

DEPARTMENT OF REGIONAL ECONOMIC EXPANSION

Western Task Force

Report on the

Farm Machinery Manufacturing Industry

in the Prairie Provinces

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INTRODUCTION

The Department of Regional Economic Expansion conducted a series of regional studies during 1972-1973 as part of its overall declared policy for decentralization and regionalization of its policies and programs. One of the opportunities identified as having a good development potential in the Prairie Region was agriculturally-linked industries and more specifically the Farm Machinery Manufacturing Industry. Accordingly, in early July, a study team was established to conduct a survey of the prairie industry. Its mandate was to propose suitable recommendations which would assist the expansion and stabilization of the industry in the prairie region. These recommendations would, in whole or in part, form the basis for federal input into future development agreements concerning this industry.

The survey was conducted with the above as its prime goal and was not meant to be a complete feasibility or market study in the normal context. This will account for the lack of detailed statistical information and for the many opinions that are rendered in the final report.

OBJECTIVES OF THE STUDY

1. To investigate opportunities for the expansion of the farm machinery industry in the prairie provinces with special emphasis on (a) manufacturing; (b) marketing and distribution; (c) financing; (d) research and development, and to suggest measures which might form the basis of proposed federal-provincial development agreements concerning this industry.

2. To define the areas of greatest market opportunity for farm machinery manufacturers in the Prairie Provinces.

3. To define the specific machines and other agricultural equipment within these areas which offer the greatest market opportunities and which are most adaptable to manufacture in the Prairie Provinces.

4. To examine present suppliers to the industry and indicate what effect raw material supplies and existent capabilities of suppliers will have on the future development of the industry.

METHODOLOGY

This survey was conducted by departmental personnel with the co-operation of the governments of Manitoba and Saskatchewan and the valuable assistance of Mr. Harold Kitching of Terramec Services International Ltd. During the course of the survey the study team conducted personal interviews with selected manufacturers and suppliers in each of the three prairie provinces. Those companies and individuals contacted were as outlined in Exhibit 1(A-E).

The team also consulted with selected university personnel, officials of the Federal Department of Industry, Trade and Commerce, representatives of the various industry associations including PIMA and CFIEI, selected farm implement distributors and several of the major farm implement manufacturers in Canada and U.S.A. Individual interview summaries are available as a confidential addendum to this report. In addition to personal interviews, the team utilized existent data and statistics from the Royal Commission Report on Farm Machinery, Statistics Canada, previous studies and reports on the industry and from various farm machinery publications and journals. Appendix II illustrates the guidelines used by the study team in conducting the manufacturers' interviews.

EXHIBIT 1(A)

SUPPLIERS TO THE FARM MACHINERY INDUSTRY INTERVIEWED

D.A.W. Steel Products Ltd.
St. Boniface, Manitoba

Matthews Mechanical Ltd.
Winnipeg, Manitoba

Canadian Tool & Die Works Ltd.
Winnipeg, Manitoba

Monarch Industries Ltd.
Winnipeg, Manitoba

Canadian Rogers Western Ltd.
Winnipeg, Manitoba

James B. Carter Ltd.
Winnipeg, Manitoba

EXHIBIT 1(B)

MANITOBA FARM MACHINERY MANUFACTURERS INTERVIEWED

Agristeel Limited
Minnedosa, Manitoba

Allied Farm Equipment (Manitoba) Ltd.
Winnipeg Manufacturing Division
Winnipeg, Manitoba

Canadian Co-operative Implements Limited
Winnipeg, Manitoba

Inland Steel & Forgings Ltd.
Winnipeg, Manitoba

Kendon Manufacturing Ltd.
(Subsidiary of Versatile Mfg. Ltd.
Winnipeg)
Winnipeg, Manitoba

Killbery Industries (1971) Ltd.
Winnipeg, Manitoba

Standard Gas Engine Works (Morden) Ltd.
Morden, Manitoba

Versatile Manufacturing Ltd.
Winnipeg, Manitoba

EXHIBIT 1(C)

SASKATCHEWAN FARM MACHINERY MANUFACTURERS INTERVIEWED

Crown Manufacturers Ltd.
Regina

Fibro Industries Ltd.
Regina

Mel - Cann Industries Ltd.
Imperial

Smith - Roles Ltd.
Saskatoon

Univision Industries Ltd.
Biggar

Bussiere, R. & Sons Rock-o-Matic Ltd.
Vonda

Rem Mfg. Ltd.
Swift Current

Leon's Manufacturing Co. Ltd.
Yorkton

Morris Rod - Weeder Co. Ltd.
Yorkton

Degelman Industries Ltd.
Regina

Sakundiak Farm Equipment Ltd.
Regina

Anderson Manufacturing Ltd.
Southey

EXHIBIT 1(D)

ALBERTA FARM MACHINERY MANUFACTURERS INTERVIEWED

Four Seasons Manufacturing Co. Ltd.
Edmonton & Calgary

Easy-On Manufacturing Co.
Vegreville

Edwards Rod - Weeder
Lethbridge

Kirchener Machine Co. Ltd.
Lethbridge

EXHIBIT 1(E)

MAJOR FARM MACHINERY MANUFACTURERS INTERVIEWED

International Harvester Company
of Canada Ltd.
Hamilton, Ontario

John Deere Ltd.
Hamilton, Ontario

White-Cockshutt Farm Equipment
Brantford, Ontario

Massey Ferguson Industries Ltd.
Toronto, Ontario

SUMMARY OBSERVATIONS AND CONCLUSIONS

1. The prairie provinces and northern prairie states have traditionally been a major market area for farm machines in North America. Prospects for a considerably higher and more stable level of farm income in the region indicate increased and more stable sales of farm machinery in the foreseeable future.

2. The most interesting opportunities for expansion of the industry appear to be in the area of dry land tillage and seeding machines of the type and size which are unique to the prairie grain belt and which are becoming increasingly popular in the more northern and western sectors of the United States Corn Belt.

3. The trend in the major full line companies appears to be to concentrate on the development and manufacture of the more sophisticated high value machines - tractors, combines, balers and forage harvesters - and to complete their product lines particularly in the area of tillage tools, by purchase from regional short-line manufacturers. Sales to the major full line companies appear, therefore, to offer a good volume market for farm machinery manufacturers in the prairie provinces.

4. Currently the most serious problem in the entire industry in North America is the supply of raw materials, especially castings and steel in all forms. The situation is particularly serious for small and relatively new manufacturers who do not have well established supply connections.

5. Expansion of the industry in the area of whole goods manufacture will require a parallel expansion of ancillary industries; for example, production machine shops, metal forming and stamping, etc. This whole area should be the subject of a detailed opportunity study.

6. Marketing currently presents few problems. Prairie manufacturers can now sell more than they can produce. In the long term the greatest opportunity for market expansion is in the West Central region of the United States. Sales to full line companies and/or through well established machinery wholesale distributors would appear to provide the best opportunity for volume distribution/marketing within and outside the region.

7. The limited and very seasonal product line produced by most prairie manufacturers often results in rather low plant utilization and extreme variation in labour requirements throughout the year. Manufacturers should be encouraged to broaden their product lines in a selective manner or to amalgamate with other short-line companies in an effort to correct this situation.

8. There appears to be an excessive number of manufacturers of certain products - example - rock pickers, front end loaders, etc., with a resulting high degree of competition in the regional market and little opportunity to utilize any economies of scale in production. New firms wishing to manufacture such products should not be encouraged by government.

9. Manufacturing firms located in the prairie region can produce machinery competitively, provided the raw materials are available and sufficient manpower can be attracted to the industry.

10. Economies of scale do not adversely affect the prairie industry since most firms are assembly type operations manufacturing relatively unsophisticated products.

11. Inventory financing and financing for capital expansion have been problems for the industry because of the type of ownership which prevails in the industry and the lack of confidence shown by the financial community in assisting most short-liners. Firms should be encouraged to amalgamate and to go public whenever possible to help alleviate this situation; but caution should be exercised regarding foreign takeovers.

12. There is a real fear that the industry will expand into the United States rather than within the prairie provinces. This is due to many factors including:

(a) The lack of tariffs on machinery or unequal reciprocal tariffs on component parts.

(b) Attractive incentives offered in the northern border states.

(c) A desire to expand markets into the United States, where a somewhat nationalistic attitude towards buying equipment apparently prevails at the retail level.

13. Research, development and testing are of importance

to the future of the industry in this region and should be encouraged through the various research councils and universities, which are already involved in assisting the industry.

14. Present federal and provincial programs for research and development are useful to the industry and need only be expanded or improved in certain areas.

15. The lack of managerial, marketing and technical personnel is a real problem. New manpower programs could help to alleviate this problem.

16. Certain refinements are needed to present federal manpower training programs if they are to maximize their impact on prairie farm machinery manufacturers.

17. It is important that the industry be represented by a strong trade association, and the Canadian Farm and Industrial Equipment Institute, pending certain changes, appears best suited for this purpose.

18. The repair and servicing aspect of the industry does not affect the prairie manufacturer to the degree it does the major manufacturers. This whole problem, however, is a consideration for future study in conjunction with the provinces.

MARKETING AND DISTRIBUTION

THE MARKET AREA

A volume market within economical shipping distances from the producing factory is basic to the profitable manufacture and marketing of any product.

The prairie provinces are a part of a high volume market area for farm machines and equipment of a type and size which is unique in the North American and, in effect, on the World Market. In the past this area has generally been referred to as the "Prairie Wheat Belt" -- the Canadian prairie provinces and the U.S. prairie states, Montana, North and South Dakota, Minnesota, Nebraska, Kansas and Wyoming. The main crop in the area has been wheat plus a considerable acreage of barley. Approximately 75% of the total North American production of wheat and barley is in this area.

Farms are large and farming is done on an extensive rather than an intensive basis. In most years moisture is the critical factor in crop production. Over the years, however, a package of cultural practices and machines has been developed for soil and moisture conservation and to maximize the utilization of available moisture. These cultural practices and machines are unique to the area and are quite different to those used in eastern Canada and in the eastern and southern states in U.S.A.

Tillage is mainly of a non-soil inversion, soil stirring, surface mulch type using chisel plows, heavy duty tined

cultivators and one-way disc harrows rather than the combination of mouldboard ploughs and tandem disc harrows commonly used in the higher rainfall areas in the east. Seeding is by one-way disc seeders or by press wheel drills rather than by end wheel drills as commonly used in all other areas worldwide.

In the past, therefore, the main market for Western Canadian farm machinery manufacturers has been for minimum tillage types of tillage and seeding machines in large sizes and for harvesting and grain handling equipment associated with the production of small grains in the Canadian and U.S. prairie provinces and states.

