

LEGISLATIVE ASSEMBLY OF THE  
NORTHWEST TERRITORIES  
6<sup>TH</sup> COUNCIL, 36<sup>TH</sup> SESSION

TABLED DOCUMENT NO. 4-36

TABLED ON FEBRUARY 13, 1968

Tabled Document 4-36  
Tabled on Feb. 13, 1968.

680-3-46

**REPORT ON THE FEASIBILITY  
OF ESTABLISHING A TANNERY IN THE  
NORTHWEST TERRITORIES**

J.G. Greifeneder - D.A. Genn

January 1968.

TABLE OF CONTENTS

Introduction . . . . .	1
Summary and Conclusions . . . . .	2
Marketing . . . . .	6
Production and Technology . . . . .	9
Financial . . . . .	18
Other Comments . . . . .	21
Time Schedule . . . . .	23
Appendices . . . . .	24

## INTRODUCTION

This report is the result of a survey during July 1967 made by Mr. John G. Greifeneder, Chief Chemist of Beardmore and Co. Ltd., Tanners, located at Acton, Ontario.

Mr. Greifeneder visited the towns and settlements of Yellowknife, Inuvik, Aklavik, Fort McPherson, Reindeer Station and Tuktoyaktuk.

He reviewed the feasibility of the operation with members of the Engineering Division of the Department of Indian Affairs and Northern Development, Regional Administrators and other Government personnel. He discussed with the local community council in Aklavik, and interested local residents of the communities visited, many subjects including the availability of raw materials, local personnel, plant and utilities. He investigated fur garment shops in the area, potential markets and general questions relating to the production of dressed furs.

Processing skins in the Mackenzie District was attempted as a pilot project in 1966 at Aklavik but the dressed fur produced was of poor quality. This tannery was not operating in 1967.

D.A. Genn, an officer from the Northern Administration Branch of the Department of Indian Affairs and Northern Development, has assisted with the preparation of this paper.

SUMMARY AND CONCLUSIONS

1. The market potential available to a tannery located in the Mackenzie is estimated as follows:

	<u>Quantity of Skins</u>	<u>Sales Dollar Potential</u>
1969	47,000	\$32,000
1970	79,000	\$50,000
1972	101,000	\$70,000

Over eighty-five per cent of the quantities processed above would be muskrat sold to the local fur garment shops. The projected sales increases of tanned furs are based upon the expansion potential of the northern fur garment shops. Current fur dressing charges in Winnipeg were used as the basis for calculating prices.

This study is based on the assumption that initially matched and graded lots of furs would be purchased by the shops at auctions in southern Canada. Later when fur buying skills were available locally in the Mackenzie the practicability of purchasing furs would be investigated so that local trappers could get maximum returns for their pelts and share the savings on freight and handling with the garment shops.

The annual air freight cost to the Aklavik or Tuktoyaktuk fur garment manufacturers for shipping 50,000 muskrat pelts to Edmonton and return would be approximately \$5,000. If transported by barge and rail the cost would be less than \$1,000 per annum.

2. It is noted that a large percentage of the market consists of supplying tanned skins to local fur garment manufacturing operations. The market is restricted because it is not the practice in the trade to sell a tanned skin to a garment manufacturer. Fur garment manufacturers prefer to buy raw skins at auctions through an experienced broker. In this manner the manufacturer is in a position to keep pace with rapid style changes which place emphasis on different types of furs and does not tie up capital in excessive or obsolete inventory.

3. Estimated statements of profit and loss are summarized below:

	<u>1970</u>	<u>1972</u>
Sales	\$50,000	\$70,000
Expenses:		
Salaries and Wages	29,000	39,000
Material	3,500	4,500
Depreciation - building & equipment	5,000	4,000
Other	<u>9,000</u>	<u>11,000</u>
	\$46,500	\$58,500
Net Profit	\$ 3,500	\$11,500

Start-up expenses of \$30,500 were not amortized. If these expenses had been charged against earnings over a five year period, estimated profit in 1970 would have been reduced to a \$2,600 loss and in 1972 to a \$5,400 profit.

