorts	100	T.D.N. -	75%

To date only a small number of hogs have been finished and marketed and therefore no meaningful results are available.

The new Hog Grading scheme in use since January 1st, 1969 has greatly increased the number of dollars between fat and lean hogs. Those of you who have marketed hogs in the first two months of this year may testify to this fact. Therefore it is of utmost importance to select boars and replacement gilts in order that they will produce offspring which will index over 100.

This is not only important if you are producing your own weanling pigs and feeding them to market but is equally important for those of you who produce weanling pigs for the market. Selection of breeding stock should be based on a back-fat probe of the live animal at a market weight of 200 pounds. Equally important is the age of this animal when market weight is reached, because you cannot starve a profit out of pigs. I would be pleased to assist anyone who is interested in starting a selection program based on back-fat measurement and age at 200 pounds.

Lean hogs are of absolute importance if a high energy ration is to be full fed to hogs through to market weight. A Hampshire boar was purchased and presently is being mated to Yorkshire sows. Our first litters have arrived about a month ago and can be seen in the swine barn. These pigs will be compared to offspring produced by the purebred Yorkshire boar.

At this time, we do not have sufficient data to present. This was the extent of the poultry, sheep and swine research being conducted at the New Liskeard College and I would be pleased to speak to any of you who have problems in any of these areas and perhaps we can be of service to you.

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## FIELD HUSBANDRY PROGRAM

By - Alex Skepasts P.Ag.Crop & Soil Specialist  
New Liskeard College of Agricultural Technology

It gives me a great pleasure to report on the 2 projects that were sponsored and carried out by this Association, namely the Northern barley project and the Northern hay project.

### Northern barley project: (Table 1)

This project dealt with barley production under two levels of nitrogen (50 and 100 lbs. of N per acre) and with adequate amounts of phosphorus and potash.

Out of the 10 districts served by our association seven districts participated. On the average (considering the entire N. E. Ontario) the high nitrogen plots gave 4.4 bu. advantage. Since the lb. of nitrogen is worth .13¢ and the cost per ton of barley is \$60.00 (\$1.44 bus) we just about broke even with the extra production costs due to higher levels of N. Each extra bus. produced at the 100% N level cost us \$1.47. In some areas however, the yield advantage due to higher levels of N fertilizer was more noticeable .

### Northland Hay project (Table 11)

This project was conducted in 7 out of the 10 districts with 5 districts reporting data. In this particular test we were trying to see whether or not it is more desirable to apply a large amount of N on a hay meadow in a single application early in the season or to apply the same amount in a split application i.e.  $\frac{1}{2}$  in the Spring and  $\frac{1}{2}$  after the first cut. Only one district out of the 5 reporting was able to present the complete data and therefore our findings are inconclusive.

### Projects at the College Farm 1968

In order to provide the necessary information on yield and other Agronomic characteristics many variety evaluation tests are conducted annually on cereal grains and forage species. Frequently these tests are combined with management studies and fertilizer trials to provide the total production "package" for growers. Very frequently our data is rather meaningless unless presented together with data from other experimental stations. Provincial recommendations particularly for Northern Ontario are based on the data provided by Kapuskasing and New Liskeard.

### Regional Oat and Barley Tests (Table 111 & 1V)

Every year we are testing a group of licensed oat and barley varieties for their adaptation and performance throughout Northern Ontario. Data presented is regional averages.

In the Oat group variety Sioux was a new entry. It is a Winnipeg variety licensed in 1966 as a selection from Garry X Rex cross. Its performance is quite desirable although in general not exceptional. In Kapuskasing and New Liskeard it performed very well, being the highest yielder in both places.



Some of you may want to try Dorval this year. It constantly produced well at Kapuskasing and stood second in our tests at New Liskeard. Kelsey oats although low at New Liskeard did well at Kapuskasing and at the Lake Head. In general however this variety has not lived up to the expectations.

In Barley regional test there were few new entries. The new variety Brock about to be licensed showed considerable promise. It is as early as York and has smut resistance. In our Northland Region the variety Champlain has looked particularly good in the last couple of years and perhaps some of the local Soil and Crop Associations may want to try this variety. Where loose smut is a problem variety Keystone is our choice. It yields well and has a good post-harvest strength. If you want an especially early variety "Nord" is your best choice. It has done well in the past at New Liskeard and last year was no exception. A word of warning though, this variety shatters very badly if left in the field after ripening. Immediate harvest is a must or your harvest losses will be high.

#### Spring Wheat (Table V)

Although Spring Wheat is not a major crop in the north, we feel that it certainly has a potential as a feed grain proposition. In general, the wheat crop has much wider adaptation to the different soil types than any other cereal crop. It is less sensitive to slightly acid soils and will withstand imperfectly drained conditions much better than barley. Because of its stiffer straw it will be able to stand up without lodging under heavier rates of nitrogen fertilization. These are the good points. However, lateness of this crop may present harvesting problems. On the average the crop is 2-3 weeks later than a medium maturity barley variety.

No doubt that you have heard or read about the Mexican Spring Wheats and European Wheats that have been tested in Ontario. Their performance has been extremely impressive since they have out yielded our best Canadian variety by 16-20 bushels. This is certainly a crop to watch! There are 2 varieties that I would like to mention i.e. Pitic 62 and Opal. Pitic 62 is licensed for sale in Canada and Opal is allowed to be imported in the Maritimes. Both varieties have been outstanding in our tests and both of them are at least 6 days later than our Canadian Variety Selkirk. This alone may suggest the use of these varieties either for high moisture grain crop i.e. similar to that of corn or for a straight wheat haylage.