In recent years these minimum tillage practices and machines have been adopted to a considerable extent in the northern and western areas of the United States Corn Belt and particularly in Iowa, Illinois and Wisconsin. The size of individual farming operations has also increased significantly in these states with the result that they have now become a major market for high H.P. tractors and big machines of the same type as used in the prairie wheat belt.

Sales of tractors within specific H.P. ranges is one of the best indicators of trends in production practices within an area. The map (Exhibit 2) shows sales (1971) of tractors in the over 90 HP class and the percentage of sales in this class relative to total sales in selected provinces and states in Canada and U.S.A.

The demand for big tractors and particularly for units

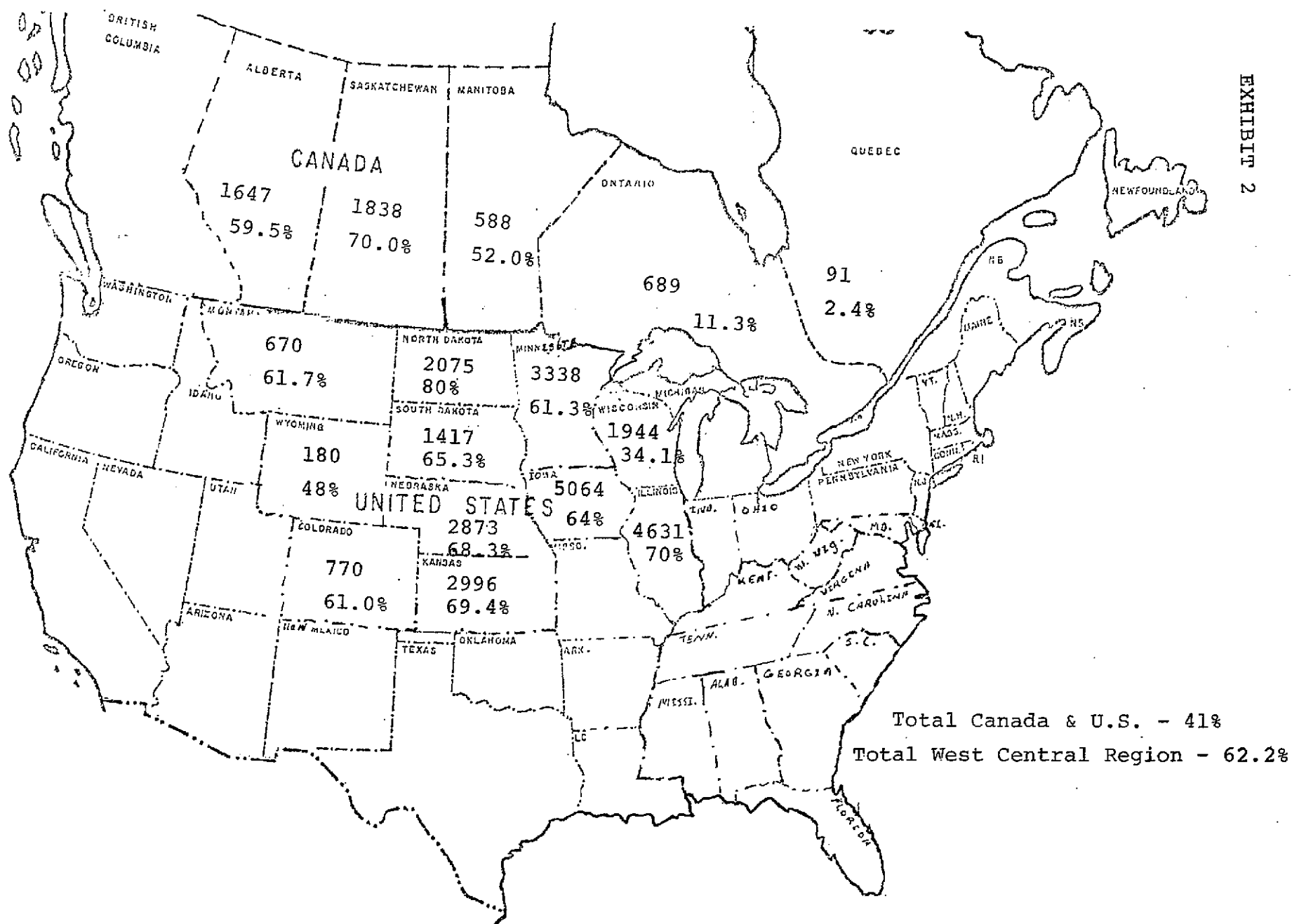


Fig.2 - Retail Sales of Agricultural Wheeled Tractors; 90 HP and over (1971) and percentage of total sales in this class by states and provinces.

in the over 100 HP class has also increased dramatically in recent years as shown in Exhibit 3:

<u>YEAR</u>	<u>Tractors over 100 HP % of TOTAL TRACTORS PRODUCED (U.S.)</u>
1967	8.3
1968	11.3
1969	10.0
1970	13.3
1971	21.9
1972	29.3

Exhibit 3 - U.S. Production of Wheel Tractors over 100 HP - % of total production.

By far the major part of this increase has occurred in the Prairie Provinces and States and in the Western and Northern areas of the U.S. Corn Belt.

The demand for big implements and particularly for tillage and seeding machines has also increased in direct proportion to the increased sales of big tractors. This has not been the case in the past. Previously, when a farmer replaced his tractor with a model of slightly higher HP, he generally did not replace his implements as well. Recently, however, the trend has been to replace 1 or 2 tractors in the under 90 HP class with a single unit of over 150 HP. This requires that the farmer replace his smaller implements with larger machines suitable for operation with these big tractors. The development and manufacture of big implements,

however, has not kept pace with the development of high HP tractors.

The demand for these particular types of implements and in large sizes is concentrated in the West Central power belt; also as will be discussed later in this report, full line farm machinery manufacturers are tending to become less interested in the development and manufacture of implements.

It appears, therefore, that the market area which presents the greatest opportunity for farm machinery manufacturers in the prairie provinces is the West Central region of the United States and Canada as is shown on the map in Exhibit 2.

Trends in Agriculture in the Area

Cash receipts from farm marketing are at an all time high in both Canada and U.S.A. Net farm incomes are also at an all time high in U.S.A. In Canada net farm income has not reached the peak level recorded in 1966 but since the low level of 1969 it has recovered at a rate of approximately 15% annually. Increases in cash receipts and in net farm income has also been most pronounced in the western grain and livestock producing areas. One cannot expect that the recent phenomenal increases in farm income will continue indefinitely. It is generally agreed, however, that levels somewhat higher than those reached in 1972 will be maintained in the foreseeable future. Traditionally, rates of increase in the sale of farm

machinery have exceeded the rate of increase in farm income.

The total area of cultivated land in the West Central region has remained relatively static in recent years and can be expected to remain so in the future. The area cropped annually, however, is increasing considerably; first, because of the relaxing of production controls in the U.S. and secondly, because of a marked decrease in the practice of summer fallowing. This results from the increased use of chemical herbicides and also because of the favourable moisture conditions experienced in the area in recent years.

There is a continuing trend to larger farm operating units. What is probably of increased significance to the farm machinery industry is the trend towards the increase in custom hiring and leasing of farm machines.

There is also a definite trend to more intensive farming and greater use of fertilizers, herbicides and pesticides with resulting increased production per acre.

The increased demand for high protein feed supplements has resulted in a major increase in soya bean acreage in the Corn Belt. It is not expected that the total acreage of corn in the region will decrease, however, but rather as more fast maturing varieties are developed, corn will become an important crop in the more northerly areas of the region.

Although current wheat prices make the production of this crop very attractive, wheat acreage can be expected to decrease to some extent as there is a definite trend to diversification.

of farm production in the region and particularly to increased livestock production. This will require an increase in the acreage devoted to hay and forage with a resulting significant increase in the market for machines to handle this crop and for livestock handling equipment in general. The acreage of other oilseed crops such as rape, sunflower and sesame is also expected to continue to increase.

From the standpoint of future machine requirements, and particularly requirements for various types and sizes of tillage and seeding machines used, it is not considered that these changes in cropping patterns in the region are very significant since because of the climatic and soil conditions and the size of farming operations, it is not anticipated that in the foreseeable future there will be any major change in basic cultural practices and machines currently used in the region.

Trends in the Farm Machinery Industry in North America

There have been some significant changes in the farm machinery industry in recent years. An appreciation of these trends is important to a better understanding of the extent and manner in which the industry might expand in the prairie provinces. The most important trends would appear to be as follows:

1. The policy of the major companies of maintaining a full line image. This basic policy appears to be firmly

established with the major full line companies. Also important companies who previously had rather limited product lines such as Ford and New Holland have significantly expanded the product lines which they market, either by buying out established companies or by purchasing machines from short-line manufacturers.

2. The trend of the full line companies, most of whom manufacture and market on a multinational basis, to concentrate on the development and manufacture of the more sophisticated high value machines - tractors, combines, bales and forage harvesters - for which more or less standard designs are acceptable in a number of markets worldwide, and to complete their line particularly in the area of tillage tools by purchase from local specialized short-line manufacturers. No major full line company in North America has established a new implement manufacturing facility in recent years. On the contrary, a considerable number of such plants owned and operated by full line companies have been closed down.

3. The trend toward assembly of machines at the producing factory and the shipment of these machines to dealers in a complete or nearly complete assembled condition. This has resulted mainly from the following: (a) problems associated with shortages in shipments of unassembled machines; (b) problems of incorrect assembly and adjustment of machines at the dealer level with resulting high warranty and service costs; (c) lack of competent labour to assemble machines at the dealer level.

Shipment of machines in a completely assembled form in most cases results in increased shipping costs, thus an additional incentive to produce machines on a more regional basis is provided.

4. The trend towards fewer but larger dealers. This has resulted mainly from the fact that a dealer must have available rather sophisticated and costly test and repair equipment and well-trained service personnel in order to properly service modern machines - particularly tractors. A small dealer cannot afford the investment required to provide this service.

An important advantage of larger dealers is also their ability to order machines in full carload lots direct from the producing factory with resulting lower shipping costs.

5. The emergence of rather large wholesale distributing companies. These distributors have provided the main marketing channel for short-line manufacturers.

6. The emergence of a number of ancillary industries in the prairie provinces - production machine shops, production sheet metal forming and stamping firms, etc. Such ancillary industries are essential to the establishment of efficient O.E.M. plants. This subject is further elaborated on in the section of the report covering raw materials and components supply.

THE PRODUCT

It would appear that future expansion of the farm machinery industry in the prairie provinces should be based on machines and equipment which have a volume market in the West Central region as defined on the map (Exhibit 2). Particular consideration should be given to machines of a type and size which are unique to this region and which therefore are less interesting from a home market standpoint to potential competitive manufacturers in eastern Canada and the eastern and southern areas in the United States.