In 1970 the employment created would consist of a manager, two permanent male and two casual female employees. In 1972 an additional female employee would be required.

4. The fixed capital requirements for a fur tannery operation would be:

i) Experimental and start-up expenses excluding depreciation		\$26,500
ii) Fixed capital: building	\$43,000	
additional equipment	11,500	54,500
iii) Working capital		<u>20,000</u>
		\$ 101,000

This investment would create five jobs. Therefore, there would be an investment of approximately \$20,000 for every job created.

5. Based on the operating costs outlined under paragraph 4 the break-even sales volume of \$45,000 is reached in 1970, the first year after the start-up date assuming start-up expenses are not amortized. A manager and four employees are required at the sales volumes estimated for 1970 and 1971. A fifth casual employee would be required in 1972.

6. To satisfy the requirements of the fur garment manufacturers in the Delta a very high quality tanned pelt is required. Fur garments retail between \$200 and \$300 and a low grade of raw material would quickly destroy the salability and reputation of Delta produced garments. The critical importance of producing work of the highest quality standards cannot be overstressed.

7. To achieve the required degree of manual dexterity for quality production, an operator would require at least one year, and to be fully trained, a minimum of two years' experience: local training by the manager is recommended. The complexity and skill of this operation should not be underestimated.

8. A competent manager is the key to success in this project.
9. Home tanning has very restricted uses and should not be considered as an alternate approach to the fur dressing operation described in this paper.
10. The pilot stage of the project would start at Aklavik in order to conserve capital in the experimental stage and at the end of the trial period, if successful, a new building could be constructed.
11. Financial success depends on realizing projected market revenues, maintaining necessary quality standards and eventually carrying out local buying effectively.



MARKETING

The method of operation is to dress furs bought by the local fur garment shops in return for a service fee.

1. Range of Products to be Dressed

- a) muskrat
- b) seal
- c) hare
- d) wolf, wolverine and fox
- e) reindeer and moose
- f) other small furs

2. Size of Market for Fur Dressing Service and Sales Forecast

The main purchasers for this fur dressing service is expected to be co-operative and Government-sponsored craft and garment shops in the Mackenzie District. Orders could be placed evenly throughout the year to provide level production on a year-round basis.

The market potential based on projected fur garment requirements for the Mackenzie District is as follows:

(Quantities and dollars in thousands)

Year ended March 31st

	<u>Unit processing charge</u>	1968		1969		1970		1972	
		Quant.	\$	Quant.	\$	Quant.	\$	Quant.	\$
Muskrat	\$ .40	35.0	14.0	40.0	16.0	70.0	28.0	90.0	36.0
Seal	5.00	1.9	9.5	2.0	10.0	3.2	16.0	5.4	27.0
Hare	1.00	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
Other	2.00	.5	1.0	.5	1.0	.5	1.0	1.0	2.0
Total dollars		\$ 28.0		\$ 32.0		\$ 50.0		\$ 70.0	

The unit processing charge is based on current fur dressing prices in Winnipeg.

3. Quality of Product

The local fur shops produce many garments retailing between \$200 and \$300 each. For this reason, it is essential that we produce consistent

high quality dressing acceptable to a southern furrier. This could be achieved through chrome and/or alum tannage. The resulting product would have to be properly bleached, soft, supple and the flesh colour clean. The hair would be dry and greaseless.

4. Other Features of the Market

The normal movement of raw wild furs is from the trapper through resident or travelling buyers and/or Canadian or International fur auctions, through a fur broker to the fur manufacturer, then to the fur dressing shop and back to the fur manufacturer to be made up into garments. Tanned pelts are very rarely purchased directly by a manufacturer.

Usually brokers purchase on behalf of fur manufacturers at the main auction centers of Montreal, New York, U.S.A., or London, England. Fur manufacturers prefer to use an experienced broker who purchases matched and graded lots at auction. With the possibility of rapid style changes which could place emphasis on different types of fur the manufacturer does not want to tie up capital in excessive or obsolete inventory. This reasoning results in the use of a local tanner in whom the manufacturer has developed confidence that he can obtain a quality fur dressing at a reasonable price in a short space of time.