#### Production of Cereals

In our production studies of cereal grains we are investigating the effects of various rates of nitrogen in combination with different amounts of phosphorus. We are trying to find the combination which may result into a higher yield of this crop. Since the potash is relatively high in our clay soils this nutrient element has not been investigated. Table VI summarizes the results. According to statistical analysis there has been yield response to nitrogen only. There was no response due to extra P nor was there an interaction between P and N. It appears that at 80 lbs. of N per acre the highest yields were realized. However, on the average with 40 lbs of N only slightly lower yields were obtained.



We also checked 5 barley varieties for their responsiveness to various levels of nitrogen. See Table VII. The results suggest that all varieties responded to nitrogen in a similar manner. Although the highest yields were achieved at 100 lbs of N per acre, only slightly lower yields were already achieved with the 40 lbs of N per acre.

We have been suggesting for a long time that the greatest responses to fertilizer applications are realized with an early planting of the grain crop. The results of the following experiment will bear out the previously stated information. See Table VII.

Regardless of seeding rate all early seeded plots yielded considerably higher than the late seeded plots and certainly greater yield advantages were realized where nitrogen was applied. It appears to us that the early seeding is of great importance in order to realize optimum yields and in order to get full response to the applied fertilizer. There were relatively small yield differences between the fertilized and non fertilized plots when seeded late. Of course early seeding can be disastrous if sound crop production practices are not followed. For early seeding one must have good drainage and also one should provide excellent weed control. Without either one of these, the crop might be a failure. It is also interesting to note that the 1 bus seeding rate was just as good as the higher ones. In summarizing we would like to point out that significant yield advantages can be achieved by an earlier seeding on well drained land and that there are greater responses to the applied fertilizers and thirdly, that the seeding rate can be reduced if sown early.

#### New Varieties

Again this year we helped the plant breeders in checking out advanced breeder lines in Oats, Barley and wheat. As a result of these efforts the new Barley variety Brock was licensed. In co-op barley tests (14 locations in Eastern Canada out of 18 lines tested five lines outyielded checks by 100 lbs/a.

In the cooperative oat tests out of 14 lines tested one line outyielded check varieties by 500 lbs and 4 others by 100 lbs. per acre.

#### Oil Seed Crops

Seed rape and sunflowers were tested for their yield ability. Sunflowers yielded quite well from 1900 lbs. to 2800 lbs. of seed per acre with an average oil content from 49-53%. It is a late crop however and an extremely early seeding should be practiced. In the rape seed test the yields ranged from 800-1400 lbs. per acre.

#### Forage Crops

The greatest majority of farmers in the area served by this College derive their income from sale of livestock or their products. Forage crops or fodder crops make up a large bulk of their diets. Since the annual feed bill is about 50-80% of total production costs it is of utmost importance to improve and to recognize the forage plant as one of the most important species on a livestock producing farm in order to reduce the feed costs. When I reported to you last year several tests were initiated, now let us look at the results. Table VIII Alfalfa Variety Test. Out of the 7 varieties tested, two varieties are relatively new to our area i.e. Norseman and Iroquois. The latter also appears on the recommended list for 1969. Do take a



little time when choosing your forage species. Check out their adaptation, their ability to survive our rough winters or their tolerance to imperfect drainage conditions. Remember what is good for grass may not be desirable for legumes. The publication #296 "Field Crop Recommendations" has been revised and variety description arranged in a table form. This allows you with a quick glance to pick out the most desirable.

Iroquois is quite winter hardy, as hardy as Vernal. It also has wilt resistance and is more tolerant to imperfect drainage conditions than Vernal. There is seed available at the present time, however, we would suggest that you place an early order.

Norseman is a very late variety from Minnesota. It appears to have good hardiness and yield. It is too early to tell about this variety since our tests are limited.

#### Birdsfoot Trefoil

There are many acres of land in Northern Ontario to which this crop is particularly adapted and extremely valuable. I am of course talking about areas where the drainage is imperfect - poor and where the soil is too acid to allow satisfactory production of alfalfa. Farmers who have tried birdsfoot trefoil have expressed one major criticism i.e. the slowness of growth of this crop. The lack of Spring vigour has been particularly criticized. This year we had a chance to test a strain from Guelph which is more vigorous in growth. This strain since then is being released as a variety Maintland and will be recommended for next year.

We have been experimenting with early Spring Nitrogen applications on trefoil. It would be reasonable to expect that under the cool growing conditions early in the Spring, the ammonification and nitrification processes are extremely slow almost non-existent and additional "N" would be needed. In our observation trial we managed to achieve higher yield when 50 lbs. of N was applied early in the Spring. Since this was only a one year observation we cannot recommend this as a sound practice. We do however hope to be in a better position next year and to present a more precise information.

In our alfalfa management studies we were checking the responses of alfalfa grass mixture to various rates of phosphorus and potash fertilizers. There have been definite yield advantages over the fertilized and non fertilized plots. However no conclusion can be derived as to the most desirable fertilizer combination. The soil probably was in an adequate state of fertility prior to the commencement of this experiment.

There are far too many acres in Northern Ontario that will not support for various reasons, adequate legume growth. Straight grass production of grasses in those areas may be a reasonable alternative. We have been looking at Brome grass and Reed Canary varieties that will be reasonably adapted to do the job. Even on best land, Fall pasture might impose special problems. To save our legumes and keep them in a stand for a considerable length of time they should be given Fall rest for a period of 4-6 weeks in order to store up the food supplies in their root system. Grasses provide a suitable alternative for Fall grazing. The price of a lb. of N is approximately .13¢. If the fertilizer price wars will go on there might



be a further reduction in price. This factor, of course, may make the grass pastures still more desirable proposition. We have not worked out the exact N requirements for a grass crop but we think it might be in an area of 150 to 200 lbs. per acre annually.