It was not within the scope of this study to research in detail the market for different types and sizes of farm machines within the region. Exhibit 4 lists machines for which a significant percentage of total Canadian and U.S. sales is within the West Central region. Any machine for which over 50% of total sales are in this region should provide interesting possibilities for manufacturers in the prairie provinces.

The unit volumes shown have been derived from Canadian and U.S. statistics for 1971 (the latest published figures), and from FIEI reports. It will be noted that unit sales are shown only in "round figures" and they are meant to serve only as a guide to the potential sales volumes of selected machines. The figures showing the percentage of total sales in the West Central region are estimates based on discussions with machinery manufacturers and distributors and others who are familiar with the farm machinery trade in North America.

EXHIBIT 4

MACHINES	TOTAL MARKET US & CANADA (UNITS APPROX)	WEST CENTRAL REGION % OF TOTAL US & CANADA (ESTIMATED)
<u>Tillage Machines</u>		
Chisel plows	16,000	80
Field cultivators	20,500	50
One-way disc harrows (incl. discers)	4,000	95
Offset disc harrows	8,000	30
Tandem disc harrows	55,000	35
Rod weeders	3,000	100
Soil packers and pulverizers	10,000	70
Wheel type folding drawbars	10,000	70
<u>Seeding Machines</u>		
Grain drills - press wheel type	7,000	90
Seeding attachments for one-way discs	1,800	100
Fert. attachments for drills & discers	6,000	90
<u>Grain Harvesting</u>		
Combines	25,000	70
Swathers and windrowers	12,000	77
Pick up attachments for combines	6,000	80
Straw chopper attachments for combines	2,500	75
<u>Hay Harvesting</u>		
Balers	37,000	35
Bale elevators	18,000	20
Stacker attachments for front end loaders	4,000	95
Stack movers	1,500	95
Forage harvesters	17,000	45
<u>Miscellaneous Equipment</u>		
Metal grain bins	Not available	
Augers for grain & fertilizer	100,000	60
Wagon gears - 4 tons and over	50,000	35
Grain boxes for wagons & trucks	20,000	40
Portable grinder mixers	20,000	50
Tractor front end loaders	35,000	40
Blades - front & rear mtd.	40,000	30
Manure spreaders - over 130 bu.	23,000	30
Rock pickers	3,000	50

Exhibit 4 - Major Volume Machines in the West Central
Market Area

POLICIES AND PROCEDURES

Manufacturers of farm machinery in the prairie provinces utilize all the marketing and distribution methods which are traditional to the industry in North America. The main characteristics of each of these methods, the advantages and disadvantages of each, and the extent to which each is used by prairie manufacturers may be summarized as follows:

1. As suppliers to major full line companies

This method is being utilized to an ever increasing degree particularly in the area of tillage, seeding and fertilizing equipment. As noted previously, the trend in full line companies is to discontinue the development and manufacture of this class of equipment and particularly of machine types for which the demand is restricted to a specific region. The major full line companies are actively searching for regional manufacturers capable of developing and manufacturing such products to the standards of design and quality control which they have established for products manufactured in their own factories.

Several important contracts have been made by full line companies with prairie manufacturers for the manufacture of machines to their specifications. In these agreements, the prairie manufacturer does not participate in any way in the design of the machine. In most cases, however, full line companies prefer to purchase completely developed and proven machines thus eliminating their development costs.

The trend appears to be towards this latter approach because development costs are usually significantly lower when done by a small company and because the design of certain machine components must be governed by the manufacturing processes and facilities available. It will no doubt require that prairie manufacturers expand their research and development facilities to a level somewhat higher than currently exists.

Most contracts with the majors are not on an exclusive basis. For example, Kilbery Industries is currently supplying swathers of the same basic design to 3 different full line companies. To provide some degree of identification, the major company usually requests some slight change in sheet metal or purchased components be made and, of course, the machine is provided in the colour of the purchasing company.

This method of marketing has many advantages for the medium size short-line manufacturer:

(a) His marketing expenses are minimal, thus significantly lowering his working capital requirements. The purchaser also prepares and prints all advertising material, operator manuals, parts books, price lists, etc.; thus relieving the manufacturer of this expense. They also are responsible for all field service on machines.

(b) Contracts are normally made for three year periods and for minimum annual quantities. Delivery schedules for

each year are established at least three months before the first deliveries are required, and this permits the manufacturer to order materials and schedule production in an orderly and economic way.

(c) The purchasing companies often provide the small manufacturer with considerable assistance particularly in the area of quality control. In practically all cases they subject the machine to static laboratory tests and accelerated track tests at their own test facilities, and to extensive field tests before the contract is finalized. These tests are usually more extensive than small manufacturers could afford on their own and often result in improvements to the design and construction of the machine. This in turn improves the performance and reliability of the machine and results in lower warranty costs.

(d) Payment is assured and prompt - usually within 90 days after shipment of the goods.

(e) Prices are negotiated on a price per machine basis for the total minimum number of machines contracted for annually. Usually there is a provision for adjustment relative to increased costs of materials and labour over the term of the contract. The FOB factory price to the purchaser usually works out to the equivalent of from 40 - 50% off the suggested retail price of the machine.

Sale to full line machinery companies appears to be one of the most interesting market outlets for short-line

manufacturers in the prairie provinces. The opportunities to market in this manner are increasing significantly. It must be remembered, however, that the product lines for which there is the largest demand by full line companies to source under contract is basically limited to swathers, tillage, seeding and fertilizing machines and specialized miscellaneous equipment such as front end loaders, dozer blades, wagons, etc.

2. Through regional wholesale farm machinery distributors

There are a number of well established distributors of this type in the West Central region of the U.S. and Canada. Their entire business is based on sales of short-liners' products to dealers within their operating region. In the overall North American market the major part of short-line production is marketed through such distributors. In Western Canada major distributors cover at least two provinces. U.S. distributors usually cover at least three states. In most cases they demand exclusive distribution of a product in the area they serve.

The standard distributor's discount is 40% off the agreed to suggested list price, FOB factory. In some cases manufacturers provide additional discounts of up to 45% for early orders and volume purchases. It is standard practice for the manufacturers to prepare, print and supply all operators and service manuals, parts books, advertising material and price lists. He is usually also expected to provide a considerable amount of back-up service to the distributor and

to cover regional and national advertising costs.

Normally distributors do not enter into a contract with manufacturers for any specified time period or for a minimum number of machines. In most cases the manufacturer requests the distributor to provide him with an estimate of his requirements approximately six months in advance of the selling season; however, he is seldom supplied with a definite shipping schedule, and in practice, distributors' orders are often placed on a "ship the day before yesterday" basis. It is accordingly much more difficult for a manufacturer to schedule his production and in practice he must provide for a considerable inventory of finished machines to satisfy such a customer's requirements.

The distributors' main sales outlet is to full line dealers who do not have available from their main suppliers the particular type or size of machine required in the area. Distributors' discounts to dealers vary considerably between machines but are normally in the order of 20% off list with often an additional 5% off for prompt payment. Terms of payment vary widely, but standard terms are 30 days from date of shipment. Terms can go up to 120 days in some instances, however.

Wholesale distributors provide a good marketing channel particularly for the following types of manufacturers and products:

- (a) for products with a limited area of application.

(b) for lower priced machines which, from a total dollar volume standpoint, are not interesting to full line companies.

(c) for products which do not seriously compete with those marketed by the major full line companies.

(d) for the relatively new and smaller manufacturers who do not have the capacity to supply full line companies and also do not have the ability or the financial resources to sell direct to dealers over a wide geographical area.

In summary, wholesale distributors probably provide the best method of marketing for small companies and particularly for new manufacturers in the industry. There are currently a sufficient number of well established distributors in both the U.S. and Canada to serve the needs of an expanded farm machinery industry in the prairie provinces.

3. Through hardware, automotive supply and farm supply chain stores and state or regional cooperatives

A number of chain and regional cooperative stores have become more active in the farm equipment supply field in recent years. This is particularly the case in the West Central region of the U.S. and Canada where the farm trade is of major importance. These outlets have been most successful in the area of farmstead equipment - pumps, livestock and poultry feeding and watering equipment, cement mixers, etc. - and for equipment for which very little after-sales service is required. A significant volume of this type of equipment is, however, manufactured in the prairie provinces and with the trend to diversification into dairy and livestock production

this market is expanding. Chain marketing organizations can be an important marketing channel for this type of equipment.

4. By manufacturer direct to dealers

This is the way most small manufacturers initially start off. Many manufacturers in the prairie provinces started as farm machinery dealers who, as a result of their repair shop facilities, started to manufacture one or two simple machines that were sold to farmers in the immediate area. As demand increased, they began supplying other dealers but again only within a limited area and with virtually no sales effort or cost.

A number of small manufacturers still operate on this basis. The evolution from such a start usually involves the small manufacturer adding the purchased products of other manufacturers to his line so that his business becomes more like that of a distributor than a manufacturer. This expansion permits him to hire field sales personnel and results in greater area coverage and increased sales for his own manufactured products.

On the other hand, one of the largest volume producers of farm equipment in the prairie provinces, Versatile Mfg., has always followed a policy of selling direct to dealers over a large geographical area in Canada and U.S. Versatile is, however, rather unique in the North American industry in this regard. Under this method of distribution, marketing costs are more or less fixed irrespective of sales volume.

In periods of good sales marketing costs, as a percentage of the selling price, are quite low, but in years of poor sales these fixed marketing costs can absorb a large part of one's profit.

Experience in the industry over the years indicates that a policy of selling direct to dealers is most useful at the extreme two ends of the marketing spectrum, that is (a) for small manufacturers with a limited product line and marketing only within a limited area and (b) for large full line companies with a broad product line who market their products on a national or multi-national basis.

5. Direct to farmer customers through manufacturers' company-owned stores

Most of the full line companies operate some retail company-owned stores. Basically, however, their policy in this regard is only to establish company-owned retail outlets in areas with significant sales potential, where traditionally the company has not had good market penetration and where they find it difficult or impossible to locate a good dealer. Their objective is to build up sales volume in the area to a level where it will be attractive to a private dealer, and when such a dealer is located to turn the business over to him. Invariably the company-owned stores section in the marketing division of any full line company operates at a loss.

Canadian Cooperative Implements Ltd. are unique in this regard. This company, cooperatively owned by farmer share-

holders in Western Canada, manufacture in their plant at Winnipeg a line of machines - chisel plows, heavy duty field cultivators, discers and swathers - for which there is a major demand in the prairie provinces. They also partially assemble and market a line of tractors imported from Western Europe. Their production is marketed direct to farmers through wholly-owned co-op implement sales and through service centres located throughout the prairie provinces. Although it is not classified as a competitor by the major manufacturers, it is one of the largest volume producers in the area and is able to operate on a profitable basis by selling direct to farmers at prices considerably below those of competitive machines. It probably offers the best example of how distribution costs can be reduced in the farm machinery industry through local production and by utilizing a direct sales channel between the factory and the farmer.