The main reason tanners do not buy fur and sell it at auctions in a tanned state is that large stocks of many types and colours are required to satisfy the changing needs of the fur garment manufacturers. One large Canadian tanning company experimented in this field a few years ago and lost money. They stated that they would not repeat the attempt to sell tanned fur at the auction.

Export duties and Federal Sales Tax are charged on a changing value basis. A bulletin issued by the Federal Department of National Revenue outlining the fur values is issued every six months and in the case of sales in Canada, 12 per cent tax is charged on the value of the fur plus the dressing charge.

Fur dressing is a very competitive business in southern Canada with one company in Winnipeg absorbing freight costs of business from Montreal furriers. This is only possible by establishing a quality product through the use of modern machinery, skilled supervision and trained workers paid at an hourly wage rate which is less than their counterparts in Montreal. As with many other small businesses, profit margins in this industry are declining.

Unless we can alter the long-term buying pattern for wild furs or tie in with a large furrier utilizing the resource, our market is limited to the fur garment shops and local craftsmen in the Mackenzie District or Arctic coast if transportation routes are changed and possibly local sales through Hudson Bay in the Territories.

The main factors for success, therefore, are expanding the garment and footwear industries in the N.W.T., securing the services of a first class fur dresser with experience in plant management to serve as tannery manager and in developing a quality product.

The economic feasibility of operating a tannery should be based on the sale of the service of fur dressing and not on the risky proposition of buying raw fur and selling it again in a dressed condition.

PRODUCTION AND TECHNOLOGY

1. Facilities - Plant

Although the building that was used as a tannery in Aklavik was not originally laid out for efficient fur dressing production, the additional equipment required could be added and the building utilized for the pilot stage of the project and possibly during the early stages of commercial production. A small saving of approximately \$1,000 per annum would result from lower depreciation charges on the older building partially offset by higher utilities cost; the capital commitment, however, would be lowered by \$43,000. If the present building is to be used for the pilot stage, it is of obvious importance that a satisfactory renovation job be done to ensure attractive and efficient working conditions.

If a new building is to be constructed, the suggested size for the insulated plant would be 30' x 60' with a 12' ceiling. The cement floor would be spill proof and connected to the town sewer system. The plant would be divided into storage, wet, dry, office and washroom sections. See Appendix 1 for basic plant layout drawing. Plumbing and utilities including heat, power, light and water supply would be required. There should be adequate room for expansion.

The approximate cost of construction is expected to be \$43,000.

2. Equipment

A list of useful equipment on hand at Aklavik which could be utilized and approximate costs is as follows:

2 - 275 gal. stainless steel soaking tubs	\$ 500
1 - 60 gal. stainless steel laundry machine	500
1 - 110 gal. stainless steel tan drum	4,200
1 - 4 1/2' diameter, 1 1/2' deep Haertel Drum Master fur cleaning machine	2,200
1 - platform scale	200
	<u>\$ 7,600</u>

A list of the minimum additional equipment requirements and respective costs is as follows:

1 - 250 gal. fir wood paddle vat	\$ 1,500
1 - 4' wide fleshing machine	3,500
1 - thin cutting machine	1,000
1 - fur dressers bench	100
4 - hand stacking racks	100
1 - centrifuge	4,000
1 - drying room fan and heater	500
1 - buffing machine	300
1 - heater, fan, ducts and thermostat for the glazing drum	<u>500</u>
	<u>\$11,500</u>
Total machinery cost	\$19,100

A splitting machine costing \$3,000 which would be required for high volume production of sealskins was excluded but could be purchased in a few years if there was a material increase in the volume of sealskins processed.

The final choice of machinery should be left to the tannery manager after he knows the type and quantity of skins that will be processed. See Appendix 2 for a list of machinery suppliers.