Brome grass is one of the most palatable grasses. Many people like it but there are numerous complaints about its establishment. Shallow coverage is an absolute must when seeding. If covered deeper than  $\frac{1}{2}$ " the brome grass simply will not come up. Although there are several interesting varieties available, Red Patch showed up particularly strong in our area.

Reed Canary grass is certainly well adapted to poor growing conditions particularly poor drainage. It can produce tremendous volume of feed but other grasses are preferentially grazed if available. It is a tremendous crop for stored feed. In some areas this grass can be a valuable pasture crop. It has to be kept in vegetative stage by frequent clipping. The palatability is quite comparable with our other grasses and is in fact superior if grown on upland soils under high phosphorus fertilization. Animal acceptance of course is another story.

#### Corn for Silage

Our report would not be complete without the mention of silage corn. In Cochrane this crop is still wishful thinking, in Temiskaming a rather occasional success, but in Nipissing, Muskoka, Parry Sound, Sudbury and Algoma, it becomes a reality. We would welcome still earlier hybrids. Those currently available are still rather late and in order to make good quality silage most of them have to be left in the field for "freeze drying" i.e. let the frost nip them and then put them into silage. In doing this the moisture can be kept down. However, the danger from getting stuck in muddy fields with our heavy harvest equipment becomes a real possibility. Let us also not forget that frozen corn does not pack that well in the silage and that all the vitamins are lost from the leaves. The silage data is presented in tables XIII, XIV and XV. The Dry Matter yields varied from 2.6 tons to 6.3 tons per acre. The average yields in Algoma were 4.4 tons of DM per acre with an average moisture content of 76.3%. The Verner tests had slightly higher D.M. yield per acre and since this test was harvested after frost, the average D.M. was 60.3%. At New Liskeard our test only had 4.8% of D.M. per acre with an average moisture content of 64.8%. In some of the areas served by this Association, corn already is an established crop. Whenever earlier hybrids will appear on the market the corn growing frontier will be pushed further back.

Corn is an easy crop to grow if recommended production practices are followed. However, it can only outyield a good legume grass mixture by a slight margin at the present time. Its appeal is through the almost 100% mechanization of planting, harvesting and the handling of harvested material of this particular crop.

I am certain if people will mechanize more completely their legume-grass mixture, handling procedure corn will not be considered such a glamour crop. Corn will only be grown in areas where it is the most advantageous crop economically.

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In conclusion I would like to express our appreciation to all cooperators and to those who made it possible to obtain this data. Let us think about our cropping program. Perhaps there are ways and means to cut our feed bill by home grown crops.



TABLE 1

NORTH EASTERN ONTARIO SOIL & CROP IMPROVEMENT ASSOCIATION -NORTHERN BARLEY PROJECT 1968

Compiled by: New Liskeard College of Agricultural Technology

VARIETY: Keystone

SEEDING RATE: 2 bu. per acre

FERTILIZER: Basic: 200 lbs. of 0-20-20 per acre

Medium Nitrogen: 50 lbs. of N per acre (150 lbs. Ammonium nitrate)

High Nitrogen: 100 lbs. of N per acre (300 lbs. of ammonium nitrate)

CO-OPERATOR	AVERAGE GRAIN YIELD IN BUSHELS PER ACRE		Diff.
	Med.Nitrogen	High Nitrogen	
<u>Algoma</u>	41.5	54.2	+ 12.7
<u>Manitoulin</u>	66.9	69.5	+ 2.6
<u>Cochrane North</u>	37.3	29.4	- 7.9
<u>Cochrane West*</u>	-	-	
<u>Temiskaming</u>	43.5	53.9	+ 10.4
<u>Sudbury</u>	65.7	74.9	+ 9.2
<u>Muskoka-Parry Sound</u>	53.3	53.2	- 0.1
AVERAGE	4.4	55.8	

\* Test not harvested due to early lodging.

TABLE 11

NORTH EASTERN ONTARIO SOIL & CROP IMPROVEMENT ASSOCIATION

NORTHLAND HAY PROJECT - 1968

Compiled by: New Liskeard College of Agricultural Technology

Fertilizer Treatment

- T1 - 72 lb. of N. applied very early
- T2 - Check - No Nitrogen
- T3 - 36 lb. of N. applied very early plus  
36 lb. of N. applied after 1st cut

<u>Co-operator</u>	<u>T1 - Yield in T/A</u>	<u>T2 Yield in T/A</u>	<u>T3 Yield in T/A</u>
<u>Manitoulin</u>			
Doug McDermid	1.34	.96	1.58
<u>Algoma</u>			
Cyril Bishops	2.03	1.80	Incomplete
<u>Cochrane North</u>			
Albert Tousignant	2.13	.53	Incomplete
<u>Cochrane West</u>			
Paul Pominville	2.70	1.58	Incomplete
<u>Temiskaming</u>			
Clarence Jibb	1.50	.45	Incomplete
Average	1.94	1.06	

Diff. + .88 tons



TABLE 3

OATS - 1968

Variety	Bu/ Acre	Lodging 1 - 9 (2)	Maturity (1)
Garry	82.7	8.3	116
Russell	89.0	8.0	115
Stormont	87.2	6.0	113
Dorval	88.8	7.0	115
Kelsey	83.9	8.5	115
Sioux	91.9	8.5	115
OA 101-3	91.5	8.5	115

TABLE 4

BARLEY - 1968

Variety	Bu/ Acre	Lodging 1 - 9 (2)	Maturity <sup>a/</sup> (2)
York	64.0	5.0	106
Herta	66.1	4.5	110
Parkland	63.9	4.5	107
Keystone	65.7	3.5	107
Champlain	68.0	4.5	109
Conquest	70.8	3.5	107
Fergus	69.2	5.0	109
Paragon	74.3	4.5	109
Brock	72.1	4.5	106
OB 73-2	71.1	4.5	107