6. Through manufacturers' agents

A manufacturer's agent is in effect a commission salesman representing a number of manufacturers of both whole goods and component parts. They normally sell only to wholesale distributors or to full line companies. They collect no salary or travelling expenses from the companies they represent and are compensated by straight commission which varies between 3 and 5% based on the FOB factory wholesale price of the goods sold. In practice they normally limit their activities to a broad but distinct class of products, for example, farm machines

and component parts of same. They normally will represent only one manufacturer of a specific machine within a broad product line.

In presenting his products to potential volume wholesale customers, the small manufacturer in effect has three alternatives as follows:

(a) Survey all potential wholesale market outlets for his product and personally visit and present his product to them. The problem here is that many small manufacturers are only familiar with product requirements and distribution opportunities within the rather restricted area in which they are located. Also, unfortunately in most cases, they are not good salesmen.

(b) Hire a marketing manager/salesman to plan and execute the marketing of his products. Reimbursement for such a man is usually on the basis of a fixed salary plus expenses with a percentage bonus on all sales over a certain level. This alternative presents two problems. First it is very difficult to find men with the experience and stature to deal with high level executives of full line companies and large wholesale distributors. Secondly, the salary level demanded by such people is usually high relative to current level of sales for small developing companies and cannot be economically justified until sales volumes are increased. In the long term, however, and particularly for companies who are eager to expand, this is usually the best policy.

(c) Select a manufacturer's agent who specializes in the type of equipment you are selling. The important point here is that manufacturers' agents are "professional marketers" as distinct from "salesmen". They have well established relations with key personnel in the full line companies and with major full line distributors. They are familiar with competitive product lines and with all contract and supply procedures in the industry. Above all, they are good salesmen.

They contribute to a significant degree to the marketing function in the overall industry and are particularly useful to small industries who cannot justify the cost of the marketing staff which they require.

Currently, with the present sales levels, the marketing function does not present any major problems, but in the long run, it is suggested that assistance and guidance in the following areas would be useful:

(a) Market research - particularly in the West Central region for the type and size of equipment which is unique to this region.

(b) The compilation and continual updating of a directory of full line manufacturers and wholesale machine distributors in the region including the names of the key product merchandizing and purchasing personnel in each company and in the case of wholesale distributors the market area they cover and the manufacturers they represent.

(c) Providing financial assistance to manufacturers to exhibit their products at major trade shows particularly in the West Central region of the U.S. Because of the somewhat nationalistic attitude particularly at the retail level in U.S., it is suggested that these exhibits be on an individual company or at most on a limited group basis rather than on a provincial or Western Canadian basis.

(d) Assistance in the form of partial reimbursement of travel expenses entailed by manufacturers in marketing their products in the U.S.

With regard to market research and the compilation of trade directories, it would appear that these functions could be best performed by the Canadian Farm and Industrial Equipment Institute (CFIEI) as is done in the U.S. by the "Farm and Industrial Equipment Institute" (FIEI). To date, however, the effectiveness of trade associations in the Canadian farm machinery industry has been diluted and hampered particularly from a financial standpoint by the existence of 2 associations namely CFIEI and PIMA (Prairie Implement Manufacturers Association). It is suggested that CFIEI should be supported so they could better serve the industry and in effect that they become the Canadian spokesman for the industry. PIMA could well become the "prairie section" of the CFIEI.

MANUFACTURING CONSIDERATIONS

The farm machinery manufacturing industry has shown steady growth over the past ten years in the prairie region. Many factors have influenced the rate of growth in the industry over that period, but, of course, the most predominant factor has been farm income. Farm income and value of output have a direct relationship over this period as can be seen in Exhibit V. While the growth has been somewhat erratic, the overall ten year growth record in all the provinces has been encouraging as is shown in Exhibit VI. The year 1972 was a recovery year for the industry after the prairie economic slump of 1970 and 1971 as can be seen in Exhibit VII. The year 1973 has every indication of being a record year where production will probably reach an all time high. According to published statistics, the province of Manitoba accounted for in excess of 68 percent of the total prairie production in 1971. The physical make up of the industry in each of the prairie provinces is quite different. Manitoba's industry is dominated by two large firms, Versatile Manufacturing Co. Ltd. and Co-op Implements, while in general the Saskatchewan firms are much smaller in size, but larger in number. In addition to farm income the study team found the following factors influenced the degree of manufacturing activity in the prairies although not necessarily in the order outlined.

1. The trend of the major farm implement manufacturers

EXHIBIT V FARM INCOME VS VALUE OF PRODUCTION 1961-1971

EXHIBIT 5

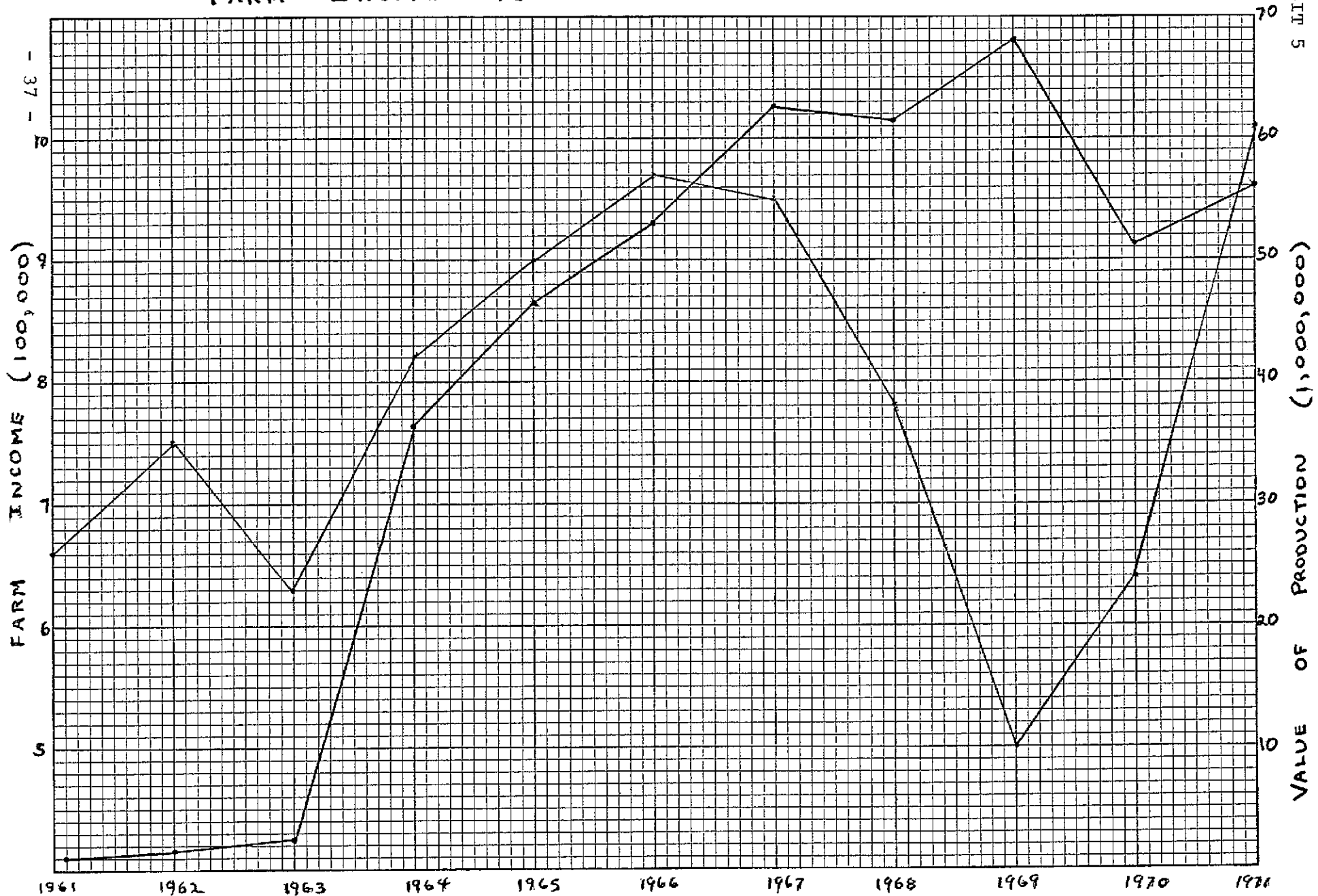


EXHIBIT 6

GROWTH OF VALUE OF OUTPUT (\$)

<u>YEAR</u>	<u>MANITOBA</u>	<u>SASKATCHEWAN</u>	<u>ALBERTA</u>
1961	3,732,022	765,043	1,130,818
1962	11,688,000	2,045,000	3,336,000
1963	17,982,000	2,761,000	4,352,000
1964	25,019,000	3,418,000	7,057,000
1965	31,385,000	4,718,000	10,359,000
1966	40,002,000	5,598,000	7,403,000
1967	48,244,000	7,552,000	6,938,000
1968	45,271,000	9,763,000	6,465,000
1969	51,240,000	9,160,000	7,532,000
1970	38,795,000	7,584,000	5,053,000
1971	36,666,000	11,992,000	7,391,000

EXHIBIT 7(a)

FARM IMPLEMENT SALES FOR 1969-1972 (\$)

<u>YEAR</u>	<u>MANITOBA</u>	<u>SASKATCHEWAN</u>	<u>ALBERTA</u>
1969	41,144,869	82,331,918	84,342,040
1970	34,817,782	64,255,702	62,872,688
1971	37,571,372	88,449,311	82,308,382
1972	45,892,000	119,352,000	103,381,000

EXHIBIT 7(b)

ESTIMATED FARM IMPLEMENT AND EQUIPMENT SALES BY PROVINCE
(\$1,000)

	<u>Total All Machines</u> <u>(incl. repair parts)</u>			<u>Repair Parts</u>		
	<u>1971</u>	<u>1972</u>	<u>Change %</u>	<u>1971</u>	<u>1972</u>	<u>Change %</u>
Canada	402,978	507,230	+25.9	76,813	88,679	+15.4
Atlantic Provinces	13,762	14,416	+ 4.8	3,984	4,147	+ 4.1
Quebec	56,912	69,705	+22.5	11,386	13,209	+16.0
Ontario	110,802	136,650	+23.3	20,747	22,376	+ 7.9
Manitoba	37,571	45,892	+22.1	6,835	8,187	+19.8
Sask.	88,449	119,353	+34.9	16,552	19,505	+17.8
Alberta	82,309	103,381	+25.6	13,951	16,712	+19.8
B. C.	13,173	17,833	+35.4	3,358	4,543	+35.3

towards having shortliners produce certain product lines.

2. Availability of capital for expansion.
3. Manpower availability.
4. Management capabilities.

In addition to the above, raw material availability is now an immediate concern.