### 3) Process

The chronological order of the fur dressing process is as follows:

raw pelt	(storage)
soak tubs	(wet dept.)
fleshing	"
scraping	"
pickling	"
tanning	"
washing	"
stretching	(dry dept.)
conditioning	"
oiling	(wet dept.)
shaking	(dry dept.)
glazing	"
drying	"
sorting and grading	"
warehouse	(storage)

A number of essential basic processing steps and the related technology follow:

a. Soaking:

Soaking is done in tubs or paddle vats. For one weight of pelt approximately 30 weights of water are used, i.e. pelt:water - 1:30, minimum 1:20. Time required is 8 - 24 hours, or even more for thick skins, generally overnight. The temperature of the soak water can be between 65 and 95°F depending on the type of pelt and the process employed. The colder the soaking the safer it will be. Generally between 20 and 30 lbs. of common salt are added for every 100 gallons of soak water. This is necessary to dissolve and remove the dried non-fiberous proteins of the skin. The addition of one-half to one pound of soda ash per 100 gallons of water accelerates soaking and is particularly helpful for obtaining more uniform dehydration. Skins in a poor state of preservation with a tendency to lose the hair can be improved by addition of one to two pounds of formaldehyde 30 per cent for every 100 gallons of water.

Fur scouring agents or detergents are used to remove natural fat. These can be added to the soak or employed in a separate washing operation subsequent to fleshing. The temperature for scouring should be as high as possible for best results, generally 95°F, but never higher than 100°F to avoid burning of the skins. Pre-treatment with formaldehyde is necessary for warm scouring.

b. Fleshing

Following soaking, the skins have to be fleshed and stretched. For fleshing a fur dresser's bench, a thin cutting machine or a fleshing machine can be used depending on the type of skins processed. Sometimes fleshing is done after pickling.

c. Pickling

The fleshed and scoured skins are put into a pickle bath, the bath solution being 20 to 30 times the weight of the dry skins.

The pickling bath should contain between 50 to 100 pounds of common salt per 100 gallons of water at 68<sup>o</sup>F. The higher amounts of salt are preferable when the required amount of acid cannot be exactly controlled by chemical methods. The cheapest acid for pickling would be sulfuric acid, but organic acids are safer to use. A combination of three pounds formic acid 85% and two pounds sulfuric acid, 95% per 100 gallons should give acceptable results. The skins are left in the pickle overnight or up to two days. Agitation during the first two hours is important. Therefore, pickling should be done in a paddle vat or a tan drum. The pH of the pickle solution should be measured at the start and at the end. So called "pH papers" are satisfactory for pH measurement when used properly.

d. Tanning

Tanning can be carried out in the spent pickle bath or a fresh bath containing fifty pounds of common salt per 100 gallons of water. The starting temperature for a tanning process should be between 85 and 95<sup>o</sup>F. Alum, basic chromium salts, or formaldehyde are used as tanning agents alone, or in combination. Most common is the alum tannage. Tanning is best done in a tan drum or a paddle

vat, simple hand application of stronger tanning solutions to the flesh side of the skins is possible but does not result in a uniform product.

(i) Alum Tannage

This type of tanning could be used for muskrat pelts where capacity to stretch after tanning is desired. The flesh colour is yellow.

Chemicals in pounds per 100 gallons of float. Ratio 1:20

Aluminum Sulphate	15
Sodium Acetate	5 - 12
(Salt	50 - 80)

Sodium acetate is not essential for the tannage proper, but will prevent acid burn. It should be used where close chemical control of the tannage is not possible.

The skins should run for four hours - thick skins longer - then the pH should be adjusted - if necessary - to at least 3.5 but not higher than 4.5 by slow addition of a solution of soda ash or sodium bicarbonate. Between one-half and three pounds may be required. Tannage should continue until the next day or for two more days depending on the thickness of the skins. Two to three pounds of formaldehyde may be added at the beginning of the tannage for improved water resistance of tanned skins.



(ii) Chrome Tannage

This type of tanning could be used for sealskins where stretch after tanning is less critical. The flesh colour produced is green.

Ten pounds per 100 gallons of a commercial chromium salt, 33% basis (e.g. Tanolin R. Diamond Alkali Co.) - dissolved in hot water the night before - are added to the salt solution. The skins are run to complete penetration, then a solution of one to two pounds of sodium bicarbonate is added slowly to obtain a final pH of 4.5 - 4.8. The addition of bicarbonate should take between one to four hours to prevent precipitation of chrome. The skins are then left overnight in the tan bath. When taken out of the tan bath, the skins are then rinsed with clean water.