TABLE 5

Variety	Bu/ Acre	<u>SPRING WHEAT</u> - 1968 Lodging	Maturity
Selkirk	49.9	3.0	118
Opal	70.7	2.0	126
Pitic 62	66.0	2.0	121
L.Rojo 64A	55.7	3.0	111
Giza 144	42.3	2.8	126
W.B. 8874	64.7	2.0	125
Nainari 60	62.8	2.3	124
Narino 59	58.1	2.2	119
Lemhi 53	50.4	2.5	126
5505-2	65.0	2.7	125
Rex	51.5	1.3	125

TABLE VI

KEYSTONE BARLEY RESPONSES TO N & P FERTILIZERS - 1968

New Liskeard College of Agricultural Technology

## Average Yields

Lbs N	P	Bu/ Acre	Lodging
0	0	61.6	4.0
0	40	68.2	5.7
0	80	74.7	4.3
0	120	<u>60.2</u> <u>66.2</u>	3.0
40	0	74.3	4.3
40	40	82.1	6.0
40	80	78.1	6.3
40	120	<u>80.9</u> <u>78.8</u>	6.7
80	0	73.1	6.3
80	40	79.4	5.3
80	80	84.8	5.7
80	120	<u>84.0</u> <u>80.3</u>	7.7
120	0	74.7	7.0
120	40	81.5	8.3
120	80	76.7	5.7
120	120	<u>70.8</u> <u>75.9</u>	8.3

N source - Ammonium Nitrate

P source - Triple Super-phosphate



TABLE VII

NITROGEN ON BARLEY - 1968

New Liskeard College of Agricultural Technology

3 Rep. Averages

	GRAIN BU/A	LODGING	DAYS TO MATURE
N			
0 Keystone	73.6	4.5	98
Galt	75.6	3.0	99
Nord	65.1	5.5	90
Fergus	72.6	3.5	103
Herta	62.3	2.5	104
AVERAGE	69.8	3.8	99
N 40 lbs.			
Keystone	76.3	4.5	98
Galt	83.8	4.0	99
Nord	78.6	8.5	97
Fergus	81.1	6.0	106
Herta	80.5	4.5	104
AVERAGE	80.1	5.5	101
N 70 lbs.			
Keystone	77.9	7.0	96
Galt	93.7	5.5	105
Nord	67.0	7.5	91
Fergus	67.4	6.0	104
Herta	82.1	5.0	105
AVERAGE	77.6	6.2	100
N 100 lbs.			
Keystone	89.9	7.5	104
Galt	91.6	7.5	100
Nord	74.9	9.0	92
Fergus	68.6	8.0	107
Herta	85.6	7.0	107
AVERAGE	82.1	7.8	102
N 130 lbs.			
Keystone	85.4	7.5	101
Galt	90.0	5.0	102
Nord	81.4	9.0	95
Fergus	75.0	7.5	106
Herta	72.2	6.5	106
AVERAGE	80.8	7.1	102

Date Sown - May 25  
 Seeding Rate - 2 bu/acre  
 Replications - 3  
 Plot Size - 12' x 28"  
 Area Harvested - 8' x 14"

Nitrogen Levels: Analysis of Variance:  
 N<sub>0</sub> - 0 lbs/acre Replications-No difference  
 N 40 lbs/acre Nitrogen- No Difference  
 N 70 lbs/acre Interaction- N x V - No  
 N 100 lbs/acre difference  
 N 130 lbs/acre C. V. - 13.2%  
 Varieties- L S D  
 .05 - 7.6 bu.  
 .01 - 10.2 bu.

TABLE VII(a)

RESPONSES OF KEYSTONE BARLEY YIELD TO -  
SEEDING DATES X SEEDING RATE X NITROGEN LEVELS - 1968

New Liskeard College of Agricultural Technology

Seeding Rate - 1 bu/Acre

Date	Lbs. N	"0"	60 lbs.	90 lbs.	Diff. 0-60
May 10		60.1 )	89.4 )	98.5 )	29.1
" 22		43.4 ) 29.6	79.5 ) 49.8	73.9 ) 56.6	36.1
June 3		30.5 )	39.6 )	41.9 )	9.

Seeding Rate - 2 bu/Acre

May 10		54.3 )	81.8 )	96.0 )	27.5
" 22		52.9 ) 9.7	88.1 ) 40.8	79.8 ) 38.4	35.2
June 3		44.6 )	41.0 )	57.6 )	3.6

Seeding Rate - 3 bu/Acre

May 10		62.5 )	82.4 )	98.8 )	19.9
" 22		42.6 ) 27.0	77.4 ) 26.6	79.8 ) 46.4	34.8
June 3		35.5 )	55.8 )	52.4 )	20.3

ALFALFA VARIETY TEST - 1968

TABLE VIII

Varieties: 7  
 Replications: 4  
 Seeding Rate: 10 lb/A

1st Cut - July 10  
 2nd Cut - August 27

Variety	Tons of D.M. Per Acre		1968 Total	Rank
	1st Cut	2nd Cut		
Norseman	4.30	1.58	5.88	1
Iroquois	3.80	1.86	5.65	2
Dupuits	3.18	1.86	5.04	7
Vernal	3.53	1.70	5.23	4
Saranac	3.14	1.92	5.06	6
Cayuga	3.46	1.88	5.34	3
Glacier	3.25	1.83	5.08	5