A now apparent problem in the industry results from the fact that there are a large number of small firms manufacturing one type of machine. This has resulted in a fragmented market to the point where there is not a sufficient market to permit any degree of volume production. This problem is illustrated in the following examples:

<u>Type of Machine</u>	<u>Manufacturers in Manitoba, Saskatchewan, Alberta *</u>
Wheeled drawbars	24
Augers for grain and fertilizer	18
Rock pickers	15
Bale stokers and bunchers	13
Tractor front end loaders	12

* As listed in various trade journals

As a result of this, it can be anticipated that a number of firms manufacturing the above products will not survive in the future. Accordingly, the study team recommends that the Department of Regional Economic Expansion exercise caution in awarding grants to new firms wishing to manufacture any of the above products.

The machinery industry in the prairie provinces is also characterized by the limited number of product lines produced in any one factory. The tendency has been for each producer to specialize in a distinct class of machine - i.e., tillage tools, haying machinery or machines and equipment associated with grain handling. Sales of each of these separate classes of machines is very seasonal. Labour requirements in a plant producing only one class of machine also tends to be seasonal with acute peak periods. It is felt that it would be desirable to promote diversification of production within plants and also to promote the amalgamation of companies producing different classes of machines. It is suggested the department encourage any incentives applications it receives in this regard.

There are several new and well planned farm machinery manufacturing plants in the prairie provinces, i.e., Versatile and Co-op Implements. These, however, are exceptions to the industry in general. Most plants in the region have expanded in several stages from the base of a local machinery repair shop and often consist of several separate buildings. This results in a difficult and costly production flow and hampers efficient and economical production, particularly under the severe climatic conditions encountered in the areas. Many of these plants are also located in or near the centres of towns and have little room for expansion. They often violate current zoning regulations and, as a result, a number of expanding companies are now in the process of planning new

facilities. A basic decision in this regard involves the selection of a new site. The incentives offered by the northern states has a major influence on this decision and we will discuss this in more depth in a latter section of this report. In summary, it is strongly recommended that the department encourage applicants in this industry to modernize their facilities to the maximum extent possible.

The various cost components of manufacturing have been analyzed for the industry and the study team's findings on how these influence the industry are as follows.

PRODUCTION COSTS

It is difficult to get a definitive grasp on just how the manufacturing or production costs of the shortliner compare with those of the major manufacturer. While it might be said that the shortliners production costs are somewhat less for certain unsophisticated equipment such as tillage equipment and grain handling equipment, it is not reasonable to view manufacturing costs as distinct from overhead costs. The shortliner keeps production costs down by having a significantly lower overhead than the major manufacturer, rather than by having lower manufacturing costs. The prairie shortliner is really an assembler and utilizes mostly component parts in his operation. He can, however, attain certain economies of scale through buying from specialized producers. The metal fabrication part of an assembly operation is relatively simple and because the shortliner's labour costs are usually lower than his larger counterpart's, his production costs can be competitive for certain products. While productivity and efficiency are very hard to measure, in the final analysis it must be said that the industry on the prairies is competitive in manufacturing its present product lines.

The industry does confess to being in need of assistance to increase its productivity and efficiency. The biggest problem lies in the fact that all too often good managerial and supervisory techniques are not utilized. Productivity

might also be increased through assistance in plant layout and design. These factors will become crucial in the near future to several companies which were recently interviewed. It is recommended by the study team that the province and the federal government explore ways of making suitable personnel available to the industry for consultation in these areas. The study team suggests that the existent research councils in each of the provinces be approached as a possible vehicle for implementing this program and that they be given financial support in order to undertake this work. The amount of support required would be negotiated with the appropriate councils through the provincial governments. The Saskatchewan and Alberta councils already have a good base in this area and probably require only small inputs. In Manitoba the most appropriate vehicle to be used is not so evident and should be investigated further.

MANPOWER AVAILABILITY AND LABOUR CONSIDERATIONS

During the course of the survey, it was found that most manufacturers had a growing concern about manpower problems. The problems appear to be most acute in rural Manitoba where the lure of Winnipeg and the availability of similar employment with larger manufacturers results in an unusually high turnover amongst the existent rural producers and correspondingly results in excessive training costs. There is no easy solution to this problem as it reflects the socio-economic evolution of the province. Several rural Manitoba firms interviewed had taken great pains to enhance employee job satisfaction but this has not proven all that effective in reducing their turnover rates. Labour availability, however, was also a problem in Winnipeg, especially with regard to welders and machinists. Competition from the high paying jobs available in the construction industry and the present buoyant economic conditions of the farm sector have been forces behind this. Many farm type employees are not finding it necessary to secure additional casual employment at this time, and this has aggravated the situation. It should be noted that while this may be a short term problem, it does reflect the instability of the labour force from which Manitoba manufacturers must draw upon.

The greatest problem encountered by the Saskatchewan and Alberta firms was regarding supervisory and managerial personnel. This can probably be attributed to the fact that most of the

shortline industry is already concentrated in the rural areas of these provinces and not in the large cities as is the case in Manitoba.

It appears that more flexibility is required amongst present manpower programs within the federal government to allow for more appropriate timing of their implementation. Often, existent programs start in the middle of production cycles, and it would be more beneficial if these programs were timed to coincide with these cycles. None of the firms interviewed had utilized the federal manpower mobility programs, but we could not confirm whether this can be attributed to a general lack of suitable personnel in all parts of Canada. Community colleges and other educational institutes are turning out a good number of graduates but the most important vehicle used in training is still on-the-job experience. The study team recommends that DREE undertake negotiations with the federal Department of Manpower and Immigration to discuss possible changes to that department's existent programs that might result in greater benefits to the industry. This will probably involve only minor changes to existent manpower programs and would likely result in little additional cost to that federal department. A way should also be found to circumvent the problem which often exists after a trainee has completed one of these on-the-job training programs. Under present manpower legislation, such an employee often ends up being paid wages in excess of those a co-worker earns, even though his co-worker may have been on the job

longer. This results in friction amongst workers in the smaller firms and increases labour problems. The study team also recommends that DREE discuss with the Department of Manpower and Immigration the possibility of implementing a program aimed at attracting skilled managerial, engineering and supervisory personnel to rural prairie firms. Such a program might involve financial incentives of one kind or another to attract these people to rural jobs. The vehicle for funding such a program would be the subject of negotiation but it is hoped that it need not involve costly and time-consuming legislation on government's part and that it can be funded through existent programs.

RAW MATERIALS AND SUPPLIES

The subject of raw materials availability was of such overall importance to the future of this industry in the prairie region that a separate section on this subject has been included in this report. It is suffice here to say that consumption of raw materials has been increasing not only in this industry but in other manufacturing industries in the prairie region. This increased consumption has highlighted problems concerning the capabilities of existent suppliers in the region. The increase in consumption of raw materials in each of the provinces over a ten year period is outlined in Exhibit VIII.

In the opinion of the study team, the limited supply and increasing cost of raw materials including component parts is the most critical factor concerning the future growth of this industry. The average prairie manufacturer cannot buy sufficient quantities of most types of raw materials to enable him to negotiate price or timing of delivery with his supplier. In short, because he is too small a customer, he suffers in times of shortage. This results in increases in his overall manufacturing costs as he is forced to pay premium prices for less than economical purchases and to order up to one year ahead of scheduled production thereby increasing his raw material financing and storage costs. It also means that he must do more concise sales forecasting in order to limit the costs

associated with an excess or lack of raw materials on hand. The task force recommendations for federal-provincial action in this area are outlined in the section of this report dealing with suppliers.

EXHIBIT 8

CONSUMPTION OF RAW MATERIAL IN INDUSTRY

<u>YEAR</u>	<u>MANITOBA</u>	<u>SASKATCHEWAN</u>	<u>ALBERTA</u>
1961	5,084,425	356,400	939,341
1962	6,407,000	792,000	1,711,000
1963	10,713,000	1,253,000	2,329,000
1964	15,675,000	1,545,000	4,048,000
1965	19,055,000	2,076,000	5,032,000
1966	23,638,000	2,450,000	3,112,000
1967	31,430,000	3,091,000	3,376,000
1968	29,392,000	3,125,000	3,609,000
1969	34,375,000	3,471,000	3,563,000
1970	25,357,000	2,808,000	2,693,000
1971	23,697,000	4,715,000	3,785,000

LOCATIONAL CONSIDERATIONS

It is the opinion of the study team that any additional costs which can be attributed to a prairie manufacturer as a result of location are negligible considering the overall industry performance. This would concur with Study No. 6 of the Royal Commission on Farm Machinery which found a prairie location to be a suitable low cost site for the manufacture of farm machinery when taking all cost factors into consideration. The only locational problems highlighted during the survey were in rural Manitoba where the problem of excessive training costs due to higher labour turnover rates was evident. Marketing and distribution wise, the prairies seems to suffer very little. Incoming freight is somewhat of a problem, but this will be alleviated as the supply aspect of the industry on the prairies is expanded and stabilized. Many firms are avoiding excessive freight-out costs by utilizing their own transport vehicles, and while this is somewhat more expensive than public transportation, it means assured delivery times to dealers and also allows the manufacturer to properly set up and service his machines at the receiving end. If the raw material situation can be solved, locational costs should remain of secondary importance to future expansion.

ECONOMICS OF SCALE

There has been much discussion, most notably in the Royal Commission on Farm Machinery, with regard to economies of scale and how they affect the manufacture of farm machinery. The study team concluded that economies of scale did not greatly affect the ability of prairie manufacturers to compete. This statement must be taken within context, however, and we do not wish to infer that there are no economies of scale to be gained in the shortline industry. It was found that many shortliners were fearful of becoming too large and acquiring excessive overhead, thereby decreasing their ability to compete in their own regional markets. We emphasize regional markets here because those firms which were already substantial in size rarely depended on a solely regional market. We refer here to what may be called the "Medium Line" firms such as Versatile Manufacturing. Certainly a firm as large as this, which takes a more sophisticated approach to manufacturing, looks carefully at economies of scale in its "make or buy" decisions. In general, however, the study team found little that might lead it to classify this as a critical factor since most firms on the prairies are really only assembly operations.

RAW MATERIALS AND COMPONENTS SUPPLY

A Department of Regional Economic Expansion task force on the steel industry is currently conducting a detailed survey of that industry in the Prairie Provinces. No attempt was made therefore to investigate the subject in any depth. From interviews with manufacturers, it is apparent that the inadequate local supply of iron steel in all its forms is currently the main obstacle to the expansion of farm machinery industry in Western Canada.

All steel products including castings, forgings, plate, and both hot and cold rolled sections are currently in very short supply in the North American market. Large manufacturers with well established buying relationships are of course given preference by steel mills. Smaller manufacturers are required to accept deliveries up to one year ahead of scheduled production and to support their orders with irrevocable letters of credit. This has resulted in excessive inventories of raw materials and in excessive amounts of working capital being tied up for this purpose by small manufacturers. A new manufacturer would find it very difficult to secure supplies of steel in any quantity at this time.