(iii) Formaldehyde Tannage

This type of tanning could be used for hare skins or chamois leather. The flesh colour produced is pure white.

Two to four pounds per 100 gallons of formaldehyde 40% are added to the salt solution. After two to four hours running a solution of one to two pounds of soda ash are added over a period of several hours to obtain a pH between 7.5 - 8.0 after six hours for light skins. The tannage of heavy skins may take 24 hours. The tannage is completed when a cut through the thickest part of the skin is not glossy anymore and the pressed out skin is white and appears dry. Alum and chrome tannage can be combined; so can alum and formaldehyde tannage.

e. Mechanical Softening and Oiling

The tanned skins are best centrifuged - or wrung dry - to remove external water, then stretched lengthwise. The oiling of the tanned skins can be done by hand coating or milling in so-called faller stocks. Various oil emulsions can be used for this purpose. A simple and very satisfactory method would be the following. To one part of Dermal Fur Liquor H.S.P. (Boechst Dyestuff Co.) one to three parts of hot water (120°F) are added slowly and thoroughly blended in by vigorous stirring or mechanical agitation, finally two tenths parts of aqua ammonia are blended into the emulsion. The prepared emulsion is swabbed onto the flesh side of the centrifuged skins. The oiled skins are paired flesh to flesh and piled down for two hours to permit the oil to draw into the leather. A second swab coat and piling down can be given if necessary. To obtain a more oily skin, Dermal Fur Liquor H.S.P. can be blended with an equal amount of raw oil (cod oil, sperm oil, neats foot oil, or wool grease) prior to emulsification.

f. Drying

The oiled and piled down skins are taken up and hung one by one over sticks to dry. The drying room should be fitted with fans and air heated. Initial drying should be at 85°F, when the surface moisture is lost the temperature can be raised to 100°F to speed up the drying process.

g. Finishing

The dried skins are milled with damp hardwood sawdust in a sawdust drum. During milling, a temperature of 90 - 95°F should be maintained (thermostatically controlled heaters). The addition of a small amount of

china clay or plaster of Paris to the sawdust will help to keep white hair clean. The skins are milled until the leather is soft and pliable and the hair has a polished sheen. The damp sawdust is then shaken out in a shaking drum and the skins are aired off. Then the skins are returned to the sawdust drum with dry sawdust and milled until completely dry. During milling the skins are heated to 100°F with hot air. The dry sawdust is shaken out again and the dry skins are mechanically stretched and softened. The flesh side is then buffed on a pumice or emery wheel. If necessary, the hair is combed.

h. Sorting

The finished furs are trimmed, sorted, and graded for sale according to commercial standards. Cut and holes can be repaired by stitching. Furs of undesirable colours can be sorted out for bleaching and dyeing.

See Appendix 3 for a list of chemical suppliers.

h) Personnel

a. Management

The key man for this project is a competent manager. He will require experience in fur dressing and dyeing, acceptable knowledge of buying and evaluating skins and proven managerial ability. He also must be enough of an idealist to work in the difficult environment and consider it a challenge to get the operation under way and make it prosper. If he can measure up to the job he should be able to command a salary of \$10,000.00 to \$12,000.00 per year anywhere and can, therefore, not be expected to take on the job for less.

His responsibilities will include:

- acquisition of machinery and equipment
- purchasing and storage of chemicals, supplies and spare parts.
- maintenance of plant and equipment
- process design
- production and quality control
- operation of plant and supervision
- training of employees
- reviewing expenditures
- safety
- efficiency
- sales, packaging and shipping.

A suggested incentive to help attract the right man would be the right to purchase controlling interest and agreement to turn this project over to private enterprise within five years.

b. Other Employees

For the first full year of operation the following tannery staff and corresponding wages suggested are as follows:

one male employee	\$ 5,000 per annum
one male trainee	4,000 per annum
two women - casual at	
\$4,000 each	<u>8,000</u> per annum
TOTAL WAGES	<u>\$17,000</u>

The trainees should be young, have the necessary intelligence, dexterity and desire to work and learn.