TABLE IX

New Liskeard College of Agricultural Technology

## TREFOIL VARIETY TEST - 1968

VARIETIES:	7	1st CUT -	July 10
REPLICATIONS:	4	2nd CUT -	October 30
SEEDING RATE:	8 lb/A		
PLOT SIZE	5' x 20'		

Variety	1st Cut Tons D.M./A	2nd Cut Tons D.M./A	1968 Total	Rank
Viking	2.20	1.49	3.68	5
MCH - 66	2.10	1.34	3.44	7
OAC Syn 2 (Maintland)	2.67	1.58	4.22	1
Wallace	2.36	1.74	4.10	3
Westriver	2.13	1.48	3.62	6
Leo	2.52	1.50	4.02	4
Empire	2.50	1.61	4.11	2

TABLE X

## New Liskeard College of Agricultural Technology

FORAGE RESPONSES TO P & K - 1968

Fertilizer Applied April 22nd, 1968

Treatments - P<sub>0</sub> - 0 lb P<sub>2</sub>O<sub>5</sub>/A K<sub>0</sub> - 0 lb K<sub>2</sub>O/A P Source Triple super  
 P<sub>1</sub> - 20 lb P<sub>2</sub>O<sub>5</sub>/A K<sub>L</sub> - 30 lb K<sub>2</sub>O/A K Source Muriate of  
 P<sub>2</sub> - 60 lb P<sub>2</sub>O<sub>5</sub>/A K<sub>2</sub> - 60 lb K<sub>2</sub>O/A potash  
 P<sub>3</sub> - 100 lb P<sub>2</sub>O<sub>5</sub>/A K<sub>3</sub> - 120 lb K<sub>2</sub>O/A

TREATMENT	1967-68 AVERAGES TONS	RANK
00	3.36	12
01	3.63	4
02	3.40	11
03	<u>3.52</u>	6
Average	<u>3.48</u>	
10	<u>3.43</u>	9
11	3.52	7
12	3.27	13
13	<u>3.88</u>	1
Average	<u>3.53</u>	
20	<u>3.55</u>	5
21	3.42	10
22	3.78	2
23	<u>3.26</u>	14
Average	<u>3.50</u>	
30	<u>3.51</u>	8
31	3.63	3
32	3.20	15
33	<u>3.08</u>	16
Average	<u>3.35</u>	



New Liskeard College of Agricultural Technology

TABLE XI

BROME GRASS VARIETY TEST - 1968

Seeding Rate - 12 lbs/acre  
Seeded - Spring 1967  
Fertilizer - 50 lbs N - May 5th  
              - 50 lbs N - August 1

<u>CODE</u>	<u>1st CUT</u>	<u>2nd CUT</u>	<u>TOTAL</u>
1 Saratoga	2.41	1.40	3.81
2 Redpatch	2.88	1.36	4.23
3 Guelph Syn 2	2.81	1.40	4.21
4 Blair	2.80	1.24	4.03
5 Carlton	2.07	1.14	3.71
6 S-6325	2.77	1.11	3.88
7 Syn D	2.47	1.27	3.74
8 S 6773	2.71	1.23	3.94
9 988	2.62	1.26	3.89
10 986	2.67	1.26	3.93

New Liskeard College of Agricultural Technology  
REED CANARY HAY TEST - 1968

TABLE XI1

Fertilizer -

50 lb. N applied May 5th, 1968  
50 lb. N applied August 1st, 1968

<u>VARIETY</u>	<u>1st Cut</u>	<u>2nd Cut</u>	<u>1968</u>	<u>Rank</u>
	<u>Tons</u>	<u>Tons</u>	<u>Total</u>	
	<u>D.M.</u>	<u>D.M.</u>		
Frontier	2.71	1.75	4.46	1
S 6982	2.39	1.56	3.95	5
Rise	2.87	1.53	4.40	2
Ottawa Syn F	2.54	1.67	4.21	4
Ottawa Syn G	2.60	1.72	4.32	3

NEW LISKEARD COLLEGE OF AGRICULTURAL TECHNOLOGY

TABLE XIII

NITROGEN ON GRASS - 1968

D<sub>1</sub> - Early Spring - May 6

D<sub>2</sub> - After 1st Cut - August 1

Treatments - 4 - T<sub>0</sub> 0 lb Nitrogen

T<sub>1</sub> 100 lb N @ D<sub>1</sub>

T<sub>2</sub> 50 lb N @ D<sub>1</sub> 50 Lb N @ D<sub>2</sub>

T<sub>3</sub> 25 lb N @ D<sub>1</sub> 25 lb N @ D<sub>2</sub>

REED CANARY - YIELD DATA

T <sub>0</sub>	1st Cut Av Lb/A D.M.	2nd Cut Av. Lb/A D.M.	1968 Total Lb/A D.M.
T <sub>0</sub>	2504 1.25	-	2504 1.25
T <sub>1</sub>	8206 4.10	1211 .61	9417 4.71
T <sub>2</sub>	6239 3.12	2123 1.06	8362 4.18
T <sub>3</sub>	4639 2.32	1161 .58	5800 2.90

TIMOTHY - YIELD DATA

T <sub>0</sub>	3233 1.62	1031 .52	4264 2.13
T <sub>1</sub>	5616 2.81	1579 .79	7195 3.60
T <sub>2</sub>	6301 3.15	2961 1.48	9262 4.63
T <sub>3</sub>	5592 2.80	1472 .74	7064 3.53



New Liskeard College of Agricultural Technology

SILAGE CORN TEST - 1968

Temiskaming District

DATE PLANTED: June 3rd

DATE HARVESTED: October 11th

ROW WIDTH: 36"