The greatest shortage, however, appears to be in foundry capacity for ordinary grey iron and ductile iron castings. Grey iron castings are being imported in volume from as far away as Scotland and Japan. Foundry capacity to produce

ductile iron castings is very limited and can only supply a small percentage of the demand. Ductile iron is being used more and more in the manufacture of farm machinery. An expansion of foundry capacity in the Prairie Provinces for both ductile and ordinary grey iron castings is considered essential to any significant expansion of the industry. It is hoped that such an expansion will take the form of a large automated facility and it is recommended that this be encouraged by DREE through its incentives program.

There appears to be a need for a modern forging and heat treating facility to produce shanks, shovels and points for implements. These components are used in high volumes by the farm machinery industry in the prairies. They are currently manufactured in Western Canada but by rather obsolete hand methods which cannot compete with the large specialized plants located in the eastern region of the United States.

The availability of production machining facilities equipped with high volume automatic machine tools is essential to the economic production of farm machines. This is even more important to shortline producers who may not have the volume of machine work to justify the installation of this equipment in their own shops. In most cases such work can be done more economically by specialized machine shops which can achieve better utilization of costly machine tools by doing work for a number of manufacturers. There appears to be a good nucleus of such shops particularly in the Winnipeg area. An expansion

of these facilities is required but at the moment is not feasible due to a lack of raw materials, i.e., castings and forgings.

Metal fasteners (nuts and bolts) are used in high volume in the farm machinery industry. There is currently only one manufacturer of this material in the Prairie Provinces. He does not have the automated equipment which would permit him to compete with large suppliers in Eastern Canada and the U.S. on standard high volume sizes. His production is therefore basically limited to special shapes and sizes in smaller runs, which the big producers are not interested in.

Sheet metal forming using large high capacity presses and metal breaks can also be more economically done by specialized metal forming shops than by individual low volume producers of farm equipment. The availability of such facilities appears to be quite good in the Prairie Provinces and current production capacity could be expanded easily and quickly to meet increased demand.

One of the largest Canadian producers of agricultural rubberized belting (canvasses) is located in Winnipeg. This company supplies practically all the canvasses for combines and swathers built in Canada. This company feels that it could also compete well in the U.S. market but to date has not been able to do so because of U.S. tariff regulations which although permit the import of farm machines on a duty free basis apply a duty on certain machine components including canvasses. Such canvasses can be imported into Canada on a duty free basis from the U.S., however; and it appears that

the same situation applies with a number of other farm machinery components such as hydraulic cylinders and control valves. Such non-reciprocal duties are hindering the development of ancillary industries and specialized component suppliers in Canada.

In summary, there appears to be a good nucleus in Western Canada of industries ancillary to the manufacture of farm machinery especially in the Winnipeg area. It is recommended by the study team that this aspect of the industry be given high priority and that a regional study be undertaken to determine what additional components could logically be manufactured in the region. It is suggested that this study be done on a regional basis with all provinces participating.

FINANCING

Financing in the prairie industry has been a problem for the majority of companies and has caused the demise of many shortline firms. Part of the problem is reflected in the corporate nature of the majority of firms which is basically that of a family owned and operated organization. If more firms decide to go public as they continue to grow, the financial stability of the industry will no doubt be stronger in the long run. There are basically three problems that the study team felt warranted attention in this area and these were:

1. Finished Goods Inventory Financing
2. Raw Materials Inventory Financing
3. Financing for Capital Expansion

Finished goods inventory financing is, of course, a significant factor if a firm is highly dependent on a seasonal market. If the majority of a firm's sales occur during one or two months of the year, finished goods, either on the premises, or at a dealer, must be financed. This problem has been avoided by some manufacturers through:

1. Diversification of product lines or concentration on non-seasonal products.
2. Expansion of markets into the South.
3. Selling through large regional distribution centres.
4. Building equipment for sale and distribution by a major farm implement manufacturer.

The financing of inventories often places such a strain on working capital that little money is left for capital expansion purposes.

Recently, the financing of raw materials has become a problem of magnitude in the industry. This of course is due to the drastic shortages of raw materials which now exists. Steel is the most crucial element here and some manufacturers are forced to accept delivery of steel eight months ahead of expected production schedules to insure an adequate supply. This means that the manufacturer must assume the financing and storage costs of these raw materials until they are utilized in the production cycle. While admitting that this might be a short term problem for the industry, it is still a factor affecting its future growth in the region. Over the long term it is hoped that the supply situation will improve as a result of new efforts in this area but it is recommended that the federal government and the provinces undertake discussions to see if some short-term assistance can be given. The most likely organization to handle an inventory financing program would be a provincial institution such as the M.D.C. or SEDCO. Since we do not consider this a long-term problem, we do not feel that assistance should be provided through federal legislation. A short-term program of inventory financing on a loan guarantee basis would stabilize the industry while other long-term measures being discussed in this report are being implemented.

The inventory financing problem has also affected the ability of certain firms to expand when the opportunity for such an expansion presents itself. The Regional Development Incentives Program, which is available in most of Manitoba and in several areas of Saskatchewan and Alberta has been utilized by several shortline manufacturers but the rate of successful offers and acceptances is not encouraging as can be seen in Appendix I. The problem with the program according to those in the industry, is that the decision making process has been too slow and the banks are reluctant to make available interim financing at a reasonable cost to this industry, solely on the basis of a DREE letter of offer. Providing a company has a strong equity position and has available sufficient amounts of capital for interim financing, the DREE incentives program can act as ideal catalyst to expansion. Only a few firms in the prairie farm machinery manufacturing industry can boast of such a financial position however. Accordingly, while the program has been a good tool for some industries, the financial constraints forced on many shortline farm machinery manufacturers has meant that it is not often the ideal tool for them. A more attractive type of program seems to be the lease back or revenue bond program available in many communities of the U.S. This program is usually made available by local development corporations through municipality supported revenue bonds. Despite certain tax problems which have been encountered, industrial revenue bonds are an extremely attractive

method of financing. Competition for new industry in the States bordering the Prairie Provinces is keen as these areas seek to diversify their agricultural oriented economies. To the communities in these states, a city like Winnipeg is an attractive hunting ground for new industry. By utilizing revenue bonds, many of these U.S. communities are able to offer a prospective industry a fully equipped plant or a "turn key operation" as it is known in the development field. Through U.S. tax laws, the community can obtain funds for such a project by issuing bonds. These bonds are not a general obligation of a community but rather are secured by and payable solely by any proceeds derived from the leasing of the project they are used to finance. In order to administer the bonds the community usually executes a "Trustee Indenture", appointing a trustee for the bond holders. The trustee disburses the proceeds from the sale of the bond in order to pay the purchase price as provided in the contract of purchase or to pay the costs of the project if the community is responsible for building the plant. If the proceeds from the sale of the bonds are not sufficient the community usually provides the additional funds. The company is generally obligated to an initial lease period that coincides with the last maturity date of the bonds. This period is variable but is normally 20 years. The company assumes an unconditional obligation to make periodic payment during the initial lease term in an amount sufficient to cover payment of the principal and interest. The

company is given the option to renew the lease for periods which can aggregate to 99 years. The basic rent during this period would be nominal. The company is also given an option to purchase the plant for a nominal amount at the end of the lease period or at any time during the renewal terms. It can buy the plant before the initial lease period ends upon pre-payment of the basic rental. The company also pays all utilities, taxes, insurance and other expenses incurred in the operation and maintenance of the plant. For tax purposes, the company is considered the owner of the plant in the U.S. The key to the success of the program is that while these bonds are sold to the public at relatively low interest rates, the interest earned by the purchaser is tax free under present U.S. tax laws.

There are obvious attractions of such a program to a young and expanding farm machinery manufacturer in the prairie provinces. Typically he does not have large retained earnings or a strong equity position and his working capital situation is thus critical at times. Such a program enables him to move quickly to capture new markets with a minimal outlay of funds. This of course conserves his borrowing power for other purposes such as inventory financing. Several Manitoba firms have already taken advantage of this program and others are considering using it. This is a real concern to the study team which feels that this program could be a real factor, affecting the future development of the industry in Western Canada. It is felt that a competitive program in the prairies would be most worthwhile

and that such a program would not be that difficult to implement through the provinces. Accordingly, the study group recommends that the federal government investigate such a possibility with the provinces and that it provide some financial assistance for this purpose through the new development agreements.

It is also suggested by the study team that D.R.E.E. consult with the Department of Finance to see if the interest rates on farm improvement loans can be announced earlier than at present. Farmers hold off purchasing machinery until these rates are announced and this results in an onslaught of sales immediately after the announcement. The effect of these peak demand periods would be minimized if this announcement was made earlier.

RESEARCH, DEVELOPMENT AND TESTING

The Research and Development functions have undoubtedly played a role in the growth of the farm machinery and equipment manufacturing industry in the prairies. Most manufacturers considered this as an important and continuing part of their manufacturing operation. In fact, one of the strengths of the short-line industry in the prairie region has been the quality and durability of the products manufactured and the reputation manufacturers have gained as a result of this.

Research, development and testing is done on an individual firm basis. Some of the larger short-line firms employ full time engineers and budget considerable amounts of money each year for this purpose. In the smaller firms, research and development is undertaken by one or two individuals, usually the owner or general manager. Testing of new product lines is usually done on nearby farms. Prototypes are given to district farmers to use in the field for specified periods of time and if they prove satisfactory, production is undertaken.

This type of research, development and testing has certain advantages over the sophisticated type carried out by large manufacturers. Small firms are more farm oriented as the people involved usually have a farm background or may even operate a small farm on the side. Accordingly, they have close contact with farmers and are much more sensitive to changes in new machine requirements. They also have the advantage of being able to field test machinery close to the production facility

whereas this is not possible for a major company situated outside the region. As a result, field testing is inexpensive for the short-liner whereas it amounts to approximately one-half of the engineering costs of the major companies.

On the negative side, there are problems associated with this type of research, development and testing. Most small firms don't have a full-time engineer and find it difficult to acquire any kind of engineering expertise. This expertise is needed most at the design stage. It is hard for a small firm to interest engineers in employment as they usually pay less, offer less chance for advancement, and are often located in rural areas.

A certain amount of product development and testing services are provided by the Universities in the three Prairie Provinces. At least two offer technical and engineering consultation and do a limited amount of component testing on a contract basis in conjunction with their teaching and research activities.

Government assistance is available for research and development through programs offered by the federal department of Industry, Trade and Commerce and through provincial programs designed to assist and stimulate research and development. Federal assistance is administered under:

(a) Industrial Research and Development Incentives Act (IRDIA)

Tax-free cash grants and credits against income tax liabilities equal to 25 percent of capital expenditures for scientific research and development in Canada. Approximately ~~250,000~~ ^{250,000} dollars has been granted some 25-30 short-line manufacturers over the life of the program.