FINANCIAL

1. Experimental and Start-Up Expenses

After the tannery manager is hired, a period of approximately ten months would be required to order equipment and supplies, hire staff and conduct experimental processing and employee training. The cost of this expense is estimated as follows:

Sales	N11
Expenses:	
Manager's salary	\$10,000
Wages	3,000
Chemicals used	500
Experimental skins	3,000
Utilities	2,500
Maintenance and repair	2,500
Travel allowance	3,000
General expenses	<u>2,000</u>
	\$26,500
Depreciation - equipment	<u>4,000</u>
Total expenses - experimental and start-up	\$30,500

Note: Most of the new equipment would be manufactured in Europe. There is the possibility that some items would not be delivered until the summer of 1969.

2. Estimated Statement of Profit and Loss for the Years ended March 31, 1970 and 1972

	<u>1970</u>	<u>1972</u>
Sales	\$50,000	\$70,000
Expenses:		
Manager's salary	12,000	14,000
Wages	17,000	25,000
Chemicals used	3,500	4,500
Utilities	4,000	5,000
Maintenance	1,000	2,000
Depreciation - building & equipment	<u>5,000</u>	<u>4,000</u>
	42,500	54,500
Gross profit on manufacturing	7,500	15,500
Less other expenses:		
Travel allowance	2,000	2,000
General expenses	<u>2,000</u>	<u>2,000</u>
	<u>4,000</u>	<u>4,000</u>
	\$ 3,500	\$11,500

Notes:

1. Start-up expenses of \$30,500 were not amortized. If these expenses had been charged against earnings over a five year period, projected operating results in 1970 would have been reduced to a \$2,600 loss and in 1972 to a \$5,400 profit.
2. If the present tannery building in Aklavik was used there would be a net saving in costs of approximately \$1,000 per annum as depreciation on the building would be reduced and utilities expense increased. The capital commitment would be lowered by \$43,000.

3. Fixed Capital Required

1) Building (see page 9)	\$43,000
ii) Additional equipment (see page 10)	11,500
iii) Plus start-up expenses other than depreciation (see page 18)	<u>26,500</u>
	\$81,000

4. Working Capital

Six months operating funds - first full year of operation	\$20,000
--	----------

OTHER COMMENTS

1. Home Smoke Tanning

Among the native population tanning has by tradition been the work of old women. Today, young women and girls show no interest in acquiring the skills required for native tanning, mainly because they consider the job too tedious and unsavoury. The traditional method is inefficient and uneconomical and only acceptable for local use. It is estimated that not more than a dozen women still practise native tanning in the Delta area.

If any useful skills are to be developed among the native population it is the skills of trapping, skinning, and scraping. Educational material could be supplied to the Trappers' Association and emphasis placed on proper handling of the primary product. It is only logical that cut, shrunken, grease burnt, or rotten skins do not produce first grade fur and cannot be expected to acquire the same price on the market as first class pelts.

2. Fur Dressing by Hand

It is possible to tan by rubbing tanning solutions and oils on the flesh portion of the pelt. This method is unsatisfactory for the reasons outlined in the foregoing section.

3. Dyeing Pelts

After the basic tanning process is developed to the point where a quality product is produced there could be a demand for dyeing. This would require approximately \$2,000 extra equipment and personnel with advanced technical background in fur dressing skills.



4. Previous Attempt

Processing skins in the Mackenzie District was attempted as a pilot project in 1966 at Aklavik but the dressed fur produced was of poor quality. This tannery was not operating in 1967.