POPULATION: 19,000 plants / acre

DATE 1ST KILLING FROST: October 5th

STATION TESTED

FERTILIZER: 300 lbs. 18-46-0 plus side dressed 300 lbs. Ammonium Nitrate

HYBRID	YIELD TONS/ACRE		RANK	% MOISTURE AT HARVEST	
	GREEN	DRY MATTER		WHOLE PLANT	EARS
Heapala H175	9.2	4.2	22	54.2	53.1
Stewarts 6812	5.8	2.6	25	55.0	45.6
Morden 88	10.9	4.9	13	55.2	57.5
Trojan 67	8.1	3.5	24	57.4	50.8
Stewarts 6817	10.8	4.6	17	57.9	56.2
Morden 67	11.9	5.0	9	57.9	62.5
Heapala H308	12.4	5.1	7	58.6	57.6
Stewarts 682	13.7	5.3	4	61.2	54.4
Pride R 100	15.0	5.7	3	61.9	61.2
Pride 116	14.4	5.0	9	65.4	60.9
Asgrow A 28	14.9	5.0	9	65.6	67.4
Warwick SL209	15.1	5.0	9	66.7	64.5
Co-op 266	13.9	4.6	17	67.0	63.7
Haapala H305	17.9	5.8	2	67.3	62.5
United 108	16.1	5.1	7	68.6	64.6
Co-op C 105	14.4	4.5	19	68.8	66.1
Seneca XX 155	20.2	6.3	1	69.1	62.0
United 3 H 11	13.9	4.3	21	69.2	60.8
DeKalb XL 301	15.5	4.7	16	69.7	63.3
United 7	17.2	5.2	5	69.7	65.0
Pride 5	14.8	4.5	19	69.7	67.7
Pioneer 3889	16.4	4.9	13	70.2	67.6
Funks G 43	16.2	4.8	15	70.4	62.7
Warwick 214	13.7	4.0	23	70.6	62.4
Warwick 261	18.2	5.2	5	71.6	60.0
Average	14.0	4.8		64.8	60.8

L.S.D. .05 - 1.0 Tons  
 L.S.D. .01 - 1.3 Tons  
 C.V. - 12.6%

New Liskeard College of Agricultural Technology

SILAGE CORN TEST - 1968

Nipissing District

DATE PLANTED: May 23rd, 1968

DATE HARVESTED: October 18th (after killing frost)

ROW WIDTH: 36"

POPULATION: 19,000 plants/acre

FERTILIZER: 550 lbs. of 10-10-10 plus 300 lbs. Ammonium Nitrate per acre

CO-OPERATOR: Gustave Roberge, Verner

HYBRID	YIELD TONS / ACRE		RANK	% MOISTURE AT HARVEST		
	GREEN	DRY MATTER		WHOLE PLANT	RANK	EARS
Haapala H 308	12.3	5.5	5	55.2	2	38.1
Haapala 175	9.8	4.3	9	56.6	3	39.8
Morden 67	14.5	5.9	1	59.3	5	40.6
Pride 5	14.6	5.9	1	59.7	6	47.2
Pride 116	13.8	5.7	4	59.0	4	43.5
Trojan 67	8.1	3.7	10	53.7	1	41.3
Warwick SL 209	13.7	5.3	6	61.5	7	43.8
DeKalb XL 301	15.9	5.3	6	66.6	9	53.1
United 108	13.7	5.0	8	63.9	8	48.5
Seneca XX 155	17.7	5.8	3	67.2	10	46.6
Average	13.4	5.2		60.3		44.3

L.S.D., 75 = 0.9 Tons

.01 = 1.4 Tons

C.V. = 11%



New Liskeard College of Agricultural Technology

SILAGE CORN TEST - 1968

Algoma District

DATE PLANTED: May 24th

DATE HARVESTED: October 2nd

ROW WIDTH: 36"

POPULATION: 19,000 plants / acre

FERTILIZER: 550 lbs. 10-10-10 plus 300 lbs. Ammonium Nitrate per acre

CO-OPERATOR: Jack Fremlin, Echo Bay

HYBRID	YIELD TONS/ACRE		RANK	% MOISTURE AT HARVEST		
	GREEN	DRY MATTER		WHOLE PLANT	RANK	EARS
Haapala H 308	16.8	4.2	7	74.7	4	66.3
Haapala 175	14.8	4.2	7	72.1	1	61.2
Morden 67	19.0	4.8	1	74.3	3	62.9
Pride 5	22.2	4.7	2	78.8	8	72.4
Pride 116	20.0	4.7	2	76.9	5	66.5
Trojan 67	12.9	3.5	10	72.7	2	64.2
Warwick SL 209	20.1	4.6	4	77.1	6	65.5
DeKalb XL 301	21.0	4.2	7	79.6	10	65.6
United 108	19.8	4.4	6	77.6	7	64.4
Seneca XX 155	21.7	4.6	4	79.0	9	71.5
Average	18.8	4.4		76.3		66.1

N.S.  
C.V. 11.6%

NORTH EASTERN ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

ANNUAL MEETING - MARCH 5th, 1969

by J. D. BUTLER, Principal

New Liskeard College of Agricultural Technology

Gentlemen:

This morning I would like to take a few moments to comment on the objectives of the present program being conducted.

First of all, I would again like to clarify that while the name of the unit has been changed to the New Liskeard College of Agricultural Technology rather than the Ontario Demonstration Farm; that this does not change our basic program or desire to carry out an annual program that will provide most assistance possible to farmers in Northern Ontario.

The reason for the change in name is due to the extension of the present program three years ago, to include a two-year agricultural course for young men in our particular regions. The course of study in agriculture is similar to those being conducted at Kemptville, Guelph, Centralia and Ridgelytown.