(b) Program for Advancement of Industrial Technology (PAIT)

Fifty percent shared-cost assistance on current costs (including special equipment, eg. (prototypes) and non-capital pre-production expenses incurred in selected projects to develop new or improved commercial products or processes. About ~~51.0~~ million in assistance has been given to five or six firms in the industry over the life of the program.

(c) Industrial Design Assistance Program (IDAP)

Financial assistance amounting to 50 percent of the industrial design, operational and administrative costs incurred in specific projects requiring industrial design services for product development. Approximately \$50,000 has been granted to the industry under this program.

Provincial Government programs offer additional financial assistance for research and development projects which are expected to have significant impact upon the provincial economy. Usually this assistance takes the form of financial assistance to undertake feasibility studies or hire consultants.

Firms who have taken advantage of government programs feel they have been most useful. They have enabled firms in the industry to enlarge their research capabilities and initiate new product development. The smaller firms who have used the federal programs feel that they could perhaps be more flexible and more sympathetic with the somewhat unique way in which they undertake their research and development activities. Research and development in small firms is usually undertaken by the owner-manager and very seldom are consultants hired, studies commissioned, or other direct costs incurred. It is still felt,

however, that the portion of their time spent on developing and testing is genuine research and development and should be appreciated as such. A surprising number of smaller firms had not had contact with these programs and while in most cases were aware that some assistance was available, they were unsure of what it could do for them.

As a result of recommendations made in the Royal Commission on Farm Machinery and in other independent surveys, the three Prairie Provinces have proposed to establish a Prairie Agricultural Machinery Institute. The objectives of this institute would be to improve the design, selection and use of agricultural machinery in the prairie provinces by:

- assisting the agricultural machinery industry in developing better and more efficient machines for agriculture.
- evaluating the function and performance of agricultural machinery under a variety of typical conditions.
- providing farmers with the information they need to make intelligent machinery purchases and to get the most efficient use from their machinery.
- reducing the safety and health hazards through improved design, construction and use of agricultural machinery.
- ensuring that priority research projects are carried out.

It is proposed that the Institute be set up as a semi-independent body with a board of directors to govern its affairs. The board of directors would be given authority to carry out the affairs and functions of the institute, but would be accountable to the provincial ministers of Agriculture.

The short-line manufacturers were generally in agreement with the concept of the Institute, but appeared to have a wait-and-see attitude regarding any benefits that they might realize from it. There were reservations expressed about government influence and control in the operation of the Institute. They questioned the usefulness of the Institute as a testing and development center in terms of duplicating functions already available at some Universities. Several manufacturers suggested that there may be problems in getting testing done when they needed it because of scheduling problems. It was generally acknowledged however, that such an Institute would lead to the expansion of technical expertise in the development and testing area and this was thought to be a positive aspect of the Institute.

As a result of our survey, the study team recommends the following DREE action in this area:

- The Federal Department of Industry, Trade and Commerce and the Provincial Departments of Industry and Commerce be invited to conduct a series of seminars outlining to the Prairie manufacturers the nature, requirements and benefits of each of their existing research and development programs.

- Discussions be undertaken with the various Agricultural Engineering Departments of the Universities to explore ways of improving the practical experience and training of their graduating agricultural engineers. It is felt by the major private companies and the short-line companies that the graduating

engineers have had too little practical experience and thus the company must train them an additional three or four years before they become familiar with production methods and techniques. We suggest a program of summer employment be implemented at prairie manufacturing plants which would benefit these students by exposing them to practical manufacturing situations. This would also benefit the manufacturers by providing them with needed engineering skills and might result in more of these engineers joining prairie firms subsequent to graduation.

- Discussions be held with the Agricultural Engineering departments of the Universities in order to qualify the exact nature of the development and testing services now available and identify what is needed to broaden these services and make them more useful to the short-liners.

- The Department jointly with the province should establish a fund in each province which would encourage short-line manufacturers to use the research and testing services provided by the Universities more extensively. The proposed program might operate on a cost-shared basis with industry and could apply to firms other than farm machinery manufacturers. It is thought that such^a fund would not only encourage the use of available engineering expertise, it would also encourage the Universities to build up this expertise.

- The Department support the establishment of the proposed farm machinery institute and those responsible for

the institute be asked to outline the actual functions and benefits that the organization will have to the manufacturers of the region as soon as possible.

MANAGERIAL CONSIDERATIONS

As most of the smaller firms in the Prairies are characterized by "owner-operator" type management, they experience a number of problems as they become more successful and expand in size.

Since these firms are primarily a "one man operation", the company's strengths, vulnerabilities and resources are closely correlated with one person's ability, and personal financial capabilities. One man typically makes all the important decisions and relies on his sales, production and office supervisors only when necessary. As sales, expenditures, and profits increase, his ability to make decisions is severely taxed and is usually the prime factor limiting the company's future growth. In some cases he is simply unaware of alternative managerial approaches and how these might affect his firm. In other cases he simply does not care, since he has no desire to grow to the point where he is unable to make all the decisions for the company.

Most manufacturers readily admit that management is one of the most critical factors affecting the future growth of the industry. For those companies with a declared position of slow growth, little can be done, but others are aware of their managerial problems and simply cannot find suitable personnel. They feel, in general, that the management assistance provided by certain provincial research councils is excellent and has helped them immensely, but that such assistance just isn't extensive enough.

The National Research Council, the Saskatchewan Research Council and the Research Council of Alberta provide management consultation through their Technical Information Service. This service is sponsored by the National Research Council of Canada in association with the Provincial Research Councils and is a free government service. It is intended to provide manufacturing and processing industries with up-to-date technological information on the properties and processing of materials, the efficient operation of manufacturing facilities, and the results of scientific research, and new development techniques. The study team recommends that discussions be initiated with the National Research Council of Canada and the various provincial Research Councils to determine what is needed to expand this technical information service in the Prairie region. The present staff is apparently unable to keep up with requests for their services. We also recommend that discussions be held with the provincial governments with regard to establishing additional management classes in the region. There are apparently only two or three first-rate management courses available.

It is further recommended that discussions be instigated with the Department of Manpower and Immigration to determine exactly what assistance is available for management training and to investigate how this assistance might be increased and be made more effective. It is suggested here that the apprenticeship program for university students outlined under the section of this report dealing with Research & Development might be

expanded to include commerce and M.B.A. graduates. This new program could be part of a new manpower program which would benefit all smaller manufacturers and not just those in the farm machinery manufacturing industry.

TRADE ASSOCIATIONS

Manufacturers and distributors in all major industries have found it to their advantage to form associations to provide services required by all firms associated with a particular industry. The main services provided by such trade associations in summary are as follows:

A. Information Services

1. News within the industry - new companies, purchased or amalgamated; new manufacturing processes and equipment, etc.
2. Market research - to provide members with up-to-date statistics on product sales by product and region.
3. Events of importance to the industry from a world-wide standpoint.
4. Compilation and continued updating of a directory of manufacturers and distributors in the industry.

B. To act as "the voice of the industry" on such matters as:

1. Government legislation which might affect the industry.
2. Product engineering standards.
3. Product safety standards.
4. Customs and excise rates and regulations.
5. Transportation - rates and regulations.
6. Liaison with parallel associations and others related to the industry world-wide.
7. Industry public relations.

The most important trade association in the Farm Machinery Industry in North America is the U.S. based Farm and Industrial Equipment Institute (FIEI) with headquarters in Chicago. Virtually all farm equipment manufacturers and distributors of any significance in the U.S. are members of this association. Throughout the industry it has established an excellent reputation for providing the services as outlined above. Its membership is not confined to the U.S. and a considerable number of Canadian companies are members of FIEI.

As a voice of industry, the FIEI basically represents the U.S. For this reason and so the Canadian industry can have a distinct and stronger voice, the Canadian Farm and Industrial Equipment Institute (CFIEI) was formed. It received its charter in 1966 and now has 24 active members, 32 associate members and one non member affiliate (PIMA). It claims that equipment manufactured or distributed by its active members accounts for 85 percent of total industry sales in Canada.

Active members are defined as "persons, firms or corporations actively engaged in the manufacture and sale, directly or through selling affiliates of farm and industrial equipment exclusive of automobiles, motor trucks, farm and industrial hardware and household articles."

Associate members are defined as "persons, firms or corporations engaged in the manufacture or sale of merchandise, materials, accesories or services used or sold by active members.

CFIEI pattern their activities directly on FIEI and in effect utilize FIEI as their source of information - both news and statistical - relative to the industry in the U.S. They do not of course have nearly the membership potential as FIEI and, since their membership fee is quite low, they are restricted by finances in the extent of the services they can offer. Currently CFIEI headquarters is a one man, one secretary operation located in Toronto. They feel that their efforts to increase membership has been hindered to some extent by the formation of PIMA and by the fact that they are overshadowed by FIEI. All CFIEI members or their U.S. affiliates also belong to FIEI. Many Canadian companies, however, are members of FIEI and not of CFIEI.

If, however, there is a "voice of the industry" in Canada it is the CFIEI. It is therefore recommended that the CFIEI be supported and strengthened so that it can provide Canadian industry with services at a level equivalent to those provided by the FIEI in the U.S.

The "Prairie Implement Manufacturers Association" (PIMA) was formed in 1970. It now has a membership of 30 short line manufacturers in Manitoba, Saskatchewan and Alberta. Its objective, it appears, is not to provide an information service as FIEI or CFIEI but mainly to lobby for and promote the interests of "prairie manufacturers". PIMA does not maintain a headquarters office or staff. To date, activities have centered around their annual meeting where problems particular to the industry on the prairies are discussed. It has

presented briefs to government at both the provincial and federal level which they feel have had some success.

PIMA lacks financing and a stable internal structure. Its future appears to be in jeopardy at this time as it has little to offer prospective new members. It is suggested that the needs of manufacturers in the prairie provinces could be served better through membership in CFIEI. In order that prairie manufacturers can influence basic CFIEI activities and presentations to governments however, a "prairie regional chapter" under CFIEI should be formed. This is a common practice in many societies and associations.

In summary, it is considered that a strong and active trade association within the farm machinery manufacturing industry in Canada can contribute greatly to the stabilization and development of the industry. The potential membership in Canada is not sufficient to adequately support two trade associations to the extent required. It would appear that CFIEI has the best base for such an organization and that an effort be made to amalgamate PIMA into CFIEI.

REPAIRS, SERVICING AND PARTS

This subject has been thoroughly discussed with all levels of government through the various farm organizations. Our survey did not concentrate on this particular aspect of the Farm Machinery Manufacturing Industry as it was directed more towards identifying specific ways of assuring the future expansion and stability of the industry in the west. The study team gained the impression that service and parts supply were not as great a problem for the short-line manufacturer, located close to regional markets, as they might be for the major implement manufacturer located in Eastern Canada or in the U.S.A.