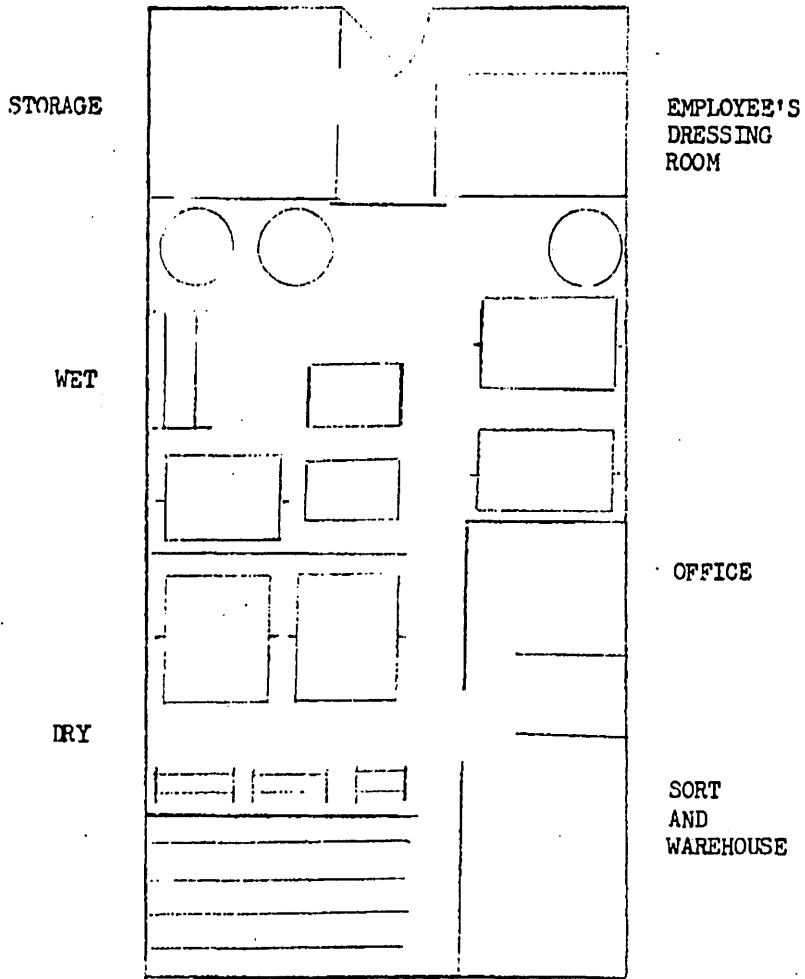
TIME SCHEDULE

If it is decided to establish a fur dressing plant, the suggested chronological order for organizing events is as follows:

1. Hire manager - early summer.
2. Renovate existing plant - early summer and fall.
3. Purchase equipment - early summer and fall.
4. Experimental process development - early winter.
5. Hire chief tanner and understudy - early winter.
6. Hire casual labour - early spring.
7. Further experimental and production testing and employee training - early spring.

APPENDIX 1

BASIC PLANT LAYOUT



APPENDIX 2

Suppliers of Machinery :

1. Wurtz Pelzmaschinenfabrik,  
Rudolph Pohland,  
7157 Murrhardt / Wrutt,  
West Germany.
2. Selbeck & Co.,  
Ratingen,  
West Germany.
3. Mercier Freres,  
Annonay,  
France.
4. Turner Maschinenfabrik A.G.,  
Oberursel, Taunus,  
West Germany.
5. MOENUS Maschinenfabrik A.G.,  
Frankfurt a.M.  
West Germany.
6. Reliable Machine Works Inc.,  
238 Eagle Street,  
Brooklyn 22, N.Y.

Agent: Stalwart Machinery & Supply Ltd.,  
270 Assiniboine Avenue,  
Winnipeg 1, Manitoba.

APPENDIX 3

Suppliers of Special Chemicals

1. HOECHST Dyestuff Co. Ltd.,  
40 Lesmill Rd.,  
Don Mills, Ontario.
  
2. B.A.S.F. Canada Ltd.,  
75 Disco Rd.,  
Rexdale, Ontario.
  
3. NOPCO Chemicals,  
London and Hamilton, Ontario.

Agent: MacKenzie & Freiman Ltd.,  
Bcx 1256,  
Wesley Street,  
Winnipeg 1, Manitoba.  
Offices also in Edmonton, Calgary  
and Vancouver.

Miscellaneous

Sidney Simon Ltd.,  
101 Spadina Avenue,  
Toronto, Ontario.  
("Martex" marking ink for furs)