I have mentioned that we wish to do the investigational work or research work which you people feel the most beneficial to you. As such we have placed at the back of the hall a box labelled "Project Suggestions" and we would be pleased if you people as a group or as individuals would take a couple of moments and very briefly write down any suggestions or area of work which you would like to see additional information on.

Speaking now of the general farm program, and what we are basically trying to do in addition to the applied research or investigational work being carried out is to see what we can produce in the way of feed for livestock and in turn process this production back through the different classes of livestock.

Personally, it is my feeling that in so far as Northern Ontario is concerned that this is our only alternative, that is producing as much of our own requirements as possible and putting it back through a marketable livestock product, in that I do not see a present market that will provide us with anything in the way of worthwhile potential as an outlet for our surplus forage and cereal production. This does not mean that there will not be a certain market for limited amounts but on the average it would appear that we must think of producing our basic requirements and selling it either in the form of meat, milk, eggs, pork, etc.



Speaking of forage production, that is hay, silage and pasture, we have been trying out various varieties or mixtures and how they can fit into the farm operation. The main difference that we have noted on the farm this past three years in regard to forages, is the amount of winter killing which has increased considerably in so far as the legumes are concerned.

A general statement in regards to forage production, I believe that if we have the basic requirements on certain farms or parts of certain farms, that can grow specific varieties, whether it be alfalfa, trefoil or the grasses, then we should try and produce the product best suited to our own individual farm. While recognizing the value of general recommendations, produce only the product or crop best suited to our own situation.

At this time I am thinking that for a large percentage of our farms, that we should incorporate more grasses into our hay and pasture mixtures, realizing that we still have the perennial problem of drainage and fertility. In other areas we know that the acidity of the soil is such that we cannot produce alfalfa economically, and here I am thinking of where alfalfa will not produce over a three to five year period without reseeding.

The main grasses available are timothy, brome grass, and orchard grass. Brome grass particularly, which is one of the grasses while somewhat difficult to establish, could be grown more profitably than some of the ordinary grasses now grown.

A number of people have commented that once established the brome grass root system is comparable to twitch grass and cannot be eliminated. This I cannot believe because our own experience and other farmers who have been growing this grass for years have stated that they have had no problem what so ever.

One of the more popular items of discussion generally is the matter of putting up forage as a dried product such as hay or whether it can be put up as silage or haylage and can it be done on a profitable basis. First of all let me say this, that if the weather is good and you have the labour to put up the hay in a dried form, you are not going to have any better crop in so far as feeding value in any form of silage than you would have as a dried hay product. On the other hand, if we do not have the labour available, and we do get into catchy haying seasons, which we all know occur, then silage does have a place whether it is put up in a vertical or horizontal silo, realizing the big item here is the matter of finance, and whether we can get the money or are in a position to invest in the amount of equipment required. In many cases it is only natural that people will use the equipment which they now have, then possibly when it is beyond the point where they can get any satisfactory further use from it, then they would possibly consider changing over to a silage program.

The point which I feel is most important is that we think of growing more of our own requirements, in the form of forages and cereal grains rather than purchasing the amount which some are now doing. This is because it is quite evident that throughout the world, protein supplements will be more in demand and will become more expensive and being in an industry that is as competitive as the one we are now in, we cannot continue to purchase products that have heavy costs attached to them in transportation, handling, etc.



## CEREAL GRAINS

Speaking of cereal grains, certain possibilities have been mentioned at this Conference in regard to the growing of corn in the Muskoka, Parry Sound and areas west to Algoma, particularly as it applies to corn silage. If such is the case, this will certainly be an added asset to producers in those areas. In other areas, particularly the Temiskaming and two Cochranes, do not have any varieties of corn which make it an economic venture to produce, either grain corn or silage. Therefore we are back to the oats, barley and possibly wheat.

Speaking of oats and barley, these two crops have been of particular concern to me in that we have given so much publicity to barley, in what it means to the livestock producer and what he should be growing. The only comment I would make in regard to barley is this: this is a crop that requires relatively good drainage and a high fertility soil. On many farms we may have a certain acreage or the whole farm itself may have these particular requirements. If we do not have these conditions or requirements, then too many of our present producers are growing barley that should have remained growing oats. If we look at it from the standpoint of feeding value we can get a lot more feed value from 55-60 bushels of oats per acre than we can from an acre producing 25-30 bushels of barley, a situation which I am afraid we have all seen in various parts of the districts in Northern Ontario.

Therefore I would suggest that we be more selective and take a better look at the crop if we can grow it, fine. It is not a new crop. It has been with us for many years but if we do not have the soil or the fertility that meets the requirements of barley, then we would be better to go back to the crop which we know we can grow.

In regard to wheat we have heard from the previous speakers some of the possibilities. These are possibilities, again we are hoping that some of these newer varieties will fit into our farming program and will be an asset to all concerned.

The area which I feel requires a closer look at, is the storage of cereal grains, say oats, barley and possibly wheat as a high moisture feed. What would this do for us? Would it allow for earlier harvesting by two to three weeks, would it remove the job of turning, moving and installing drying devices - could it be that we would feed these high moisture grains direct to our cattle without the bagging, hauling and costs involved in the grinding of these grains? This has been done with high moisture corn, there are inhibitors to reduce or eliminate fermentation losses - these feeds would require balancing, but surely this is no problem to a livestock feeder.

What kind of storage would we need? Silos, possibly yes. But does it matter if it is a paying proposition, could it change the farmers position from that of a cash register (handling a lot of money but not being able to retain a sufficient percentage of it). Do we have these answers for our districts, maybe we should have them?



Possibly you as producers would not be interested in having this tried but most of this information regards feeding value, adding of supplements, say soybean oil meal, urea, etc., rolling or grinding prior to going into the silo is available. Should we be thinking of this in regard to our particular operation?