This is not only because of the distance factor, but because generally the type of product manufactured in the west was less sophisticated. Both the smaller manufacturers and the larger more sophisticated manufacturers said they did everything in their power to assure parts and good servicing was available to their customers and that they seldom quarrelled about costs in this area. Many took additional steps such as the following to assure customer satisfaction:

1. The provision of company trucks to disburse finished products and parts. The driver was generally trained to properly set up the machine at the dealer or distributor to assure customer satisfaction.

2. The conducting of training courses for dealers and distributors at the manufacturer's expense.

3. A general requirement that dealers and distributors carry a percentage of their annual sales volume in parts.

4. A general policy of not questioning warranty claims with their dealers or distributors.

We must caution that we only looked at the problem from the western manufacturers' viewpoint and no way wish to imply that there are no problems in this area. The fact that the provinces have been discussing regional farm service centers for some time points to the fact that there likely are serious problems for the farmer in this area. We would recommend, therefore, that the Department of Regional Economic Expansion remain open to suggestion from the provinces regarding such centers and on any other programs aimed at improving the servicing aspects of the industry pending a more detailed study of the problems.

It was suggested by those in the industry that a useful government project might be the preparation of a cross reference manual for certain parts which are standard and used in volume by the various manufacturers selling in the region. The manual could either be provided to the individual farmer at a nominal charge or be made available to all dealers who would be required to keep one on hand for the farmer's use. It is recommended by the study team that this project is worthy of consideration and should be implemented while other matters such as regional service centers are being studied.

APPENDIX I

Ag. Imp. Industry
S.I.C. 311

Manitoba

1. Allied Farm Equipment St. Boniface - Bale Stokers,
C.C. 175,000 Jobs - 65 No offer
Status 2 Officer 400
(withdrawn)
2. Kendon Mfg. Ltd. Winnipeg - Tractors
C.C. 645,000 Jobs 46 No offer
Status 2 Officer 100
(withdrawn)
3. Henn Rich Mfg. Ltd. Winnipeg - Automatic Feed Equipment
C.C. 165,000 Jobs 15 Offer 15% (24,750)
Officer 127 Status 5 (offer lapsed).
4. Killberry Industries Winnipeg - Farm Implements
C.C. 400,000 Jobs 55 Offer 15% and \$1,200/job
Total offer 126,000 Officer No. 111
Status 6 (offer declined).
5. Kendon Mfg. Ltd. St. Boniface - Farm Equipment
C.C. 218,000 Jobs 24 Offer 10% Total offer 21,800
Officer 405 Status 7 accepted
6. Killberry Industries Winnipeg - Windrower
C.C. 332,000 Jobs 68 Offer 15% and \$2,000
Total Offer 185,800 Officer 420 Status 7
7. Sid Gas Engine Morden Mix-Mill
C.C. 80,000 Jobs 22 Offer % 10 + \$2,000/job
Total offer 44,000 Officer 409 Status 7
8. C.C.I.L. Winnipeg Tractors & Farm Equipment
C.C. 6,530,000 Jobs 162 % 20 Job 5,000
Total offer 1,671,000 Officer 415 Status 7
9. Dalman Enterprises Killarney Farm Equipment Mfg.
C.C. 96,760 Jobs 5 Offer 15% + \$2,000/job
Total offer \$24,514 Officer 415 Status 8
(offer declined)
10. P.I.G. Mfg. Ltd. St. Boniface Livestock Feed Mill
C.C. 128,440 Jobs 42 Offer 10% + 1,000
Total offer 54,844 Officer 413 Status 9
accepted then withdrawn
by department.

Ag. Imp. Industry
S.I.C. 311

Saskatchewan

1. Western Roto-Thresh Ltd. Saskatoon Rotory Combine
C.C. 378,700 Jobs 194 Status 7 outstanding
Application officer 146
2. Tractor Co. Ltd. Tractors Saskatoon
C.C. 17,700,000 Jobs 159 Officer 142 Status 7
(withdrawn)
3. Tera Power Tractor Saskatoon Tractors
C.C. 1,510,000 Jobs 159 Officer 142 Status 3
(rejected)
4. W.T. Patton Regina Axels & Transmissions for tractors
C.C. 1,300,000 Jobs 237 Officer 142 Status 37
(rejected)
5. Sakundiak Farm Equipment Regina Augers
C.C. 446,000 Jobs 13 Offer 10% \$1,000/job
Total offer 57,600 Officer 100. Status 6 offer declined
6. Friggstad Mfg. Ltd. Frontier Farm Machinery
C.C. 94,000 Job 32 Offer 20% Total offer 18,800
Officer 404 Status 7
7. Sakundiak Farm Equipment Regina Farm Machinery
C.C. 562,000 Jobs 48 Offer 18% Total Offer 101,160
Officer 405 Status 7 (accepted)

Alberta

1. Pyramid Stooko matie Lethbridge Automatic Hay Bale
C.C. 100,000 Jobs 25 Officer 404 Status 3
(rejected)
2. Kirchner Machine Ltd. Lethbridge Farm Machinery
C.C. 68,000 Jobs 4 Offer 20% Total offer 13,600
Officer 405 Status 7 (not accepted)

- | | |
|----------------------------|-----------------------------|
| 1. outstanding application | 6. offer declined |
| 2. withdrawn | 7. net acceptance |
| 3. rejected | 8. accept. declined (appl.) |
| 4. outstanding offer | 9. accept withdrawn (dept.) |
| 5. offer lapse | |

REVISED STUDY PROGRAM - JULY 17, 1973

FARM MACHINERY MANUFACTURING - PRAIRIE REGION

1.) Short Line Manufacturers

1) Manufacturing Cost Considerations

- a) Listing of major short line manufacturers including products and location.
- b) Value of manufactured output by company and product for each province.
- c) Sales trends by product and company for each province.
- d) Analysis of present pricing structures and competition.
- e) Profitability margins and cost analysis for major company's by product, if available.
- f) Source of major raw materials used by product.
- g) Assess availability of raw materials and cost of raw material purchases in relation to industry standards.
- h) Identify services which are required by the industry but are now lacking.
- i) Identify cost and availability of labour.
- j) Identify problem areas associated with raw materials acquisition.
- k) Assess whether local suppliers can be encouraged to expand or new suppliers sought.
- l) Discuss the problems of seasonal markets and how these problems might be overcome.

Purpose: To establish present status of industry, assess its strengths or weaknesses, and to ascertain what part raw material availability and necessary service industries have played in the growth of the industry.

2) Market and Distribution Considerations

- a) Assess the views of producers as to where the problems in this area now lie and how the present system hindered or assisted the industry's growth.
- b) Assess the current distribution methods by product and the availability of more satisfactory methods.
- c) Assess the cost of distribution and marketing relative to manufacturing costs by product and company.
- d) Assess market trends by product and company.
- e) Assess the prominence of exports and imports in each province.
- f) Investigate the extent of manufacturing for private brand labelling as this is increasing in importance.

Purpose: To identify extent of current penetration of markets by short line firms on a regional basis and examine how this penetration might be increased through the rationalization and concentration of certain marketing and distribution functions.

3) Financing Considerations

- a) Indicate normal degree of investment by owners.
- b) Examine the usual type of ownership.
- c) Examine average ROI for industry.
- d) Assess normal debt/equity ratios.
- e) Assess type and character of working capital.
- f) Comment on normal cash flows.
- g) Assess availability of risk capital to industry (ie. attitudes of lenders).
- h) Assess the financial capability of average size firms to undertake expansion or enter co-operative or consortium type agreements.
- i) Assess manufacturers' attitudes towards their current financial positions in terms of possible expansion plans.

Purpose: To determine the financial capability of existent producers to expand their current operations should new opportunities arise.

4) Servicing Considerations

- a) Assess importance of servicing and parts availability to sales by product.
- b) Examine adequacy of current policies in satisfying farmers' needs.
- c) Assess attitudes of manufacturers to ascertain whether these factors are considered in development or expansion plans.
- d) Examine adequacy of present distribution channels for parts.
- e) Assess attitudes of current producers to supporting regional service centers for short-line manufacturers.
- f) Discuss manufacturers' attitudes to parts standardization and its effectiveness.

Purpose: To establish extent of existent services and determine how large a factor this is to the future development of the industry.

5) Research, Development and Testing

- a) Analyze the importance of each of the above to individual firms.
- b) Examine how each is done now.
- c) Examine attitude of manufacturers towards co-operative arrangements in this area (ie. through universities, manufacturers' associations, etc.).
- d) Discuss current developments with personnel of the U. of M., U. of S., U. of A., and the various research councils and other provincial agencies.
- e) Analyze the attitudes of prairie manufacturers towards the proposed Farm Machinery Institute.
- f) Discuss with current manufacturers any new products being introduced to the market, and the extent of their work on new product development.
- g) Identify the problems that farmer developers in marketing new ideas.

Purpose:

To ascertain what new products are currently being developed and how these developments can be encouraged by governments. Research and development as it affects potential expansion of the industry will be looked at with a view to identifying whether or not this function or the lack of it has played a role in the industry's development. Present research and development programs and their affect on the industry will be researched and any apparent holes in current programs highlighted.

6) General Considerations

Correlate current views on the following:

- a) Prospects for future expansion and development of the industry.
- b) Joint venture and co-operative type manufacturing, marketing, servicing and research operations.
- c) Present Federal and Provincial programs of assistance to the industry;
 - How extensively have they been utilized in the past.
 - How effective have they been in the eyes of the users.
 - Where are the present "holes" in existing programs and what types of government assistance is needed to fill these "holes".
- d) An Association of Prairie or Provincial Manufacturers
 - What should such an association provide in the way of service.
 - Should any association proposed be on a provincial or a regional (prairie) basis.
 - How should it be financed.
 - Should government be involved in the early stages only, on a long term basis, or not at all.
- e) Management and Manpower Training
 - Are any programs now being utilized.
 - How large a factor is this in the development of the industry.
 - What can be done to assist the industry in this area.

2.) Middle Line Manufacturers

Versatile Manufacturing and CCIL are really the only two major firms which fall into this category. While these

should be looked at separately from the true short line producers they can be analyzed under basically the same criteria. These firms have distinct problems from those of the short line firms with regard to future expansion. The potential for these firms should be explored with the officers of each company. Consideration might be given to completing their product lines with products of other regional producers so that their export efforts are better facilitated.

3.) Long Line Manufacturers

There is also a need for rationalization of present marketing and distribution channels now being utilized by the major firms selling equipment in the Prairie Provinces. This should also be discussed with the major producers in Canada and the U.S. within the context of having the majors locate new machine preparation facilities in key market areas.

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