In regard to the growing of forages and cereal grains I believe we would be further ahead if we could take a much more practical look at our basic problems and see if we can rectify these, rather than going to some programs or the heavy use of fertilizers hoping to increase our yields where we are not going to get the best dollar return for dollar spent. What I mean here is this, that if our drainage is not good or our cultivation and practices not satisfactory, there is nothing new or mystical about fertilizer that we can put on and hope to act as a cure-all.

Further if we are to grow crops, needless to say, we must put into our soils at least the amount the crop removes from the soil. Therefore our fertility practice or practices can mean a number of things, such as the application of manures, green manure crops, plowing down of wastes, straw, etc. and buying of commercial fertilizer.

These are all part of the general methods of maintaining fertility. Coupled with this of course, are such things as how we work and till the soil, the drainage of it, and keeping the organic matter at sufficiently high levels. This is a relatively simple matter for the fields close to the barn, but what do we do for the fields a half mile or more away? Buying additional land is not always the answer, at least this is our experience where the first three years' operation was not a paying proposition on acquisition of a new farm.

### LIVESTOCK

Mr. Macartney has commented on the areas of work underway with several of the livestock classes. My remarks will deal mainly with the beef herd which at this unit is a cow-calf operation.

Considerable discussion both verbally and written has been said regarding the type of enterprise and may be summarized by the producers as not providing sufficient dollar returns for the investment and size of operation required where the progeny is being sold for feeder purposes.

A thumb rule here regarding selling of feeder cattle and that is: remember a brood cow costs approximately \$80.00 to maintain per year. Therefore the return per animal sold must be sufficient to meet these costs plus your management in return to labour fee. The large interest at the present time is to increase the productivity of the brood cow through a cross-breeding program. The merits of a cross-breeding program could be summarized as follows:

- 1) Higher conception rates of the cow herd.
- 2) New Born being stronger, more vigorous and less susceptible to disease.
- 3) Increased longevity and earlier breeding of heifers is possible.
- 4) Increased efficiency in feed conversion.



The above are four of the advantages which could occur from a cross-breeding program, providing the necessary precautions and planning are adhered to.

However there are pitfalls which can be encountered and just the mere crossing of individuals of two or three breeds will not necessarily give the advantages looked for. My advice would be, before embarking on any cross-breeding program, discuss and understand the program prior to implementing it as part of your over-all livestock program.

#### WARBLE FLY CONTROL

Experiments were continued in 1967-68 to further evaluate the control of the warble fly grub using systemics. Such trials have been conducted annually since 1963. Such trials have used four different methods of application:

- a) back-line method
- b) feed additive
- c) water miscible
- d) spray method.

Method a) the back-line treatment, is the most practical at the present time for the majority of livestock producers. Control of this grub has been shown most effective giving a 98.5% control when treated with the systemics now on the market. The use of systemics such as Tiguvon, Ruelene and Neguvon is where this material is applied in the fall of the year and absorbed into the blood stream and body tissue. This systemic then kills the grub in its larva stage. As such no further treatment is required. CAUTION: treat animals according to manufacturer's directions.

#### WHOLE PLANT BARLEY SILAGE

Feeding trials have been conducted in the previous 1966-67 1967-68 with four groups of one and half year old steers. Two groups were fed barley silage as much as they wished to eat while the remaining two groups were fed whole plant barley silage plus one pound of ground barley per 100 pounds live weight. Steers in the four groups were individually fed. Analysis of silage:

Moisture	51.3%
Protein	11.6%
Fat	2.06%
Fibre	39.0%
N.F.E.	39.2%

Steers fed whole plant barley silage only consumed on the average of 50 pounds per day and had an average daily gain of 1.47 pounds, while the steers fed barley silage plus ground barley consumed 37 pounds of silage daily and had an average daily gain 2.62 pounds. Feeding trials are presently being repeated and those visiting the unit will have the opportunity of seeing the two groups of steers and two groups of feeder heifers now in this particular feeding trial.

GENERAL COMMENT - the amount of digested barley being passed by the groups are considered much too high thus it appears that the barley silage will have to be harvested at a more immature stage or pass through a roller prior to ensiling.



## HERITABILITY OF RATE OF GAIN THROUGH THE USE OF PERFORMANCE TESTED SIRES

This project has been carried on for the past 5 years, the objective being to measure the realized heritability of rate of gain in beef cattle. As such our cow herd is divided into four equal groups and four different performance tested sires are used each year - two having gained in excess of 3 pounds per day and a life-time daily gain of as close to 2.75 as possible. The remaining two sires having made gains average of the breed. In the case of Herefords approximately 2.52 pounds per day.

All male calves are fed out to market with feed conversion data, rate of gain and carcass evaluation being collected. Growth studies are being collected annually on the female progeny. To date the two year old heifers from the high test sires have shown an increase of 50 pounds more weight at the two year old age level than those from the average or low test sires.

The following is the result of the 1968 male progeny test. There was no specific difference in fat cover or loin eye area between either groups of steers.

### RATION FED

1200 pounds barley  
600 pounds oats  
200 pounds soybean oil meal

PROGENY FROM	DAYS ON TEST	A.D.G.	W.P.D.A.	FEED CONV./ LB. GAIN	DRESSING %
High Test Bulls (2)	90	3.19	1.97	6.14	58.3
Average Test Bulls (2)	108	2.34	1.90	7.90	58.8

Gentlemen, the foregoing is a brief comment on some of the farm operations generally and those of the beef cattle operation. At this time I would suggest that should you wish any additional information regarding any of the work or material covered by any of the members of the staff, please feel free to get in touch with us or drop us a line and we will provide any additional information which we have available.

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